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Original Articles.

THE IMPORTANCE OF ADMINISTERING IODIDE OF POTASSIUM IN LARYNGEAL DISEASES OF DOUBTFUL DIAGNOSIS.[1]

BY CLARENCE C. RICE, M.D.,

PROFESSOR OF DISEASES OF THE NOSE AND THROAT, NEW YORK POST-GRADUATE MEDICAL SCHOOL.

THE clinical value of this paper might be largely increased by making this change in its title: "The Importance of Administering Iodide of Potassium in Many Cases of Laryngeal Disease which Apparently are Non-syphilitic."

Any suggestion as to the advisability of prescribing the iodide will of course be superfluous to those clinicians who are in the habit of diagnosing almost all cases of inflammation of the upper air-passages as syphilitic. We know that there are physicians of this frame of mind. On the other hand, we are satisfied that there are many who do not resort to the administration of mercury and potassium unless they are convinced that the lesion under treatment is specific. They desire conclusive evidence, and it is possible that they frequently are in error in withholding specific treatment because of lack of marked diagnostic points. Further, even expert laryngologists may easily fall into the habit of quickly classifying all laryngeal lesions in an instinctive way, and if the first impression is that the disease is other than specific it will not occur to them to use the iodide, even though the case is not progressing favorably.

It has always been my habit of thought to be slow in believing a lesion was specific, unless the history strongly indicated it, or unless the lesion presented such an appearance in a clear manner. The more experience we obtain in clinical work, however, the more, I believe, we appreciate how small is the percentage of cases which closely present the characteristic appearances portrayed in the text-books. Authors are not to be blamed for describing pathological appearances as typical and constant, for, should they endeavor to mention the many great and small variations of behavior from the typical aspects, their work would not only be too voluminous, but so confusing that the beginner in laryngology would have no salient points on which to found his diagnosis.

I was much impressed in listening to a discussion[2] on "Unusual Manifestations of Tuberculosis," by the American Laryngological Association a few years ago. One after another, men who had been active in laryngology for twenty-five years or more put themselves on record as frequently being unable to make a diagnosis of laryngeal inflammation or neoplasm, from the physical aspect of the lesion, together with the clinical history. They confessed that they were often compelled to withhold their opinion until more examinations had been made, until the microscope had aided them, or the effect of the iodide had been demonstrated.

One of the most prominent laryngologists of this city remarked, in this same discussion, that there was such a thing as "diagnostic instinct;" and he meant that this had sometimes to be depended upon when all the other signs failed.

It cannot be denied that, there are many cases of laryngeal disease which are difficult of diagnosis, and a number where it is impossible to state positively, for a time at least, the nature of the disease.

We might commence by saying that we have a belief, founded on some experience, that there are cases of laryngeal disease non-specific, which are benefited to some degree by the administration of small doses of iodide of potassium. Perhaps the beneficial action obtained in these cases is essentially by reason of its so-called alterative effect, and would not be gained if the drug was administered in large doses, or if it was continued for any length of time. I have frequently noticed this effect of the iodide. The benefit from five grains three times a day was immediate and remarkable, and that, too, after diligent treatment had been pursued along other lines.

We find a number of writers who state that they have obtained the same beneficial result from iodide when given in the early stages of laryngeal tuberculosis and in chronic laryngitis.

I shall mention these farther on.

It seems to me that the habit of administering the iodide depends largely upon the amount of dispensary work one may be engaged in. Certainly there was no need of advising its use in Charity Hospital in the 80's. I often wonder what became of the remarkable cases of syphilis of the larynx which were in the hospital at that time, cases in which the epiglottis had been entirely destroyed, others in which the entire laryngeal mucous membrane had been replaced by cicatricial tissue and the whole cavity distorted, and those in which the vocal bands were adherent to each other through the medium of webbed formations. I personally see few of such patients at the present day. I dare say this decrease in cases of such extensive lesions is due to the better and more intelligent treatment which patients now receive. The attention which is paid to the cleanliness of the nose and pharynx would diminish very much the likelihood of such severe syphilitic lesions. Patients, too, are more often seen at an earlier stage of the disease than they were fifteen years ago.

There is not time here to mention the characteristic diagnostic points of each of the many diseases of the larynx. The typical lesions of each laryngeal disease we are all familiar with, and when present they furnish readily the means of diagnosis, but we often see ulcerations characteristic of no special process, but which might be the result of several, and we find enlargements or neoplasms about which no intelligent opinion can be at first formed. There are several laryngeal diseases other than syphilis which frequently present, during some part of their development, pathological conditions which in general aspect are quite similar to syphilitic lesions, and it is in these cases we would advise the administration of iodide of potassium for a time, even though there is strong belief that the disease is not syphilis.

First let us say a few words in regard to laryngeal tuberculosis. In the typical cases one would hardly be tempted to prescribe the iodides, but there are many

[1] Read before the Laryngological Section of the New York Academy of Medicine, May 22, 1895.

[2] Rice: Unusual Manifestations of Tuberculosis of Larynx, Transactions of the American Laryngological Association, 1889, p. 95.

which are not so easy of diagnosis unless we find the bacilli and are satisfied that their presence is conclusive. If we find the characteristic epiglottis, club-shaped arytenoids, the general anæmia, and the superficial gray ulcerations, we cannot of course be in doubt, but there are many cases of tubercular ulceration which I am satisfied are complicated by the coexistence of a syphilitic process.

In 1889, I cited a case[1] (Fig. 1) under the title of "Unusual Manifestations of Tuberculosis," in which,

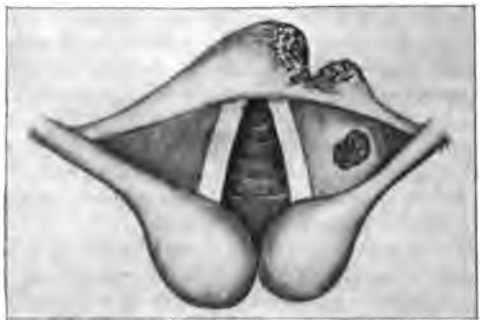

FIG. 1.—Coexistence of Laryngeal Syphilis and Tuberculosis.

in addition to apparently typical tubercular ulcerations in the larynx, there was extensive loss of tissue of the epiglottis. The ulceration of the epiglottis was out of proportion to the progress of the ulceration in the larynx. The arytenoids were characteristically tubercular. The patient had advanced pulmonary involvement, but in spite of this the ulceration on the epiglottis was healed by the use of iodide of potassium, although it had no effect whatever upon the intralaryngeal tubercular ulcerations. I think it possible that the coexistence of these two diseases is more frequent than we are apt to believe. There is no doubt that patients often contract syphilis early in life and tuberculosis later. Many of the cures of laryngeal tuberculosis which we see in print are probably syphilitic. If we have any doubt as to the character of an ulceration it should have the benefit of the iodide.

Is it not possible that a patient may have at the same time pulmonary tuberculosis and syphilis of the larynx? We see cases of ulceration of the larynx in patients having pulmonary tuberculosis with tubercle bacilli in the sputa, which are healed by the iodide.

Dr. Woodward, of Burlington, Vt.,[2] a laryngologist of experience, reports two cases of laryngeal ulceration in both of which tubercle bacilli were found, and the lungs showed evidences of tuberculosis. In both cases the laryngeal ulcerations were healed by iodides. He believes the cases to have been syphilitic.

Dr. F. I. Knight, of Boston, in discussing the paper on the "Unusual Manifestations of Tuberculosis of the Larynx," remarked that in some cases where he had been sure enough of the presence of tubercular disease of the larynx to allow the patient to go without constitutional treatment, he had been happily disappointed to see the ulcerations disappear under specific treatment.

Dr. Jonathan Wright,[3] in a paper, said that two cases of tracheal and one of laryngeal disease had been referred to him. They both had marked pulmonary signs. The thickening was so great that tracheotomy was performed, I believe, in both cases. An unquestioned diagnosis of tubercular laryngitis was made. They died some time after the tracheotomies. The autopsies demonstrated syphilis of the larynx.

It is a good diagnostic point that tuberculosis of the larynx seldom produces occlusion enough to necessitate tracheotomy.

Cases which might be tubercular or syphilitic, so far as the physical aspect of the laryngeal lesions are concerned, are those in which, neither the epiglottis or arytenoids being involved, a single ulceration presents itself on the vocal band or upon the side of the larynx, with no qualities whereby its character may easily be determined. Of course, we depend here upon the presence of lung disease and of bacilli, but even if they are both found the ulceration of the larynx may be syphilitic.

Almost all the diseases of the larynx which go through an ulcerative stage are capable of producing so-called granulation tissue upon the surface of the ulceration. We have the "vegetative" form of tuberculosis, and the granular thickening of the vocal bands in trachoma. Benign neoplasms of the vocal bands may present nearly the same appearances at times as the condylomata of secondary syphilis, and the wart-like excrescences of the tertiary stage. All of these conditions look much alike, and at times it will be difficult to exclude syphilis. It will be wise to see if they are benefited by the administration of the iodide.

There is considerable confusion as to the identity of the pathological conditions known by some as "chorditis tuberosa;" by others as "singers' nodes," and by others as "trachoma vocalis." Bosworth[1] and Ingals[2] think "chorditis tuberosa" and trachoma are the same thing. F. I. Knight[3] says they may be the same pathologically, but that they differ in clinical behavior. John Mackenzie says we should distinguish between a granular condition of the vocal bands and true "chorditis tuberosa." But the point which is most pertinent to this paper is that these processes of hypertrophy of the vocal bands often present appearances which closely simulate syphilitic lesions, and, therefore, clearly indicate the treatment.

Ingals,[4] in his text-book, gives an illustration of a thickening in a simple catarrhal laryngitis, which is formidable enough to be a syphilitic enlargement.

John Mackenzie speaks of "hypertrophic laryngitis," and says that it is with difficulty diagnosed from syphilis.

We frequently see changes in the vocal bands in simple catarrhal processes, in which we are tempted to use the iodide.

I will cite a case in which the lesions were almost entirely confined to the vocal bands, because of its unusual behavior and because of the effect of iodide upon it.

CASE.—Male, aged fifty-five. First saw him in September, 1894. Patient was hoarse, and consequently much troubled because he was a school-teacher. General condition good. No syphilitic history, and no lesion in other parts of the body to indicate that he had ever had disease of this nature. Growth the size of two large peas attached to right vocal band posterior third. Band itself slightly congested, but not markedly so. Growth was removed and examined in the laboratory of the Post-Graduate Hospital, and pronounced a simple papillomatous growth. (Fig. 2.) When next the patient was seen, a few weeks later, I found that the entire vocal band was thickened, reddened, and granular, in the sense of being very uneven. There were no ulcerations, but the band presented a very ragged appearance. Astringent applications were made. Later, growth somewhat similar to the first one, well localized, but smaller, appeared on the opposite chord, and after a few weeks that vocal band became generally thickened and congested. At one time it looked as if the inflammatory process would extend to the side of the larynx, but that was probably due to the operative work. The

[1] Transactions of the American Laryngological Association, 1889, p. 97.
[2] Woodward: Tubercle Bacilli and the Diagnosis of Tuberculosis, etc., New York Medical Journal, December 5, 1893.
[3] Wright: Some Remarks on Laryngeal Literature, etc., New York Medical Journal, September 22, 1894, p. 364.

[1] Bosworth: Diseases of the Nose and Throat, vol. ii., p. 533.
[2] Ingals: Diseases of the Chest and Throat, p. 402.
[3] Knight: Singers' Nodes, New York Medical Journal, December 1, 1894.
[4] Ingals: Diseases of the Chest and Throat, p. 395, Fig. 104.

projections were removed by forceps and guillotine wherever they were large enough to be taken hold of, and several times the galvano-cautery was used. The larynx behaved very well after operation, and the subsequent inflammation was moderate. Not much improvement of the voice was obtained, because of the great amount of general thickening of the vocal chords. (Fig. 3.) Patient was put upon iodide of potassium in small doses and the larynx commenced to improve at once. The warty excrescences became smaller day by day and the congestion and general thickening diminished. . The case at first was naturally supposed to be one of simple papilloma of the larynx, but the rapid involvement of the entire vocal bands later on pointed toward epithelioma. The appearance of the bands after they became thickened and jagged was very similar to trachoma vocalis. The effect of the iodide upon this case was so remarkable that we shall perhaps be compelled to call it a syphilitic process. The patient never took more than ten grains of the iodide three times a day. A polypus was removed from left nostril.

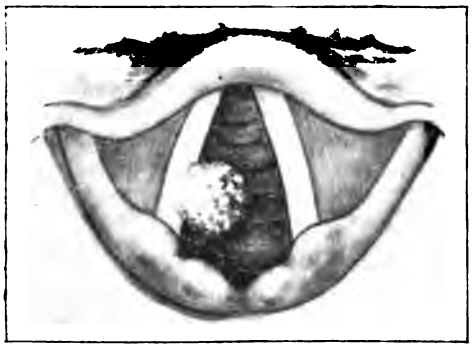

FIG. 2.—Syphilitic inflammatory growth of vocal band.

FIG. 3.—Syphilitic hypertrophy of the vocal bands.

Some of the reasons why we cannot always decide easily whether a pathological condition is syphilitic or not, are, that it is very frequently impossible to obtain any corroborative history. The patient has had some venereal disease, but there are no evidences of syphilis elsewhere. Of course, where the scars of old inflammations are found in the nose or pharynx, the diagnosis is made. We have already mentioned that the tertiary manifestations, which are by far the most common in the larynx, are frequently obscured by a coexisting tubercular process. The primary sore of syphilis most of us will probably never see in the larynx, and very rarely shall we be called upon to diagnose mucous patches. Secondary ulcerations of the larynx are usually accompanied with a clear recent history, and syphilitic manifestations of the mouth. Congestions or erythemas due to syphilis have some distinguishing signs, and are most apt to be accompanied by the same pathological conditions of the pharynx.

The tertiary lesions of syphilis, growths, gummata, and extensive ulcerations, are attended by more difficulties of diagnosis. Almost always the gummatous enlargements have undergone ulceration by the time they reach us, so that we have to deal with ulcerations of most varied appearances in the larynx. If such ulcerations occur, as they very frequently do, in patients much debilitated and generally anæmic, they present conditions which are but slightly, if at all, different from those of tuberculosis. If we cannot obtain a syphilitic history, or find specific lesions in the pharynx, or other parts of the body, then it will be necessary to exclude tuberculosis.

Now, in regard to perichondrial inflammation of the laryngeal cartilages. We know that as a primary disease it exists very rarely, but is on the other hand an indication of tuberculosis or syphilis. In 33 cases tabulated by Bosworth,[1] 9 were syphilitic and about the same number followed typhoid fever. The tubercular cases were not included in this list.

Several authors agree that when the arytenoids are attacked by perichondrial inflammation the strong inference is that the process is tubercular, because the other inflammatory diseases seem to prefer the cricoid and thyroid.

Bilateral enlargements of the arytenoids present no special interest, and may usually be put down at once as being tubercular, and we occasionally see marked enlargement of one arytenoid with anchylosis at the joint, in which all the phases of tubercular laryngitis rapidly follow. I cite the following case: First, because it was supposed to be tubercular; second, because there were reasons why an acquired syphilitic condition was not supposed possible; and third, to note the effect of iodide upon it.

CASE.—Male, about forty years of age, works in an office. Very small, weighing, I should think, about ninety pounds. Heredity good. Chronic conjunctivitis, granular lids, decided scrofulous appearance. Slight cough for a year. Husky voice. Rough and high-pitched breathing at apices. Tubercle bacilli, very few found in expectoration. Laryngeal appearance as follows: Left vocal band immovable, markedly congested throughout its entire length and thickened. Marked enlargement of left arytenoid cartilage. Positively asserted that there was no specific history. Patient asserted that he had never had intercourse with women, and his statement seemed probable as his genital organs were very much undeveloped; his penis was no larger than a child's five years of age. Diagnosis at first thought to be tubercular perichondritis, although the uniform redness of the vocal band without ulceration did not seem like a tubercular lesion. (Fig. 4.)

I need not enlarge upon this case, except to say that the patient was not improved by ordinary laryngeal medications, nor by cod-liver oil and tonics. Iodide was commenced in small doses and the benefit was immediate, and after three weeks of its administration, in ten-drop doses, the enlargement of the arytenoid had almost entirely disappeared, the vocal band moved, and its congestion was so decreased that the voice was almost entirely restored. Before treatment the swelling

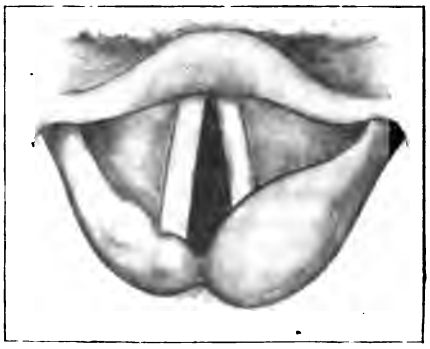

FIG. 4.—Syphilitic perichondritis.

[1] Bosworth: Diseases of the Throat, p. 565.

of the arytenoid was so great that there was some dyspnœa and he was unable to swallow solid food. I have never seen the effect of the iodide more marked than in this case.

Bosworth says that the iodide is useful in perichondritis, whether it is syphilitic or not.

We have spoken of the ulcerative lesions of the larynx, and of the confusion which may attend their diagnosis, and also of the tissue hypertrophies which are caused by a number of different inflammatory processes.

It remains to allude briefly to the growths or neoplasms of the larynx, benign and malignant, and to note their similarity to syphilitic lesions, and the difficulty oftentimes in their earlier stages of diagnosing them, and consequently the advisability of administering iodide until the diagnosis is confirmed by microscopical examination.

In our first case we referred to a supposed simple papilloma of the vocal band, the base of which was absorbed by the action of iodide.

Before speaking in detail of growths in the larynx of whatever nature, I cannot help alluding to a review, by Dr. Jonathan Wright,[1] of a paper by Chiari[2] on "The Structure of the So-called Fibromata of the Vocal Bands." The ground taken by the author of the paper was that these growths are inflammatory and not neoplastic, as they often show such inflammatory phenomena as œdema and hemorrhagic extravasations. This view seems to me to be thoroughly in accord with clinical observation.

Dr. Wright says that "it is a superficial, misleading, and dangerous proceeding to calmly describe growths as fibromata, myxomata, etc., when they are, in the vast majority of instances, nothing but different manifestations of chronic inflammation."

If such a pathology is correct, our views must be changed as to the relation of so-called neoplasms to all inflammatory processes, not only to that of a simple catarrh, but to the processes of syphilis and tuberculosis. In other words, what we have considered typical papilloma or fibromata of the larynx, accidents existing without apparent cause, may be rather manifestations of a simple catarrhal process, or a syphilitic condition, or perhaps the result of a tubercular germ.

This is most interesting pathologically, and important clinically, because it is quite possible that some of the cases which we have been in the habit of diagnosing as forms of benign or malignant neoplasms are rather the manifestation of syphilis, and so may be benefited by the iodides. We do not believe that it has been the habit of laryngologists to prescribe iodides in cases of laryngeal growths. They have only been regarded and treated surgically. This pathology of laryngeal neoplasms, if true, will aid very much in the diagnosis of many growths which have been very difficult to classify; growths not typical, and which always have seemed to bear an intimate relation to some constitutional disease. If these growths are inflammatory, we shall be encouraged to ascertain what kind of inflammatory process is behind them.

A benign growth may therefore be an earlier manifestation of tuberculosis than we have hitherto recognized. A causative relation of some of them to syphilis may be established, and the remedy will then be apparent.

All laryngologists admit the difficulty of always being able to diagnose growths in the larynx. Dr. Delavan,[3] in a carefully written article on the "Early Diagnosis of Malignant Disease of the Larynx," said: "We are taught that cancer, syphilis, tuberculosis, and lupus all present characteristics which distinguish them to the eye, but unfortunately this is not true." And further he said that "a large number of cases in which the microscope has revealed tubercular disease have proved to be malignant when more carefully examined microscopically later on." We know that malignant disease in its early stage may easily be mistaken for some phase of syphilis or tuberculosis.

Dr. Mulhall, of St. Louis, in the "Transactions of the American Laryngological Association" (1890, p. 96), said that he had had two cases of cancer of the larynx which had been greatly improved by the iodide of potassium.

The late Dr. Hooper,[1] of Boston, in examining 7,500 patients having laryngeal disease, found only 21 benign neoplasms. Papilloma occurs more frequently than all the other forms combined. A good diagnostic point about benign growths is that they are rarely subglottic.

Sarcoma exists still more infrequently. Butlin[2] found only 23 cases recorded. In 848 cases of sarcoma Gurlt[3] found only one of the larynx. Sarcoma seems to involve the lymphatics much less frequently than does the more common form of cancer—epithelioma. Gurlt,[4] in reviewing the literature, found that epithelioma involved the larynx but sixty-three times out of 11,131 cases of epithelioma occurring everywhere.

The terms carcinoma and epithelioma seem to be used synonymously. Of 24 cases of carcinoma, 23 were epithelioma and 1 was of medullary character.

I cannot enlarge here upon the diagnostic points of malignant disease. It is easy sometimes to mistake it for syphilis and tuberculosis. A discussion on the diagnosis of malignant disease brought out such salient diagnostic points, as greater general thickening and infiltration of the larynx than in other diseases, and an inflammatory areola surrounding the base of the growth; and with this infiltration there generally follows loss of motion of the side of the larynx involved, and this often without involvement of the crico-arytenoid articulation, the immobility being caused by infiltration of the muscular tissue.

Pain in the ear is considered a significant symptom. But, after all, the microscope must be the final court of appeal. But it is often necessary to wait for some months before a satisfactory portion of the growth can be obtained for microscopical examination. It would be unwise to dig into a deeply situated enlargement of the larynx beneath unbroken mucous membrane, just for the purpose of obtaining a microscopical specimen, so that it is wise to ascertain the effect of the iodide while we are waiting. There is difficulty, too, in securing enough of the growth to positively acquaint us with its histological character. Wright says that "small, round-celled sarcoma, granulation tissue (syphilitic or tubercular), and lymphoid hypertrophy, are frequently indistinguishable under the microscope." But even in cases which have every appearance of malignant disease, I believe the conservative physician will always give the patient the benefit of the iodide and mercury.

It is my belief that extirpations of half the larynx have been performed by surgeons at an early stage, in undoubted cases of syphilis, where anti-syphilitic treatment would probably have effected a cure.

Dunn, of Richmond,[5] reports a case of laryngeal growth, which had every appearance of malignancy, which disappeared after the application of compound tincture of iodine.

We might continue to cite cases of most varied pathological appearances—ulcerations which seemed to be tubercular, small growths which were apparently benign, large swellings with every appearance of malignancy—which were afterward proven to be specific, or which disappeared, at least, through the effect of iodide of potash. This drug and the microscope cannot be ignored in searching for a truthful diagnosis.

[1] Wright: Remarks on Laryngology Literature, New York Medical Journal, March 16, 1895

[2] Chiari: Fraenkel's Archiv, vol. ii., No. 1.

[3] Delavan: Transactions of the American Laryngological Association, 1890, p. 87.

[1] Hooper: Case of Tumor of the Larynx, MEDICAL RECORD, March 7, 1891.

[2] Butlin: Malignant Disease of the Larynx. London, 1883.

[3] Gurlt: Arch. für klin. Chir., 1880, vol. xxv., p. 436.

[4] Ibid., p. 426.

[5] Dunn: New York Medical Journal, December 17, 1892.

A FURTHER REPORT ON ACHYLIA GASTRICA.[1]

BY MAX EINHORN, M.D.,

NEW YORK.

IN 1892 I suggested the term "Achylia Gastrica"[2] for those conditions in which the stomach apparently secretes no juice and in which clinically the diagnosis of "atrophy of the gastric mucosa" seems to be justifiable. In my paper referring to this subject I endeavored to show that cases of achylia gastrica and cases of pernicious anæmia ought to be kept strictly apart. Whereas the latter, as a rule, ends fatally, the former does not necessarily endanger the life of the patient. As a proof of this view I described a case of achylia gastrica which I had under observation for four years and whose condition had, meanwhile, rather improved, and another case in which the obtained historical points made it probable that the stomach had persisted in this state of juicelessness for forty years. In this case there were no subjective symptoms present and the patient used to partake of the heaviest food with perfect impunity. In all these cases the small intestine acts vicariously and completely replaces the lack of digestion of the stomach.

In regard to the literature of "atrophy of the gastric mucosa" the same can be found in my above-mentioned paper. I would like, however, again to pay my tribute to the excellent work done in this line by Henry and Osler[3] and F. P. Kinnicutt.[4] Both papers describe cases of pernicious anæmia in which the autopsy showed the disappearance of the gastric glands. Henry and Osler have given various characteristic drawings illustrating the microscopic picture of this condition.

The recent literature on cases of pure achylia gastrica (not complicated with pernicious anæmia) is not very extensive. Simultaneously with my article on "Achylia Gastrica" Ewald[5] published a paper entitled: "A Case of Chronic Disability of Gastric Secretion (Anadenia Ventriculi?)." Ewald's views are in perfect accordance with mine. The patient reported in the paper had been observed by Ewald for two and a half years. Whereas this patient improved considerably in every respect and gained forty-two pounds in weight, the chemical examination of the gastric contents showed a total lack of juice.

Th. Rosenheim[6] reports a patient, aged eighteen, who presented all the symptoms of achylia gastrica in 1889, and when examined anew in July, 1894, the same condition of the stomach was found.

Westphalen[7] described a case of achylia gastrica complicated with motor insufficiency. Here the diagnosis made during life was verified by autopsy after patient's death a few days after an operation.

In his text-book on "Diseases of the Stomach," J. Boas[8] says: "There is at present no doubt that an absolute and permanent lack of gastric secretion may be compatible with a subjectively and objectively perfect welfare. . . . Instead of many one striking instance. . . . The patient, under observation for over three years, partakes of the heaviest foodstuffs without any discomfort whatever, notwithstanding the absolute lack of HCl and almost entire absence of the enzyms."

In this country Allen A. Jones[9] has described under the name of "Gastric Anacidity" four cases belonging to this class of affections.

It would have been hardly necessary to again discuss this subject but for two new facts observed which appear to be of value for the affection in question.

As yet it is uncertain whether in all cases of achylia gastrica there necessarily exists an anatomical lesion (atrophy of the glands) or not—*i.e.*, whether cases of achylia might not perhaps occur, in which the gastric mucosa is not much altered. The question of the possible existence of achylia when there are no considerable changes of the gastric mucosa is closely connected with the further question, whether a repair of this condition be possible.

The two following observations will perhaps throw some light on these questions:

CASE I.—M. G——. *Diagnosis: Achylia gastrica, Erosiones ventriculi.*—The details of this case are given in my paper[1] on "Erosions of the Stomach." Here it will suffice to state that the chemical examination of the gastric contents of this patient—which analysis has been made far more frequently than described in my paper—always revealed a total absence of HCl, an acidity of four or even below that, absence of the biuret reaction, and absolute deficiency of the rennet and pepsin ferments. In this way the diagnosis of achylia gastrica had been established. In the same patient lavage, in the fasting condition, used to bring up several small pieces of gastric mucosa, which, microscopically, showed the presence of rather normal glands. (In my above-named paper on "Erosions of the Stomach" there is a drawing of the microscopic picture of a piece of gastric mucosa of the patient.)

It is evident from this observation that there might exist an achylia even when the glandular layer of the stomach has not been totally destroyed. The suppression of the gastric secretion is, then, probably caused by certain nervous disturbances.

CASE II.—Louis T——, now twenty-eight years of age, with previous diagnosis: Achylia gastrica (reported in 1888 in the *New York Medical Press*, and thereafter, in 1892, in the MEDICAL RECORD)—still presented the symptoms of achylia gastrica in 1893. In 1894, however, the patient began to show a different aspect of his gastric functions. At first it was noticeable that the gastric contents consisted of a much finer mixture—the solid particles being much more minute—contained the two characteristic ferments, presented a low degree of acidity (though higher than heretofore), and revealed the presence of peptone. A few months later the acidity increased to thirty, and now even free HCl could be easily detected.

In this case, in testing the gastric contents in 1893, I also applied Sjoequist's method as modified by Ewald[2] in order to determine whether there was combined HCl. The result was always negative. I have applied the same method (Sjoequist-Ewald) in three other cases of achylia gastrica, and could always determine a complete absence of combined HCl.

According to my belief, in cases in which the acidity has either disappeared or is so low that it does not exceed four or six for a long period of time, it is sufficient, for practical purposes, to ascertain the absence of the ferments (pepsin and rennet), of Günzburg's reaction and of the biuret test, in order to make the diagnosis of achylia gastrica. I am quite certain that one would find also in all these cases a total lack of the combined HCl, just in the same manner as I found it in the three cases I have especially examined with regard to this point.

If I now return to case Louis T——, it appears quite evident that even a typical case of achylia, where this

[1] Read before the New York Academy of Medicine, Section on General Medicine, May 21, 1895.

[2] Max Einhorn: MEDICAL RECORD, June 11, 1892.

[3] Henry and Osler: American Journal of the Medical Sciences, vol. 91, 1886, p. 498.

[4] F. P. Kinnicutt: American Journal of the Medical Sciences, vol. 94, 1887, p. 419.

[5] C. A. Ewald: Berliner klin. Wochenschrift, 1892, Nos. 26 and 27.

[6] Th. Rosenheim: Berliner klin. Wochenschrift, 1894, No. 39. p. 887.

[7] H. Westphalen: St. Petersburger med. Wochenschrift, 1890, Nos. 37, 38.

[8] J. Boas: Specielle Diagnostik und Therapie der Magenkrankheiten, Leipzig, 1893, p. 18.

[9] Allen A. Jones: New York Medical Journal, May 27, 1893, p. 573.

[1] M. Einhorn: MEDICAL RECORD, June 23, 1894.

[2] Proceed as follows: To 10 c.c. of the filtrate add $BaCO_3$, evaporate to dryness, and reduce to ash. Dissolve the residue in H_2O. If, on addition of a solution of Na_2CO_3, no precipitate is formed, it shows that no barium chloride is present, or that there was no combined HCl present.

condition has remained unchanged for seven years (five years thereof under constant observation), may take a turn for the better and the stomach may slowly regain its secretory function. This fact appears to find only an explanation under the supposition that the suppression of gastric secretion in this case was not due to a total disappearance of the glandular layers, but rather to certain thus far unknown nervous disturbances.

Both cases mentioned prove that achylia gastrica may exist in a person notwithstanding the presence of gastric glands.

From the above it is apparent that the clinical picture of achylia gastrica does not suffice to establish the diagnosis of anadenia ventriculi (Ewald). It does not, however, by any means follow that some cases of achylia gastrica might not be complicated or rather caused by anadenia.

The following case that was observed for several years, and on which ultimately an autopsy was made, will be of great interest with regard to the point in question :

Mrs. Augusta G——, about thirty-eight years of age, came under my care through the kindness of Dr. J. Rudisch in 1888. The patient stated she had suffered severely from the stomach for the last five years. She frequently had pains after meals. There was no vomiting. Constipation. During these five years patient had lost considerably in weight—about twenty pounds altogether.

The examination of the chest organs did not show anything abnormal. Palpation of the abdomen did not reveal any tumor. There was no splashing sound in the gastric region and the contours of the stomach could not be mapped out. By abundant food and massage the condition of the patient greatly improved. She increased seven pounds in weight during the winter, and the pains were slight or absent. During the summer of 1888 I examined the gastric contents one hour after Ewald's test-breakfast. The contents obtained were small in quantity and thick. The bread particles were not minute and looked unchanged. The amount of fluid was extremely small. The filtrate showed : HCl = 0 ; acidity = 4 ; rennet = 0 ; biuret reaction = 0 ; erythrodextrin = 0 ; sugar +.

In the fall of 1888 I again examined the gastric contents and obtained exactly the same result. Patient in the summer of 1889, although feeling quite well, left for Europe. She stayed a few weeks in Franzensbad, and then about two months in a hydropathic institute near Vienna. When patient returned to New York she was not not, on the whole, better than heretofore. During the winter of 1889–90 she had a severe attack of pleurisy, from which she recovered perfectly. Patient spent the summer of 1890 in the Catskill Mountains. While there she caught cold and suffered from a new attack of pleurisy with considerable exudation. After aspirating over a quart of liquid with the Dieulafois apparatus patient seemed to recover quickly. Soon afterward, however, a new serious ailment—carcinoma uteri—made its appearance and ended her life on September 11, 1891.

During the last eighteen months of patient's life the gastric symptoms were not very pronounced. Patient used to eat very slowly, and always made intermissions (for about two to three minutes) after every few mouthfuls of food. She asserted that without the intermissions the food would not go down and remained in the œsophagus. Patient, however, partook of a quite manifold and varied diet (meat, green peas, spinach, asparagus, different soups, white bread and butter, milk, coffee). In order to alleviate the pains caused by the cancer—pronounced inoperable by the best gynecologists of this city—methyl-blue 0.2 once a day was administered first per os, then per rectum. This medicament was used in this case a whole year with the greatest benefit. During the entire sickness the nutrition of the patient remained quite good. About three months before death a resistancy was felt below the ensiform process which was ascribed to the stomach. It was quite natural to think of a cancerous growth in this organ also. This, however, was not the case, as the autopsy afterward showed.

At the autopsy the uterus was found to be of the size of a child's head, and taken up by a scirrhous cancer. At the beginning of the colon ascendens there was a perforation (caused by the pressure of the tumor on that organ) ; pus in the abdominal cavity.

For a better conception I give the following drawings :

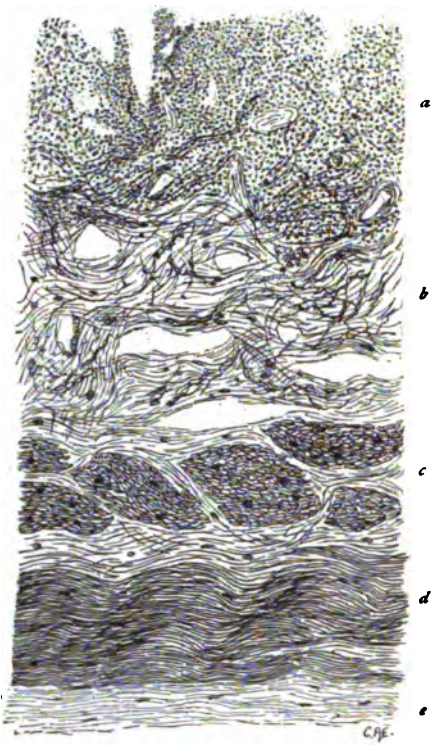

FIG. 1.—Cross-section through the Stomach-wall under Low Power, showing Relations of the Layers : *a*, mucosa ; *b*, submucosa ; *c*, *d*, muscularis ; *e*, peritoneum. No glands in the mucosa.

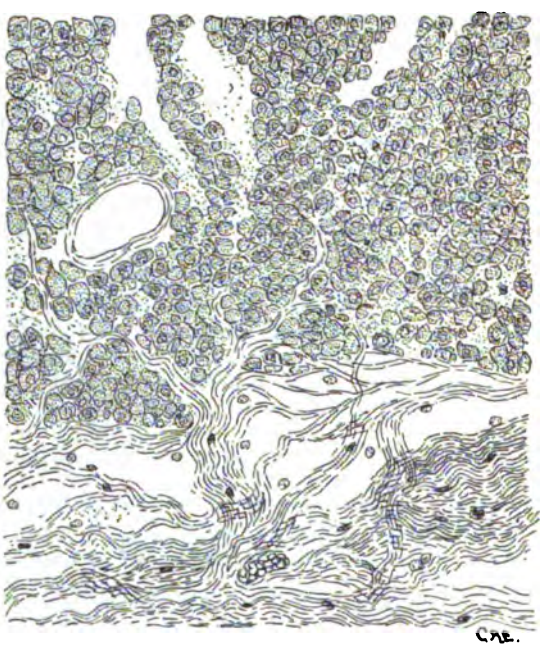

FIG. 2.—One part of the two inner layers highly magnified: *a*, mucosa ; *b*, submucosa.

The stomach was not adherent to the neighboring organs ; it looked extraordinarily small and firm, of large

pear's size, and measured 10 ctm. in length and 6 ctm. in width, the walls being about 1 ctm. thick. In opening the stomach the interior appeared quite smooth, presenting a whitish gray surface. The pylorus was not stenosed, and could be passed with the finger.

From two different spots of the fundus ventriculi numerous microscopical specimens were made, showing the entire cross-cut of the wall of the stomach. No glands could be found anywhere, and instead of them there was a thin layer consisting principally of round cells. The submucosa was greatly hypertrophied and filled with numerous cyst-like meshes. The muscularis was also very much thickened.

Conclusions.—In this case the diagnosis of achylia gastrica had been made three to four years before death. An abundant and well-regulated dietary regimen had considerably improved the patient's condition. The state of the stomach was bearable and remained so. A cancer of the uterus, however, developed and ended the life of the patient. At the autopsy the stomach was found to be very small in size and its walls uniformly thickened. The inner surface presented a smooth and whitish appearance; microscopically the inner layer was found to contain no glands, and consisted merely of cells and scanty fibrous tissue. The other layers of the stomach, the submucosa and muscularis, were greatly hypertrophied, not containing, however, any foreign elements. Thus, the condition of the stomach found at the autopsy corresponded to that of cirrhosis ventriculi, as described by Nothnagel,[1] Henry and Osler,[2] and von Kahlden.[3]

In this case it seems justifiable to assume that the achylia gastrica, which was diagnosticated about three years before the exitus, was due to a real anadenia of the organ. It appears, however, more than probable that the great diminution in the size of the stomach developed in the last three or five months before death, at the time when the resistancy began to be felt at the ensiform process.

Out of the entire number of my newly observed cases of achylia gastrica (they amounted to thirteen after deducting the above-narrated cases), I may be allowed to report two typical cases of this affection, one of which was interesting, inasmuch as there were no gastric symptoms whatever and the complaints appertained merely to the intestinal tract.

Typical Cases of Achylia Gastrica.—The following cases are of great interest:

Case I. (October 24, 1892).—Mrs. G——, aged about forty-five, complains of her stomach for the last twelve years. She is almost always troubled with pains after meals in her gastric and epigastric region. Appetite poor. Bowels inclined to be constipated. Vomiting appeared very seldom. Patient had lost considerably in weight during the first years of her ailment; thereafter her weight remained stationary. In 1891 she visited Carlsbad, but her condition did not improve any.

Present Condition.—Patient of small stature and quite thin. Panniculus adiposus looks somewhat thin. Lips and cheeks of a pale color. Tongue not coated. Chest organs in good shape. The palpation of the abdomen reveals the absence of any tumor. The epigastric region is sensitive to pressure, but not exactly painful. A splashing sound can be produced to about three fingers' width below the navel. The urine does not contain either sugar or albumin.

October 27th.—Examination of the stomach one hour after Ewald's test-breakfast: HCl = 0; lactic acid = 0; acidity = 6; rennet = 0; biuret reaction = 0; erythrodextrin = 0; sugar +. The quantity of the gastric contents is not large, and contains a very small amount of liquid. The bread particles are not minute. No mucus.

October 30th.—When fasting: stomach empty.

January 8, 1893.—Examination of the stomach one hour after Ewald's test-breakfast: HCl = 0; lactic acid = 0; acidity = 4; rennet = 0; pepsin = 0; biuret reaction = 0; erythrodextrin = 0; sugar +.

During the year 1893 several other examinations of the gastric contents had been made, with the same analytical data as just mentioned.

Taking into consideration the very long period of the ailment and the result of the chemical examination of the gastric contents, achylia gastrica was diagnosticated, and cancer excluded. The further course of the patient's condition has fully verified this assumption, for the patient now (two to three years after the reported examinations) is in rather a better condition than heretofore.

The treatment consisted in occasional lavage and intragastric faradization.

Case II. (October 1, 1894).—Mrs. A. S——, aged about twenty-five, had suffered five years ago from severe diarrhœa for about three months. Eighteen months later patient had a new attack of diarrhœa lasting over a month. About a year ago she began to complain of pains after meals. These pains, as a rule, appeared right after the partaking of food and lasted for about three hours. At times, patient would experience a mere feeling of pressure, at times, however, the pain was very intense in character. Bowels regular. For the last two years she suffered from very severe headaches. Patient had lost seven pounds during the last year. She greatly suffers from belching without any bad odor. Appetite very good. Patient, at times, feels very sleepy, at times again she is subject to fainting spells of very short duration.

Present Condition.—Patient looks well nourished, though somewhat pale. Tongue slightly coated. Chest organs intact. The stomach is situated quite low (gastroptosis) and the right kidney movable. The epigastric region is sensitive to pressure, although not painful. The urine does not contain anything abnormal.

October 2, 1894.—Examination of the stomach one hour after Ewald's test-breakfast. Only a small quantity of thick contents could be obtained. The bread particles are not minute and they obstruct the tube.

The filtrate shows: HCl = 0; reaction hardly acid; acidity = 2; lactic acid = 0; biuret reaction = 0; rennet = 0; pepsine = 0; erythrodextrin = 0; sugar +.

October 4th.—In the fasting condition: stomach empty. Patient is treated every other day with intragastric faradization. She feels better and can eat without pains; the headaches have meanwhile disappeared.

October 17th.—Examination of the stomach one hour after Ewald's test-breakfast: HCl = 0, of hardly acid reaction; acidity = 2; lactic acid not present; biuret reaction = 0; rennet = 0; pepsin = 0; erythrodextrin = 0; sugar +. The bread particles not minute; small quantity of fluid; no mucus.

At the end of November, 1894, patient was dismissed from treatment. During the last two months she had gained eight pounds in weight and was believed to be perfectly well. The examination of the gastric contents of November 29, 1894, however, revealed exactly the same condition as previously described.

April 5, 1895.—Patient felt well all the time without any treatment. The gastric contents were again examined and found to contain the same characteristic properties as above stated.

A Case of Achylia Gastrica with Predominant Intestinal Symptoms (April 14, 1894).—Solomon S——, fifty-seven and a half years of age, always enjoyed good health until August, 1892, when he had a severe attack of dysentery (patient had to stay in bed for over three weeks and felt afterward extraordinarily weak). Since that time patient had attacks of severe diarrhœa (much mucus, sometimes blood in the passages) every two to three weeks. This diarrhœa used to alternate with

[1] Nothnagel: Deutsch. Arch. für klin. Med., 1879, Bd. 24, p. 353.
[2] Henry and Osler: Loc. cit.
[3] Von Kahlden: Centralbl. f. klin. Med., 1887, No. 16, p. 281.

constipation. From August to October, 1892, patient had lost forty pounds in weight. From that time on he felt weak and miserable and complained of thirst. This condition remained unchanged during this time. He complains at present principally of extreme weakness, of intense thirst, and of very weakening diarrhœal attacks.

Present Condition.—Color of lips and cheeks very pale, anæmic. Tongue furred with a whitish coat. Chest organs intact. The stomach extends to one finger's width below the navel. A splashing sound can be easily produced in the gastric region. There is nowhere any tumor. There are no sensitive spots discoverable in the abdomen. The knee reflex is present. The urine contains neither sugar nor albumin.

Patient was treated for some time, at first, with injections into the bowels (acid. tannic. 2.0 to a quart of water once daily), thereafter with the administration of peptonate of iron. All these means, however, failed to be of any benefit whatever; the tired feeling and weakness persisted, and the frequent attacks of diarrhœa likewise remained unchanged.

November 21, 1894.—Examination of the stomach one hour after Ewald's test-breakfast: HCl = 0; acidity = 2; lactic acid = 0; rennet = 0; pepsin = 0; biuret reaction = 0; erythrodextrin = 0; sugar +. Quantity of liquid very small; the bread particles not minute; no admixture of mucus.

November 23d.—When fasting: stomach empty. Achylia gastrica is diagnosticated, and the patient treated with intragastric faradization. The diet is arranged in such a manner that it does not contain very much meat, and is, instead, rich in food taken from the vegetable kingdom.

After two weeks of this treatment the sensation of weakness remained away. Patient began to look better. His cheeks had a red color, the bowels were regular, and the troublesome sensation of thirst that formerly was so annoying to the patient disappeared.

December 17th.—Examination of the stomach one hour after Ewald's test-breakfast: HCl = 0, of neutral reaction; biuret reaction = 0; rennet = 0; pepsin = 0; erythrodextrin = 0; sugar +. Small quantity of fluid; the bread particles not minute; no mucus.

Patient asserts that he feels well; he can walk great distances without feeling tired.

December 20th.—One and a half hour after the test-breakfast: stomach empty.

December 31st.—Patient takes one glassful of milk; one hour afterward, he takes a glassful of water, and his stomach is directly faradized for ten minutes. Then the gastric contents are obtained by means of a tube; they consist of uncurdled milk diluted with water and are of neutral reaction.

Patient was examined at various times in January and February, 1895, and there was always found a complete absence of gastric juice. The absorption of the stomach was examined by means of the KJ test, and the iodine could be detected in the saliva after a lapse of eleven minutes. Patient's health was and remained thus far in very good state; his appetite is fair, bowels regular, and stools well formed; no attacks of diarrhœa.

April 15, 1895.—Patient has gained ten pounds in weight.

(Several examinations that have been made with regard to the acidity of the urine are here omitted, as they will be mentioned later.)

Of the remaining patients with achylia gastrica I may be permitted to give in table form a short review of the subjective complaints and of the objective data found.

TABLE OF THE REMAINING CASES OF ACHYLIA GASTRICA.

Number.	Name.	Years of Age.	Duration of Disease (Years).	Principal Complaints.	Position of the Stomach.	Result of the Chemical Examination One Hour after Ewald's Test-breakfast.	Remarks.
1	Patrick M.....	46	30	Dizziness, principally after meals.	Stomach very large; extends to one hand's width below navel.	The particles of roll not minute. HCl = 0, acidity = 4, rennet = 0, biuret = 0, erythrodextrin = 0, sugar +.	Stomach, when fasting, always empty.
2	George H. J...	63	1½	Pains, beginning at meals and lasting for about two hours.	Extends to about one finger's width above navel.	The pieces of bread not small. HCl = 0, lactic acid = 0, acidity = 4, rennet = 0, biuret = 0; no mucus; small quantity of fluid.	Stomach, when fasting, empty. Patient has not lost any in weight, and looks well nourished.
3	Mrs. H. B.....	42	2	Pains after meals; belching; at times regurgitation of food.	Gastroptosis.	Three-quarters of an hour after test-breakfast: The bread particles not minute. HCl = 0, acidity = 2, rennet = 0, pepsin = 0, biuret = 0; no mucus.	One hour after the test-breakfast the stomach had been frequently found empty. Patient had gained eight pounds during three months of treatment. The condition of the stomach, however, has not changed in any way. Right kidney movable.
4	Mrs. P. A.. ...	40	7	Pains after meals; frequent vomiting; constipation.	Stomach sunken down but not enlarged.	The particles of bread unchanged. HCl = 0, hardly acid; acidity = 2, rennet = 0, biuret = 0, erythrodextrin = 0, sugar +.	Stomach empty in the fasting condition.
5	Mrs. Johanna S.	50	3	Pains after meals; at times vomiting; frequent diarrhœa.	In normal position and not enlarged	The particles of food not small; small quantity of fluid. HCl = 0, acidity = 2, rennet = 0, pepsin = 0, biuret = 0; no mucus.	Stomach empty, when fasting. After a few times of lavage the pains subsided, the vomiting and diarrhœa disappeared; notwithstanding this, the chemical condition of the gastric contents did not change in any way.
6	David S.....	36	15	Frequent attacks of diarrhœa and dizziness.	Extends to the navel.	The pieces of roll not minute and unchanged. HCl = 0, lactic acid = 0, acidity = 4, rennet = 0, pepsin = 0, biuret = 0, erythrodextrin = 0, sugar +.	Stomach empty when fasting. Patient looks perfectly well and robust, has a good appetite (slightly increased), and partakes of the heaviest food with impunity.
7	Mrs. C. W.....	46	4	Pains after meals; poor appetite; frequent diarrhœa.	Gastroptosis.	The particles of bread unchanged. HCl = 0, lactic acid = 0, acidity = 4. rennet = 0, pepsin = 0, biuret = 0, erythrodextrin = 0 sugar +.	Right kidney movable. Stomach empty when fasting. One hour after the test-breakfast the stomach was found empty several times. Patient was under observation for a whole year and had gained seven pounds; she then died, after a short illness, with pneumonia.
8	Isaac S.....	46	15	Pains after meals; sometimes headache; frequent diarrhœa.	Extends to the navel.	Three-quarters of an hour after test-breakfast: The pieces of bread not minute. HCl = 0, lactic acid = 0, acidity = 4, rennet = 0, pepsin = 0, biuret = 0, erythrodextrin = 0, sugar +.	One hour after the test-breakfast the stomach, as a rule, used to be found empty. The absorption of the stomach was examined by means of KI; in twelve minutes iodine could be detected in the saliva. Patient was under observation for over a year. There was a decided improvement in the patient's condition. He has gained six pounds in weight: there were hardly any pains, and the diarrhœa appeared only very seldom. The chemical examination of the stomach, however, showed the same condition as described.
9	Mrs. B. M.....	32	5	Pains after meals; frequent belching; sometimes vomiting; obstinate diarrhœa.	Gastroptosis.	The pieces of bread not small. HCl = 0, acidity = 2, rennet = 0, pepsin = 0, biuret = 0, erythrodextrin = 0, sugar +.	Right kidney movable. Here Sjoecquist's method, as modified by Ewald, was applied in order to determine the quantity of combined HCl; no traces, however, could be detected. The treatment consisted principally in intragastric faradization. There was marked improvement. Patient gained six pounds in weight; the pains and the diarrhœa entirely disappeared.
10	Augustus A....	47	6	No gastric symptoms: obstinate diarrhœa, alternating with constipation.	Stomach enlarged.	The particles of bread not minute. HCl = 0, acidity = 4. rennet = 0, biuret = 0. erythrodextrin = 0, sugar +.	Right kidney movable. Pronounced nervous symptoms. Tongue always clean. Patient was under observation for four years. His condition has not changed in any way during this period of time. His weight remained the same, and his subjective and objective symptoms persisted in an unchanged manner.

Symptomatology. — Whereas the subjective complaints, as is easily apparent from the above-mentioned cases, may be of quite a manifold nature and may often be entirely absent, particularly as regards the stomach, the objective symptoms are always present. In reference to this point I expressed myself in my paper on "Achylia Gastrica" in the following way:

"In all four cases the stomach contents showed, one to one and a half hours after Ewald's test-breakfast, the following peculiarities: 1. The pieces of roll are not minutely minced and unchanged. 2. The reaction very weakly acid or neutral, usually the acidity was 4 (*i.e.*, 100 c.c. of the filtrate of the stomach contents are saturated by 4 c.c. of a one-tenth standard solution of sodium hydrate). 3. Hydrochloric acid not present. 4. Lactic acid present, but could be discovered only after a thorough shaking with ether. 5. Neither propeptone nor peptone present. 6. The tests for the pepsin and rennet[1] ferments gave negative results. 7. The stomach contents did not smell badly, and did not otherwise give the appearance of decomposition."

To these seven points I would now add as point 8, absence of mucus, and 9, the remarkably small quantity of liquid found in the stomach of these patients one hour after the test-breakfast. Aside from the fluids soaked in and around the particles of bread there is hardly any liquid at all. The gastric contents thereby acquire a peculiar, characteristic appearance, and look different from what they do in other affections of the stomach. This small amount of fluid in the gastric contents of patients with achylia may be explained in the following way: Besides the water (or tea) ingested into the stomach with the test-meal, there is no addition of juice (or liquid) during the stay of the food in this organ. As the more liquid chyme, as a rule, leaves the stomach quicker than the more solid substances these latter alone will then, after awhile (about one hour after Ewald's test-breakfast), be found present.

The motor function of the stomach was not impaired or slackened in any of my patients; in some of them rather somewhat hastened (I. S—— and Solomon S——).

The absorption faculty of the stomach I have examined in three of these patients and did not find it in any way retarded. (In patient L. T—— after 0.2 KJ the reaction for iodine appeared in the saliva after eight minutes, in I. S—— after twelve, and in Solomon S—— after eleven minutes.)

In what condition is the acidity of the urine in patients with achylia gastrica?

It appeared to me of interest to pay attention to this point, and more especially to ascertain whether there is any difference in the degree of acidity of the urine passed in the fasting condition and that emptied during the act of digestion. As is well known, normally there is a decrease of the degree of acidity of the urine during gastric digestion. This is explained by the fact that at that time the acid elements are conducted, so to say, to the stomach. This point, however, does not apply to achylia gastrica, for there is no acid secretion in the stomach. For this reason it would theoretically appear correct to assume that in achylia gastrica the acidity of the urine in the fasting condition and during digestion would not vary very much. The following experiments go to show that this is really the case.

The experiments were conducted in the following manner: The patient arising early in the morning empties his bladder; half an hour later he urinates and puts it in a bottle with the mark "U. I." (urine first=fasting). He then takes Ewald's test-breakfast. One hour afterward he again urinates and marks the bottle with "U. II." (urine second = during digestion). His gastric contents are then obtained. All the samples are thereupon examined. In this way the relation between the acidity of both urines and the gastric contents can best be studied.

Case I.—L. T——, September 28, 1888. One and a quarter hours after Ewald's test-breakfast: HCl = 0; neutral reaction; rennet = 0; biuret reaction = 0; erythrodextrin = 0, sugar +.

U. I., acidity = 28. U. II., acidity = 30.

Case II.—S. S——, February 16, 1895. One hour after the test-breakfast: HCl = 0; reaction hardly acid; acidity = 4; biuret reaction = 0; rennet = 0; rennet zymogen, hardly traces. Bread particles not minute; small amount of fluid.

U. I. (specific gravity = 1.030), acidity = 44.

U. II. (specific gravity = 1.020), acidity = 44.

Experiment III.—Same patient, April 12, 1895.

U. I. (specific gravity = 1,020), acidity = 52.

U. II. (specific gravity = 1,022), acidity = 54.

Thus, in these two cases of achylia gastrica the acidity of the urine before and during gastric digestion hardly varied at all.

Etiology.—With regard to the etiology of achylia gastrica it is generally assumed that same develops after preceding grave chronic catarrhal conditions of the stomach. The newer text-books on "Diseases of the Stomach" (Ewald, Boas, Bouveret) mention this affection in the chapter on "Gastritis Glandularis Chronica." I certainly believe that such an origin of achylia gastrica is sometimes the case. The cases of chronic gastric catarrh in which the acidity is pretty low (10 to 20), no free HCl exists, but biuret reaction and likewise rennet are present, speak in favor of this view. They represent, so to say, the preceding stage of achylia gastrica. Notwithstanding this, it seems to me more than probable that the affection in question may establish itself also in some other way (in consequence of nervous disturbances). In such instances the glandular layers of the stomach need not, necessarily, be greatly altered, although it appears probable that after a long persistence of inactivity of the glands these may begin to atrophy. The above-mentioned cases, M. G—— and L. T——, prove the possibility of a nervous origin of achylia gastrica.

Prognosis.—The prognosis of cases of achylia gastrica is good *quoad vitam*, which view I have represented in my previous papers and is now generally accepted by most writers. The small intestine perfectly replaces the digestive work of the stomach, and the organism is not only enabled to maintain its equilibrium but also to gain in weight. The above case of Ewald shows that very clearly (patient had gained forty-two pounds); some of my own cases likewise prove this fact.

Treatment.—With regard to the therapy, such will be necessary only in those cases in which there are some subjective complaints.

The treatment will have to be carried out in the two following directions: 1. To stimulate the mechanical action of the stomach. 2. To arrange the diet in such a way that same is easily accessible for the intestinal digestion.

The first point is best achieved by stimulating the stomach, as by lavage and, principally, direct faradization of the organ. In some of the cases I have not applied any medicaments whatever, in some I have administered condurango or nux vomica.

In reference to diet it is of utmost importance to see that the food is broken into very minute particles or can be easily done so by chewing. For, on the one hand, all kinds of meat are not altered in any way in the stomach and reach the intestine in the same shape as when they entered the cardiac orifice; on the other hand, the starchy substances contained in the vegetable food cannot become converted into maltose as long as the albuminous membrane occluding them has not been opened.

In the stomach of these patients starch, as such, when accessible to the action of ptyalin, undergoes conversion into sugar very rapidly.

[1] The rennet zymogen, however, may still be found present.

The vegetable food is, as a rule, here very well borne. Strained pea- and bean-soups may be recommended very highly on account of their richness in albumen. Kumyss or matzoon, or sometimes bonny-clabber well beaten with a spoon, or plain milk with the addition of bread or crackers with butter are highly commendable. Permit meats only in small quantities, best well hashed and broiled or the white part of chicken. Brain, sweetbread, fish, and raw oysters are very suitable. In the grave cases it is advantageous to administer meat powder (two to three tablespoonfuls or even more, pro die, in soup or milk). The usual beverages, as tea, coffee, cocoa with milk and sugar, besides small quantities of beer or stout, are allowed.

Here also, like in all other chronic disturbances of the digestive tract, it will be of importance to pay attention not only to the quality but also to the quantity of food taken. And here the greatest stress must be laid that a sufficient quantity of food is taken. It is always preferable to have patient partake of a too big quantity of food rather than of a too small one, by which a condition of subnutrition is so often established.

When the intestine has adapted itself to the greater amount of work and the nutrition goes on a well-regulated basis, the achylia gastrica need not cause any trouble whatever, and the patient may enjoy perfect euphoria.

20 East Sixty-third Street.

A CASE OF ICHTHYOSIS CONGENITA WITH SOME UNUSUAL FEATURES.[1]

By JOHN CABOT, M.D.,

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My aim being to present a practical contribution, I shall omit all general references and discussion, and confine myself to reporting the case, with a brief *résumé* in conclusion.

Bertha Z——, fourteen months old, born in this country of German parentage, sent to me through the kindness of Dr. Philip Roth, Jr., of Newark, N. J., and first seen November 10, 1894.

The history, as gathered from the mother, is that both parents and two older children, of ten and seven years of age respectively, are healthy. The mother has had no miscarriages or premature births before, but says that this child was born at seven months of utero-gestation, although her abdomen was more distended than with either of her other children at full time. She was four days in labor, with gushes of a watery fluid, accompanied by uterine pain, every half-hour or so, with constant dribbling between pains. The child was weak and marasmic when born. The mucous membrane of the eyelids was much inflamed, ectropion existing. The eyes were open, and there was inability to close them. The nostrils were occluded, and there was difficulty in breathing, so that for some days it was expected to die at any moment.

The skin was thickened, dry, red, and scaly over the entire body at birth, with scales from pin-head size to one and a half inch square, the largest being on the trunk.

Dr. Roth writes, in answer to my inquiry: "In regard to Bertha Z——'s case, would say that there was a great deal of hydramnios, so much so that when I ruptured the bag it seemed to me that it might have been about two gallons. The child was in normal position, L.O.A., and delivered easily. I will state here that I delivered the woman three times, the other children being perfectly healthy. When Bertha was born she presented the appearance of a Chinese baby, the outer canthi of the eyelids were drawn downward and inward, almost completely closing eyeballs from view. There was no vernix caseosa on child's head or body, it being perfectly dry when born. The nose was like a white, bony prominence protruding from the face, giving it a most ghastly look; the angles of the mouth were tightly drawn downward and inward, and had a cracked appearance. The ears were bound down to the head and were immovable, and looked as though they were gangrenous. There was no hair on the child's head; both nares were closed, so that I had to make an incision into each one to allow the child to breathe; the rest of the body, that is the skin, had the appearance as though the child was enveloped in oil-silk, shrivelled, and not glistening, but dull."

The baby was nursed at the breast for a short time, but there was so much difficulty from the inability of the child to suck that it was spoon-fed with condensed milk and water.

The marasmus continued for two months, after which time the child gradually gained in weight, and became healthy except for the skin lesion, and occasional attacks of bronchitis. At five months of age it had pertussis, followed by diarrhœa during the hot weather, when it again became marasmic, reviving slowly after a number of weeks' illness, and for the last two months has gained decidedly.

The eyelids were at first held firmly open, with about three-quarters of an inch interval between the upper and lower lids, the conjunctivæ being forced outward, thus diminishing the space of uncovered eyeball to about one-half an inch; this condition gradually improved under simple treatment to the point that the child is now able to bring the lids within half an inch of each other when asleep, the mucous membrane approaching to within one-eighth inch.

The hair was absent at birth, but has grown sparsely, and fallen out twice. The finger-nails have never been entirely normal, growing very long, rupial in character of late, beginning to drop from the fingers about three months ago until there is only one left.

The entire skin has been shed in different portions of the body from three to five times, that on the face and upper part of the body being most frequently thrown off, that of the lower limbs and scalp the least so; the skin peeling off in large and small flakes, leaving a reddened surface almost like natural skin, but which after a few days again becomes dry and wrinkled. In peeling off, islands of the old skin, tense and smooth, were often left, which when extending around the limb, formed tight bands and gave the appearance as if the child was outgrowing its own skin.

There has always been more or less heat in the skin; no moisture or perspiration was ever noticed.

The child has had much and varied treatment by many doctors, but without any effect.

Status Presens.—The child is well nourished, though somewhat smaller than it should be at fourteen months. Weight, 13 lbs. Length of body, 24 inches. Circumference of head, 17½ inches. Chest, 18 inches. Anterior fontanelle still open one-half inch. It is active and intelligent, but makes no effort to crawl or walk; is good-natured, and only restless when the clothing is too warm; takes cold easily. Heart, lungs, liver, and spleen negative; bowels regular. Pulse, 106. Respiration, 38. Urine clear, acid, 1.022; no albumin or sugar. No hair on the head. There is only one finger-nail, that on third finger of right hand; toe-nails normal. Ears thickened and lumpy in places; hearing normal. Eyes staring, from inability to close the thickened and stiff lids; ectropion. Sight good. The mouth is held half open, and the tongue is slightly enlarged; there are only two teeth, the lower incisors.

The hands and feet are stiffened, with almost no power of flexion or extension; the child being unable to grasp even large objects with the fingers.

The surface of the body feels warm to the touch, the thermometer showing 101.2° F. in axilla; 100.4° F. in rectum.

[1] Read before the New York Society of Dermatology and Genito-Urinary Surgery, March 20, 1895.

The skin over the entire body is slightly reddened, dry, hard, and scaly; scales light gray in color, of papery consistency and from one thirty-second inch to 1 × 2 inches; outlines polygonal, formed by the natural furrows in the skin. The skin is tense in places, notably on the left forearm, right leg, and left thigh and leg, where deep creases are formed by bands of the older skin extending round the limb, above and below which the flesh has seemingly filled out by recent growth, being raised one-quarter inch or more above the constricting bands, giving it a "hide-bound" appearance, which can be seen on the left leg in the photograph. This was taken soon after I first saw the child, and being necessarily an instantaneous exposure, is not as good as could be desired, but it serves to give an idea of the general appearance.

Surrounding the mouth, for an inch or more, the skin is almost natural, thin and white. On the upper part of the forehead is a line of demarcation where the old and new skin are in contact, that on the face being the fourth reproduction, that on the scalp the second or third.

November 28th.—On admission temperature 102° F. (Other physical conditions as noted above.)

November 29th.—Temperature, A.M., 100.8° F.; noon, 99.6° F.; P.M., 102° F. Constipated. Olive-oil inunctions. Cascara, 3 ss.

November 30th.—Temperature, A.M., 99.8° F.; noon, 100° F.; P.M., 99° F. Stool, yellow and lumpy.

December 1st.—Temperature, A.M., 100° F.; noon, 101° F.; P.M., 103° F. Ice cap. Cloths wet with equal parts linseed and cotton-seed oils to body. Wash of ichthyol and alcohol, āā 3 ij., aqua, ℥ j., to head, neck, and face. Liquid peptonoids.

December 2d.—Temperature, A.M., 100° F.; noon, 102.4° F.; P.M., 101° F.

December 3d.—Temperature, A.M., 102.4° F.; noon, 102.8° F.; P.M., 101.5° F. Ichthyol wash discontinued. Restless. Phenacetine, gr. j., at 10 P.M.

December 4th.—Temperature, A.M., 103.4° F. Ice cap. Noon, 101° F.; P.M., 103° F. Phenacetine, gr. j., at 9 and 1 P.M.

December 5th.—Temperature, A.M., 104° F. Ice cap. Noon, 101° F.; P.M., 100.8° F.

Treatment.—The child was put upon raw linseed oil, one drachm t.i.d., and enveloped in cloths wet with same material. Boric acid solution to eyelids.

November 16, 1894.—Skin about the same condition. Temperature, rectum, 100.2° F.; axilla, 101.2° F.; with surface thermometer on chest, 100.6° F. Pulse, 98. Respiration, 38.

November 23d.—Skin decidedly softer, eyelids come close together. Temperature, rectum, 99.8° F.; axilla, 100.2° F.; on chest, 100° F. Pulse, 96. Respiration, 36.

November 28th.—No change in skin. Temperature, rectum, 101.8° F.; axilla, 102.6° F.; on chest, 102.4° F. Pulse, 110. Respiration, 44. Cough, with fever and restlessness, since last visit. Physical examination shows no dulness on percussion; auscultation is impossible, the crackling of the skin under the ear covering all other sounds. The mother says it always takes more or less cold in journeying back and forth from Newark to New York. On this account, and because it was thought that better facilities for constant observation and more regular applications could be had in a hospital than the mother could give at home, with her hands full of family matters, she was induced to leave the child at the Babies' Hospital, where it came under the care of Drs. L. Emmett Holt and E. B. Bronson.

Dr. Holt has obligingly placed the hospital records at my disposal, and from them I make extracts on the course of the disease as follows:

December 6th.—Temperature A.M., 100.2° F.; noon, 101° F.; P.M., 100.8° F. Considerable discharge from eyes. Boric acid eye-wash. Lanoline and vaselene, equal parts, to head. Cotton and linseed oils continued on body.

December 9th.—Temperature, A.M., 101.8° F.; noon, 102° F.; P.M., 104° F. Ice cap. Phenacetine, gr. j., at 9 and 11 P.M. Completely peptonized milk. Liquid peptonoids.

December 10th.—Temperature, A.M., 99.6° F.; noon, 102.4° F.; P.M., 100.4° F. Very restless in evening. 8 P.M., temperature, 104° F. Ice cap. Took very little of 7 A.M. bottle.

December 11th.—Temperature, A.M., 100.3° F.; noon, 102.4° F. Restlessness increasing, with short, sharp cry with every breath. Temperature, 10 P.M., 107° F. Ice pack for ten minutes gave great relief, and half an hour later temperature 100.2° F. Patient slept quietly. Stool yellow and smooth.

December 12th.—Temperature, A.M., 100.8° F.; 9 A.M., 108° F. Restless, with short, sharp cry. Four or five small round spots filled with serum over chest. Ice pack. Temperature falling to 100° F. Temperature at 4.45 P.M., 107.6° F. Ice pack, after which temperature did not reach 103° F., and patient slept quietly through the night. Whiskey, 3 j., in twenty-four hours.

December 13th.—Temperature, A.M., 100.6° F.; noon, 103.5° F.; P.M., 101° F. Seen by Dr. G. H. Fox, who pronounced it keratosis.

December 14th.—Temperature, A.M., 100.4° F.; noon, 102.5° F.; P.M., 98.4° F. Vomited at 5 P.M.

December 15th.—Temperature, A.M., 100° F.; noon, 104.2° F.; P.M., 101.4° F. Vomited 7 A.M.

December 16th.—Temperature, A.M., 101.4° F.; noon, 104.2° F.; P.M., 101° F.

December 17th.—Temperature, A.M., 103° F.; noon, 102° F.; 7 P.M., 107° F. Ice pack for eight minutes. Temperature, 8 P.M., 98.6° F. Peroxide of hydrogen to suppurating places on head.

December 18th.—Temperature, 3 A.M., 105° F. Ice pack. Temperature, 3.30 A.M., 98.6° F. At 3 P.M. vomited. Temperature, 100.2° F.

December 19th.—Temperature, 98.6° F.; 11 A.M., vomited. Noon temperature, 101.8° F.; 9 P.M., 105° F. Ice pack. 11 P.M., temperature, 97° F. Hot-water bags. Whole back of head is boggy and œdematous; stools gray.

December 20th.—Temperature, A.M., 100.2° F. Vomited at 8 A.M. Taken home by mother against advice. Skin slightly softer than on entrance.

December 22d.—Died with continuance of fever.

In reply to my inquiry as to what was, in his opinion, the direct cause of death, Dr. Holt writes: "The thing which interested me most, while the baby was in the hospital, was the hyperpyrexia, and particularly the wide and rapid fluctuations in the course of the temperature. This is something which I have never seen paralleled in any other infant. It seemed to me to be due to the fact that radiation was very imperfect and at times almost impossible, since with a comparatively small amount of bronchitis the temperature would rise in an hour or two to 108° F., and drop in the course of an hour, under the influence of a bath, nearly to normal.

"I made repeated examinations of the chest while the baby was in the hospital, but never found evidence of anything more than a generalized bronchitis of the large tubes. It was to the general malnutrition rather than to any local disease that the child's decline and final death seemed to me to be due."

Résumé.—The etiology in this case would seem to be defective intra-uterine nutrition, resulting in hydramnios, imperfectly developed skin, and premature birth. A curious fact noted by Schroeder is that over seventy-five per cent. of such infants are females. According to modern obstetricians, hydramnios may be due to a morbid condition in either mother or fœtus. There was here no history of syphilis or other disease in father or mother, they always having been in the best of health. Playfair says hydramnios is due to obstructed umbilical circulation, but the condition of placenta and cord was not noted in this case.

No microscopical examination of the skin was made, a small piece taken for this purpose being mislaid after it was in the microscopist's hands, and I was not aware of its loss until it was too late to procure another. Neuman says that the papillæ are enlarged, their blood-vessels dilated, the cutis dense, the lumen of veins narrowed by growth from their interior, the corneous layer thickened, composed of superimposed lamellæ, and the rete between the papillæ much hypertrophied. Hair follicles are absent or lengthened, and contained long hairs, the external root-sheath hypertrophied, the sebaceous glands dilated to a cyst form, the sweat-glands dilated, and the subcutaneous fat diminished. Different observers have noted slightly differing morbid conditions, but agree in the main with the above. Crocker has shown that the horny cells dip down deeper into the regions occupied in the normal skin by the rete-pegs, and that the adherent and stratified layer of each horny cap is composed at the apex of the papillary growth. The child was born without "vernix caseosa," and there was at no time any hyper-secretion of sebaceous material, so that it would be proper to classify it under the head of "simplex," as distinguished from "sebacea." The skin disease was fairly well-developed at birth, and the thickening increased as time went on, although there was a slight modification of the skin around the mouth and eyes, where it softened to a moderate extent, as shown by the gain in control over the muscles of these regions.

This child lived much longer than is usual in congenital ichthyosis, it being very exceptional to see them live more than a few days when affected to such a marked degree. The well-nourished condition and continuous growth for sixteen months also indicate an unusually good set of digestive apparatus and a large amount of vitality. The constant hyperæmic condition of the skin, the surface temperature on the three occasions when it was taken showing a rise of from two-tenths to six-tenths of a degree over that in the rectum, the axillary temperature rising from four-tenths to one degree over the rectal, is worthy of note, and it would have been interesting if these observations had been continued in the hospital. The rapid desquamation is also somewhat unusual in a simple ichthyosis, where the scales are generally adherent. It seems to me fair to infer that there was also a dermatitis present.

The extreme fluctuations of temperature from seemingly slight causes, as noted by Dr. Holt, are unequal and difficult to account for, except on his theory of imperfect radiation from the surface, though in looking over the history it has some points that make one think of a possible pneumonia or meningitis. Landois says that cutting off the cutaneous respiration in warm-blooded animals by coating with an impermeable varnish, or by destruction of skin, as in burns, causes death sooner or later, according to the extent of surface involved, probably from a loss of too much heat. It is accompanied by a fall in bodily temperature and increased frequency in respiration. Neither of these symptoms were present in this case, leaving us to infer that the insensible perspiration was about normal.

No autopsy was obtained.

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THE REDUCTION OF MODERATE DEGREES OF DEFORMITY IN HIP DISEASE.[1]

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Extreme deformity occurring during the progress of hip disease is common only in patients who, for some reason or other, have failed to come under the ordinary methods of treatment. A distressing clinical picture is that of a child lying in bed with the thigh extremely flexed and adducted. But the deformity diminishes with marvellous rapidity if the weight and pulley, or any of the ordinary forms of traction apparatus is applied. These methods, while they compel a change in the direction of the limb, at the same time protect from inadvertent and painful disturbance of the joint.

The statement may seem unreasonable, but it is nevertheless true, that the more exaggerated the deformity the more easily it is affected by traction. This is due to the mechanical conditions present. An iron rod

Fig. 1.

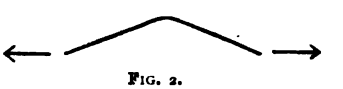

Fig. 2.

bent as in Fig. 1. may be readily straightened to a certain extent, as in Fig. 2, by traction and counter-traction manually applied. Traction may then be applied by machinery, as in Fig. 3, and the rod may thus be

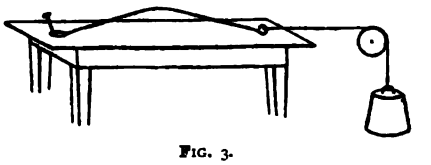

Fig. 3.

[1] Read before the New York County Medical Association, May 20, 1895.

still further straightened, but the straighter it becomes the more difficult it is to make any further advance, and it soon becomes evident that absolute straightness cannot be produced in a rod by traction. Another kind of force may then be employed. Pressure may be made at the convexity of the bent rod and counter-pressure at its two ends, as in Fig. 4, when the rod may be easily straightened and even bent the other way. This latter force, pressure and counter-pressure, is applicable and very effective when applied to the knee, represented in Fig. 4, in which case the leverage above and below the joint is sufficient. But there is no such

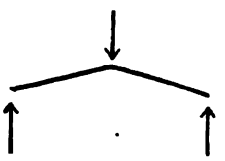

FIG. 4.

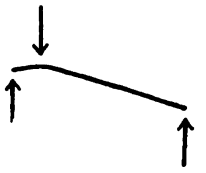

FIG. 5.

leverage found in an effort to correct in this way a deformed hip-joint represented in Fig. 5. We are reduced, then, to this, traction loses its power when the joint is partly straightened, and pressure and counter-pressure fail for the want of suitable leverage above the joint. The mechanical disadvantages thus revealed are certainly not encouraging. A ray of hope, however, is found in the reflection that the immobility is not of a hard-and-fast kind, and that, as the bad position is that which furnishes the most convenience in ordinary movements, it may be possible to accustom the patient to other habitual movements in which he will have most convenience with the limb in a good position.

I propose to give up the various theories which have been advanced to explain why the limb is flexed and adducted, and to find a simple and sufficient explanation in the proposition that the patient unconsciously assumes deformity because, when it is flexed and adducted, the disabled limb is less liable to painful disturbance and less in the way of the well limb, which now does almost all of the work of locomotion. The limb is apparently shortened (adducted) to keep it from unnecessarily touching the ground, and the appearance of lameness is increased by the action of the well foot which violates the natural rhythm, which, as we all know, is expressed thus: one—two—one—two—one—two. As the well foot hastens forward to relieve the affected foot of the weight of the body, and prolongs its stay on the ground with the same object in view, the rhythm becomes unnatural and may be expressed thus: one—two——one—two——one—two.

Now, if the patient can be induced to resume the natural rhythm, in which the time is evenly divided between the two feet, he will unconsciously surrender flexion and adduction, because in that way only is it convenient or possible for him to walk in the prescribed normal rhythm of locomotion. To put it in other words: He acquires adduction or apparent shortening because he habitually keeps the affected foot on the ground less than half the time, to the destruction of natural rhythm. If he restores the natural rhythm, and keeps the foot on the ground half the time, adduction or apparent shortening will disappear. But this cannot be done during the progress of the disease without mechanical assistance. Unsymmetrical walking is nature's conservative method of keeping the affected limb off the ground as much as possible in the act of walking, in order to avoid pressure and concussion; but with an ischiatic support which keeps the heel clear of the ground, there is no reason why the affected side, splint and all, should not come to the ground as promptly and stay on the ground as long as the well side. If the patient does this and thus lets the affected side do its share of the work, it will be found that without knowing it he is reducing his flexion and adduction and parting with the chief elements of his deformity, and this in accordance with the proposition above made, that the position of the limb in hip disease is that which affords the most comfort and convenience in habitual attitudes and movements.

We may glance at the comparative advantages of this method: 1. The permanence of the result. If the deformity is once reduced in this way all that is necessary to make the result permanent is for the patient to persist in walking in correct rhythm. If, however, a moderate deformity is reduced by forcible or operative methods, it will return if the patient maintains an unsymmetrical gait. The only exception to this would be a rare case of bony anchylosis and deformity corrected by fracture below the joint and union in a better position. 2. The early applicability of the method. Deformity may be thus reduced at the earliest stage of the disease and at the very beginning of treatment. Exceptions would be found to this in those acute periods in which the patient is averse to locomotion. 3. The late applicability of this method to patients who have recovered with deformity. Even in middle life the deformity following early hip disease may thus be reduced in an important degree.

I speak from experience when I say that by this method a great deal of the deformity attending hip disease may be removed and prevented. Success is not attained in every case, because some children can only with great difficulty be taught to walk properly, or in fact to do anything which they ought to do, especially if the parents are preoccupied or lack intelligence. But the great majority of patients are benefited in this way and readily acquire a new manner of walking, if a little of the time and attention which is given to their training in general be turned in this direction.

Progress of Medical Science.

Total Extirpation of the Rectum.—Vanderlinden and de Buck (*La Flandre Méd.*, March 7th) claim that partial resection, or even total extirpation, of the rectum for cancer is abundantly justified where at all practicable from the point of view both of its immediate and ultimate results. They record two successful cases of this kind. Case I.—A multipara, aged thirty-one, in August, 1892, gave a history of a year and a half of pain in the lower belly, constipation, difficult defecation, grooved fæces. For a year glairy mucus, blood, and yellowish fetid sanious liquid had been passed with the fæces; marked loss of appetite and body weight. Per anum a growth was felt, ulcerated in places, extending 7 ctm. from below, and invading the whole circumference of the rectum, with its greatest thickness posteriorly. The summit of the growth was easily reached, and the whole tumor could be moved downward. The operation was performed on October 30, 1892. The dorsal position was used, with the pelvis raised, and thighs strongly flexed on the abdomen. The anus was surrounded by two short incisions, which joined in front and behind. A posterior median incision was prolonged from these to the coccyx. The anal canal and rectum were dissected out as far as 3 ctm. above the growth, where section of the bowel was made. Suture of the bowel walls to the skin wound completed the operation, which lasted an hour. The patient returned home at the end of four weeks, and three months after had gained 10 kilos. in weight, and could already retain firm stools. There has been no recurrence up to the present time. The growth proved microscopically to be a lobulated epithelioma. Case II.—C. D——, aged fifty-two, married; no children. Three years' history, commencing from the climacteric, and in its details very similar to Case I. Two indurated ulcerated masses were found in the anal region. The rectum was in-

vaded in its whole girth by a soft, yielding, easily bleeding tumor, whose summit was reached with difficulty 10 to 11 ctm. above the anus. Operation February 24, 1895. Left lateral position, thighs strongly flexed and pelvis raised. The incision ran from two fingers' breadth below the posterior superior iliac spine along the groove between the gluteus maximus and sacrum toward the median line as far as the summit of the coccyx, then surrounding the anus. The musculature of the buttock was detached, the insertions of the great and small sacro-sciatic ligaments cut, and the coccyx extirpated. A part of the left side of the sacrum was removed, the abundant bleeding controlled, and the rectum isolated, commencing with the anal aperture. The peritoneum was opened after isolation of the anterior rectal wall. The bowel was cut transversely 2 ctm. above the growth, and its end, slightly twisted on its axis, was sutured to the borders of the skin wound. The operation lasted an hour and three-quarters, much blood being lost. A large quantity of NaCl solution was therefore injected, and, except for two days' fever, the patient did well, and at the date of report was convalescent.—*British Medical Journal.*

The Microbiology of Acute Peritonitis.—Courtois-Suffit, in his recent monograph on "Diseases of the Peritoneum," classes first in order among the pathogenic microbes in peritoneal inflammations the bacillus coli communis (*The Boston Medical and Surgical Journal*). This micro-organism is a facultative anaerobic, a normal inhabitant of the intestines, but pathogenic under morbid conditions such as occur in all kinds of peritonitis of intestinal origin. Its presence has long been recognized in peritoneal exudations, while it is constantly found in septic peritonitis following intestinal wounds, perforating (gastric, typhoid, enteric, appendicular) ulcers, ischio-rectal abscess, cancer of the colon, hernia, thrombosis of the mesenteric vessels, etc. It has been affirmed that under certain circumstances, as when disordered circulation, strangulation, extreme fecal distention, undue pressure, or mechanical injury has impaired the integrity of the bowel and lowered tissue-resistance, this bacterium may become migratory, gain the peritoneum, and excite inflammation. Cornil found such bacteria actually in the substance of the wall of a partly necrosed intestine. The possibility of such migration may explain many cases of so-called idiopathic peritonitis attending stercoral impaction, severe bowel inflammations, etc.; the germs passed through the intestinal walls and provoked peritonitis. It is doubtful if peritonitis has ever followed cystitis, yet Achard and Renaut have proved the identity of the colon-bacillus with the bacterium pyogenes of the bladder. The pneumococcus has very rarely any causal relation to acute peritonitis, whether the infection occur as a sequel to pneumonia or independently of that disease. The streptococcus pyogenes has been found in the pus of a great many cases of peritonitis, where it existed to the exclusion of every other micro-organism (post-operative and puerperal peritonitis). Cases of streptococcus-peritonitis following erysipelas of the face have been reported by Cheurlin and others, and in rare instances this disease has succeeded scarlet fever, a malady in which the streptococcus seems to have a predominant part. Penetration, by the microbes, of the abdominal wall is said in rare instances to have taken place in cases of erysipelas of the abdominal integument; and puerperal peritonitis from extension of a streptococcus-inflammation from the pelvic peritoneum and uterine cavity is of very common occurrence. Acute peritonitis has been in numerous instances ascribed to the staphylococcus (aureus and albus) found apart from other micro-organisms in the pus. In other cases, the staphylococcus was associated with the streptococcus, or with the rod-shaped or round micro-organisms of putrefaction. The saprogenous microbes seem to have been influential in certain cases. The colon-bacillus is probably a bacterium of saprogenous character, with possibilities of greatly exalted virulence. Suppurative salpingitis is a recognized cause of acute peritonitis. When the salpingitis has developed under the influence of the true pyogenic organisms (streptococci and staphylococci), a generalized peritonitis which is almost always fatal follows the rupture of the tube. The case is not so serious, according to Bumm, when the salpingitis succeeds gonorrhœal infection, and in which the exudates contain only the diplococcus of Neisser. The latter micro-organism, Bumm says, can exert its action only on mucous membranes, being inoffensive to the serosa and cellular tissue. Naturally, then, the rupture of such a pus tube, or the leakage of pus from the fimbriated end into the peritoneum, would not be followed by a general septic peritonitis, but the exudate would be resorbed like any aseptic fluid. With regard to the effect on the peritoneum of rupture of one of the hollow organs of the abdomen, the result, as Courtois-Suffit remarks, is variable, depending on the presence or absence of microbes in the extravasated fluid. The bursting of the healthy bladder with effusion of normal urine into the peritoneal cavity is not followed by acute peritonitis. This has been proved by the experiments of Gosselin, Robin, Albarran, and others. The case is altogether different when the urinary passages are infected and the urine contains the streptococcus pyogenes, the septic bacterium of Clado, or other pyogenic organisms.

What is true for the urine is equally exact for the bile, as abundant experiments on animals have shown. This is made plain by Dupré in his now classic work on "The Biliary Infections." But the biliary passages and the bile may become infected from various causes, and rupture of the gall-bladder would then be followed by a fatal peritonitis. A case of this kind has been reported by Fränkel, who found in the peritoneal exudate streptococci and staphylococci.

Penetrating wounds of the stomach, allowing small quantities of gastric juice and other contents to escape into the peritoneal cavity, are not necessarily fatal if the wound be not large and the leakage not great. The stomach is not a good culture-field for pathogenic microbes, the gastric juice being aseptic and antiseptic. The result of a penetrating wound of the stomach or a perforating ulcer will, of course, be far graver if the stomach or its secretions has become pathologically altered, and if there be considerable escape of its contents into the peritoneum.

When the intestine is the source of the peritoneal lesion, whether by traumatism or profound ulceration, the peritonitis is likely to be spreading and fatal, especially if there be a massive infection. The microbes which are chiefly concerned are those which are found in a normal state in the intestine: the coli communis, the bacillus albuminis, the bacillus mesentericus vulgatus, the septic vibrio of Pasteur. There is a law laid down by Malvoz, which, as far as it is accurate, may be of help from a medico-legal point of view. If the peritonitis be of intestinal origin, the bacterium coli will show it; if it be of uterine origin (as when consecutive to abortion), the presence of the streptococcus will prove this, even though there should be no visible inflammatory lesions of the genital organs.

The Pathology of the Pancreas.—It is only within comparatively recent years that any notable additions have been made to our knowledge of the pathology of diseases of the pancreas. A decided impetus was given to the subject by the researches of Fitz, who practically established upon a firm clinical basis the symptomatology and diagnosis of acute pancreatitis and allied conditions. Of the etiology of these we practically know nothing, and this line of reseach affords a field for investigation that promises to yield important and interesting results (*Medical News*). Recent clinical

and experimental observations have shown that some lesions of the pancreas are attended with glycosuria, but an even more obscure association is that with the peculiar condition known as fat-necrosis. While this has been observed most commonly in connection with pancreatic disease, it has also been found in some cases in which such disease could not be demonstrated. An interesting contribution to this subject has recently been made by Hildebrand, who, in a series of experimental observations on cats, succeeded in inducing fat-necrosis by ligation of the pancreas or its vessels, and by transplantation of the organ in whole or in part. In two animals the pancreas alone was ligated; in six others ligatures were also applied to all of the veins. Sugar was found in the urine of one of these. In one instance a bit of pancreas, two by three centimetres, was excised from the continuity of the organ and fixed with a suture in the omentum of another animal; and, again, an entire pancreas was treated in the same way. In another experiment a whole pancreas was scarified and made to surround a portion of the small intestine. The animals withstood the operations well, but in all the characteristic white areas of fat-necrosis appeared in the peritoneum comparable to that observed in man.

Growing Pains.—Growing pains, defined as pains in the limbs caused by and during rapid growth, and sometimes so severe as to give rise to growing fever, have been diagnosed by the author less and less frequently as the years rolled by, until the vanishing point was reached. Cases which have been classed together under this name are the following:

Myalgia from Fatigue.—This is the commonest variety, usually about the knees and ankles after unusual exertion. They are probably due to autoinfection brought about by excessive production of *effete* materials in the blood and their inefficient elimination. Elevating the limbs and rubbing with the palm of the hand in a direction toward the heart, relieving venous stasis and facilitating a supply of healthy blood to the exhausted muscles, promptly relieves the pain.

Rheumatism.—This is second, if not first, in frequency. There is slight pain in the joints, little or no swelling, and very mild fever, and hence the true cause is not recognized; but rheumatic endocarditis frequently develops in these cases.

Diseases of Joints and Bones of the Lower Extremities.—Cases of hip-joint disease and suppurative epiphysitis of the upper end of the fibula, diagnosed by the laity and allowed to go on untreated, are related under this heading.

Fevers, accompanied by pains in the limbs, in one instance proving to be inception of typhoid fever, constitute this class.

Adenitis.—Here, again, the mother still supposes that the lad of sixteen years suffered from "growing pains," but he was treated for gonorrhœa and a sympathetic bubo. The malady "growing pains," with its frequent concomitant growing fever, like its congener disorders of dentition, as a separate morbid entity exists principally as an article of faith. The complaint still maintains, however, a strong hold of the lay mind, and forms an extremely common lay diagnosis which is often the cause of much suffering, and even death, by leading to the neglect of curative measures at a time when they are most effective.—*Archives of Pediatrics.*

Chronic Lacunar Tonsillitis.—Dr. Ball holds that the essential cause of this disease is some narrowing of the lacunar tract or orifice impeding the free egress of the contents, together with an abnormally free desquamation of the epithelial cells. The cheesy masses are mainly composed of these elements more or less altered. The epithelial cells are arranged in layers, those on the outer surface, and therefore most recently shed, being the least altered. A certain proportion of leucocytes is present, but rarely in any number. Toward the central part of the plug especially are found fatty particles and cholesterine. Leptothrix filaments and various other micro-organisms are also found in abundance. The functional troubles bear relation to the nervous irritability of the individual. Pain is a common symptom. This often radiates toward the ears, and is apt to be felt more especially when swallowing saliva, and less when swallowing food. Troublesome coughing fits may be present, especially in the morning. The breath has a slightly fetid odor, and the cheesy masses at times attract the attention of the patient. On examining the throat, the tonsils are usually found enlarged; often there are adhesions between the tonsil and the anterior pillar concealing the tonsil from view. In some cases it may be necessary to retract the pillar or to examine the posterior or upper part of the tonsil with the rhinoscopic mirror. Sometimes a careful search will fail to discover any concretion in the lacunar orifices. In this case pressure with the tongue-depressor, or the introduction of a probe into a lacuna, may bring to view one of these chessy masses. When the tonsils are small, there are two points which should be particularly explored—namely, a large crypt, the orifice of which is covered by the anterior pillar, and the upper extremity of the tonsil between the pillars, the region of the epitonsillar fossa. The cheesy plugs will be found to be easily removed by means of a probe or spud passed into the crypt. Subacute exacerbations of the symptoms occur from time to time, lasting two or three days or longer, and causing general malaise, more marked throat-pains, otalgia, and pain on eating and speaking.

The author holds that the most rational and effective treatment is opening up the crypts by free division of the crypt-walls. This is best accomplished by a hook-shaped blade fixed at right angles to the handle. The point of the knife is blunt, but sufficiently fine to allow of its insertion into the smallest cryptic orifice. The method of procedure is as follows: The operator sits in front of the patient and throws a good light into the throat by means of the ordinary forehead reflector. The tonsil to be operated upon is anæsthetized by the application of a ten or twenty per cent. solution of cocaine. This, however, is by no means necessary, as the operation is not really painful. The tongue being depressed with a spatula, the point of the instrument is inserted into one of the cryptic orifices and is brought out at a neighboring orifice, or, if necessary, it is forced through the tissue. The intervening tonsil tissue is then cut through, and this can usually be effected by simple rotation of the handle of the instrument. In this way several crypts can be opened up at a sitting and any cheesy masses that may be present are evacuated. The bleeding is never considerable. Sometimes, especially if the tonsil operated on is large, there will be left some loose tags of tissue, which should be trimmed off with a pair of curved scissors. Adhesions between the tonsils and faucial pillars can be divided in the same manner as the crypt-walls. From two to three sittings, or even more, may be required for each tonsil, and a week may be allowed to elapse between each sitting. To diminish the tendency of the cut surfaces to unite, a strong solution of iodine (iodine, 90 grains; iodide of potassium, 90 grains; water, 1 ounce) should be applied at the termination of each sitting. In any case this is a good antiseptic application and should never be omitted. A little soreness may be felt after the operation, but this never continues more than a day. A boric-acid gargle may be used during the intervals between the sittings.—*The Practitioner.*

An Early Instance of the Bath Treatment of Typhoid Fever.—Pope Leo XIII., when a young man residing in Benevento, suffered from typhoid fever, and was treated by Dr. Vulpe by means of cold baths. That was fifty years ago.

There is a Duty of Fifty Per Cent. ad Valorem on diphtheritic antitoxin imported into Canada.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

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THE ENLARGEMENT OF THE MEDICAL RECORD.

WE are again called to do a pleasant duty to our readers and contributors. The MEDICAL RECORD has grown so steadily in the capacity and worth of its material that it has been deemed advisable to increase still further the number of its pages and to enlarge correspondingly its capacity for usefulness to its subscribers, contributors, and advertisers. With the commencement of the present volume there will be an increase of *four extra pages to each issue*, making an aggregate addition for the year of over four hundred double columns, an equivalent in their turn to an ordinary-sized octavo of nearly eight hundred pages, *with no increase of cost to its subscribers.*

In view of this fact the conviction must continue to force itself upon every one that such a course is warranted by a success unprecedented not only in American medical journalism, but, we believe, in the world. It must also be evident, judging from these tangible and uncontrovertible evidences of success, that the end has been gained by a wide-spread appreciation of our policy of independence, fairness, and enterprise.

It will be our aim, with the increased facilities at our command and the liberal and expansive purpose of compassing a still larger field, to make the MEDICAL RECORD more than ever a thoroughly cosmopolitan journal, in which not only the interests of the great medical centre are represented but those of the entire country are duly and impartially considered.

Numerous changes will be made in the course of the year to realize this policy, and no pains nor expense will be spared to make it still more representative of the practical needs of the profession of the entire country. We will thus strive to give a metropolitan journal a thoroughly cosmopolitan scope, being only systematized in its efforts by the convenience and necessity of an actively working focal centre. In following such a course there is no intention of interfering with or militating against the interests of local journalism in near or far-off districts; such periodicals have functions of their own, and their proper fulfilment is as necessary and as important as those that apply to the larger publications. The wide-awake practitioner must be informed of the doings of his local societies and of all matters within the direct touch of his individual work, and must necessarily leave the consideration of wider interests to the larger and more widely circulated metropolitan weeklies. Each journal has its place, and each, to do its work faithfully, supplements and amplifies that of the other. We believe in local journals as well as cosmopolitan ones. They have a common interest, only the lines of usefulness stretch in different directions.

Thus we can help each other on the broad principle of a generous rivalry in the common cause, and in the ultimately laudable aim of advancing the interests of the profession and promoting that active dissemination of scientific truths which makes medicine the most progressive of all the sciences.

THE PRESENT MEDICAL LAW OF NEW YORK.

ELSEWHERE we publish a full text of the medical law of the State. Some day, perhaps, the few familiar with the struggle involved in securing these legislative enactments, now compiled in one law, will relate the history of the conquest. In the near future we propose to call attention to some of the more important features of the law's requirements. Of course the general theory of the law is that the State should be the final adjudicator of the credentials presented by those who desire to practise medicine within its borders. The M.D. degree has thus ceased to be anything more than an honorary title conferred by a private corporation. Although it is true that no one without it can be admitted to the State licensing examination, the supreme test of ability to practise is now vested in the State, which in turn delegates its power to twenty-one examiners (seven from each of the incorporated State Medical Societies) who are sworn to do their duty as State officials.

Under paragraph 148 of the law licenses conferred by other State examining boards may be indorsed by our State regents, but the standards of these other State boards must not be "lower than those provided by this article." Because of these quoted lines no license from a sister State has yet been indorsed, as no other State meets the standard of our preliminary requirements. It would be manifestly unfair to our own State medical colleges, and would constitute an unjust discrimination against our own students, were we to enforce No. 5 of paragraph 145, and in turn permit licentiates of other boards, no matter how severe the medical tests, to register in our State without having submitted to the same or to similar preliminary academic tests. Our New York medical colleges may for a time lose students because of the prohibitive features of paragraph 145; but in the long run this advance of standard will redound to their financial status, as it now advertises their determination to build up medical colleges of which the citizens may be proud and their graduates boastful. The effect of the recent medical laws thus far has been to drive incompetent doctors from our doors, to prolong courses of medical study, to add new studies to the curriculum, and to elevate the tone of the profession as well as to improve its *personnel.* Thus it will be seen that much has been accomplished, but until the average longevity is increased, and the average mortality of the community is decreased, the

full measure of the law's beneficence will not be apparent to the laity nor will it be satisfactory to the profession.

IS CHOLERA ENDEMIC IN EUROPE?

CERTAIN alarmists, moved by the regularly recurring reports of the ravages of cholera in Europe, especially in Russia and the eastern provinces of Austria and Prussia, each summer, have asserted that the disease has established for itself another nidus, outside of India, whence it may make irruptions into Western Europe. It is true that nearly every summer during the past ten years there have been outbreaks of cholera in some parts of the continent of Europe, in Spain, Italy, France, Germany, Russia, and Turkey, but many of these have been local and traceable to very differing sources. There have, indeed, been two distinct epidemics during this period, one around the shores of the Mediterranean, spreading inland to a slight extent, the other taking the ordinary course across central Asia, entering Europe through southern Russia.

If we look back over the successive epidemics of cholera that have passed over Europe, we shall see that most of them lasted several years, though varying in intensity and in the locality of greatest prevalence. The first appearance of cholera in Europe was in 1823, when it invaded southern Russia. This outbreak was of short duration, and nothing more was seen of the disease until six years later, when it reappeared in the Russian province of Astrakhan. This time it did not remain confined to the shores of the Caspian, but spread throughout Russia, invaded the rest of continental Europe, reached England two years later, and crossed the ocean the following year. Every country in Europe and North America, with the exception of Greece and Switzerland, suffered from the ravages of the disease. The epidemic did not finally die out until 1837. Since then there have been epidemics of larger or shorter duration in 1846, 1865, and 1884. The third epidemic persisted for ten years, from 1846 to 1855, the fourth for nine years, or until 1873. The present epidemic has existed in Russia only since 1892, so that this is its fourth summer in that country. As three of the former epidemics lasted eight, nine, and ten years, respectively, it seems rather premature, at the beginning of the fourth year of this visitation, to cry out that the disease is no longer epidemic but endemic, and that it has found a new home far from the Ganges on the banks of the Vistula and about the shores of the Caspian Sea.

PROGRESS OF SERUM-THERAPY AND ORGAN-THERAPY.

A SHORT time ago Drs. Emmerich and Scholl reported some favorable experiments with the use of the erysipelas serum in the treatment of cancer. A few weeks after this report Dr. Bruns published a criticism denying the alleged improvement in the cases. Still later Dr. Angerer, of Munich, has reported some cases of cancer of the breast treated with erysipelas serum without any good effects. Drs. Richet and Hericourt recently published the account of a case of osteo-sarcoma of the leg which they treated with injections of serum. The result in this case, as well as in another case of fibro-sarcoma of the breast, was so brilliant that the doctors are questioning now whether or not they did not make a mistake in diagnosis.

The most curious perversion, if we may call it so, of serum-therapeutics is that in which the serum of horses, which are supposed to be immune against tuberculosis, is used in the treatment of tuberculosis in human beings. Dr. Paquin, of St. Louis, is responsible for this extremely unique method of applying the immunizing injections. He reports twenty-two cases of tuberculosis in which patients were treated with this serum with more or less favorable results. His statistics were not very encouraging, and the theory on which his treatment is based, if it can be called such, has no rational basis whatever. While there may be certain animals who are immune to tuberculosis, there is nothing in medicine to show that in human beings an attack of tuberculosis produces immunity in the slightest degree.

Syphilis has also reached the stage of serum-therapeutics. Dr. Richet communicated in April last to the Society of Biology a report of the case of a woman who had suffered for three and a half years with multiple ulcerating gummata. She was injected with the anti-syphilitic serum and in fourteen days was well! This serum was obtained from a donkey who had fifty-four days before been injected with the blood-serum of a syphilitic in the secondary stage. Gilbert and Fournier have collected the work of other experimenters in this same line, and they detail the methods and results of some new experiments which they have themselves undertaken in the treatment of syphilis with the serum of immune animals and men. The practical results are as yet very slight.

More recent reports upon the value of the serum-therapy of diphtheria continue to be favorable, and there has nothing yet appeared in current literature to justify us in doubting that this treatment will continue to prove a valuable help in our fight with this serious disease.

Closely related to serum-therapy is what is now generally termed organ-therapy, or treatment with organic extracts. Dr. Drummond, in the *British Medical Journal* of May 18th, reports the case of a woman seventy-three years old, who was suffering from what appeared to be pernicious anæmia. She had only seven hundred thousand red blood-cells to the cubic centimetre. Under the use of bone-marrow given in milk she improved very rapidly.

Dr. Walter Clark reports a case of diabetes insipidus in which the patient was treated with extracts of the suprarenal capsules. The patient was a woman thirty-nine years old, who had been for a long time under observation, and who was passing about four gallons of urine daily. Under the use of the suprarenal-capsule feeding the urine was reduced in amount to about three pints daily and its specific gravity increased from 1.005 to 1.009. As soon as the use of the suprarenals was stopped the symptoms began to return.

Dr. Byrom Bramwell, in the *British Medical Journal* of June 1st, reports a case of tetany treated with thyroid extract. The patient was a boy eight years old, and the disease began in the fall of 1893. During

the winter and spring of 1893 and 1894 he was under treatment by Dr. Bramwell with some improvement. In March, 1895, he was placed upon thyroid extract. After three weeks his attending physician stated that the improvement was something phenomenal, and five weeks later he writes that the case continued to improve in every way.

THE PLETHORA OF MEDICAL SOCIETIES.

Both Paris and London are suffering from a plethora of medical societies. This is the statement made by Dr. Morris in *The Practitioner*, and it is confirmed by the comments of Parisian and London contemporaries. The remedy suggested, of course, is that some of the societies amalgamate. We have no doubt that the advice is excellent. It has often been tendered to the medical men of New York, where societies are also extremely numerous, but the advice does not seem to be taken. Societies go on multiplying in New York and everywhere else; and we take it that it must be because there is some actual need for them. In this city the problem has been pretty well solved by the success of our Academy of Medicine. In this organization there are so many and such excellent opportunities for societies of specialists to organize under the fostering wing of the Academy that we do not recall any new organization since the sections of the Academy were fairly started. New societies continue to spring up, but they are general in character and have for their excuse social and local causes rather than scientific. They fulfil their purpose in enabling the medical men in certain parts of the town to get together and become acquainted with each other, and in this way they do very good work.

REFORM IN INTERNATIONAL CONGRESSES.

Now that the majority of the annual meetings of our State and International Medical Associations are over, a criticism upon these meetings by Dr. Pistor, in the *Quarterly Journal of Public Health*, may seem very timely. Dr. Pistor thinks that there are too many formal dinners, too many evening parties, and too many invitations to visit industrial establishments, hospitals, factories, orphan asylums, and so on. He asserts that all these interesting functions should be entirely done away with, and that visitors who desire to live sumptuously should do it at their own expense. Many cities in Europe, he says, are unwilling to receive international congresses on account of the heavy expense connected with them. This is not the case, we may say, parenthetically, in the United States, but then we have not the thrifty habits of the older countries. Another trouble with these congresses is that there are too many papers announced to be read, and the discussions, he thinks, are on this account usually very unsatisfactory. The number of sections also should be limited. In fact, Dr. Pistor enumerates all the well-known and well-worn criticisms upon the conduct of the medical congresses of the present day. The defect in Dr. Pistor's position is that he expects too much of this imperfect world. Medical congresses are not meant solely for the production, or even the exploitation of great scientific truths, but rather for the personal benefit that is produced by the contact of men from different parts of the world with each other. It is at dinners and at the various other reunions and festivities that visitors to congresses really learn the most. Dr. Pistor, when he gets older and has had more experience with congresses, will probably acknowledge the truth of this statement.

THE STATE AND LOCAL CHARITIES.

The State of Pennsylvania has always been peculiar in its relations to medical charities. Unlike most other States, it has often and generously appropriated the funds of the taxpayers from all over the State to the promotion of local medical interests. *The Medical and Surgical Reporter* furnishes a list of the appropriations as reported by the Appropriation Committee at the present session of the Pennsylvania State Legislature. These include sums of $150,000 to the Medico-Chirurgical Hospital, $200,000 to the University of Pennsylvania, $55,000 more to the hospital of that university, $112,000 to Jefferson Medical College, $8,000 to the Woman's Hospital, $3,000 to the Samaritan Hospital, $4,000 to the Children's Hospital, and $25,000 to the Gynecean Hospital. Of course, if the hospitals of Philadelphia get State appropriations the hospitals of the smaller cities must also have their share, and we find a list of forty different hospitals scattered throughout the State, to each of which an appropriation is given. If the general principle of State help to local institutions is considered by Pennsylvania economists to be a sound one, no objection can be raised against any such widely extended generosity as that which the Pennsylvania Legislature shows; but it seems to us that the State will find itself eventually in a very embarrassing situation if it continues the policy which it has adopted of helping along almost any private medical institution just because it has a medical charity annex.

News of the Week.

The Brain of Buchanan, the murderer, executed July 1st, is said to have weighed only thirty-one ounces. He was a small man.

The Heaviest Woman in America died at Millersburg, O., on July 1st. Her weight was 675 pounds.

The Woman's Medical College of Cincinnati, O., has united itself with the Laura Memorial Medical College. There did not seem to be room enough in Cincinnati for two medical colleges for women.

Doctors and Athletics.—The medical profession has its full share of athletic honors. Dr. Grace has proved himself the champion cricket-player of England, and therefore of the world, and Dr. Pym, of Ireland, having beaten all the tennis experts of Great Britain, has come over to this country and done the same to the American tennis-players. We have in this city Dr. Hammond, who is the champion at foils and broadswords of the United States, and doubtless there is rich material for a bicycle champion among the numerous medical men who have taken up that pastime.

The Galactogogues.—Dr. Grinewitch has been making a study of the drugs which increase the flow of milk without in any way injuring the quality of it. He finds that the most efficient of them is a plant which is practically unknown in medicine, the common goat's rue (*Galega officinalis*). He gives a drachm of the tincture about five times a day. The next drug in the scale is the common stinging nettle, of which he gives from two hundred and fifty to five hundred drops of the tincture daily.

The Thyroid Treatment of Tetany.—We referred to the successful treatment of tetany by thyroid feeding a short time ago. Since then Dr. Bramwell refers to certain experiments made by Dr. Gottstein, in which he had success by grafting the thyroid in a case of tetany. Dr. John Thompson, however, states that he has used the thyroid in tetany without any success.

The Meeting of Bacteriologists, held in this city June 21st, resulted in the appointment of a committee to consider both the papers presented and the discussion that followed, and to make a report to the American Health Association as to the most desirable methods to be observed to secure the greatest uniformity in the results of the bacteriological examination of water. The names of this committee are: Professor W. H. Welch, M.D., chairman; Professor W. Sedgwick, Ph.D.; Professor Theobald Smith, M.D.; Professor T. M. Prudden, M.D.; Professor J. G. Adami, M.D.; George W. Fuller, S.B.; Professor A. C. Abbott, M.D.; Professor V. A. Moore, B.A., M.D.

Bequests to St. Luke's Hospital.—By the will of the late Rufus Waterhouse the bulk of his estate, amounting to about two hundred thousand dollars, is left to St. Luke's Hospital for the purpose of establishing and maintaining the "Mary S. Waterhouse Memorial Ward" for consumptive sewing-women or consumptives dependent upon sewing-women.

Dartmouth Medical College.—By vote of the Trustees it has been decided to raise the standard of admission to the college.

Meetings of Societies.—The Sixty-third Annual Meeting of the British Medical Association will be held in London on Tuesday, Wednesday, Thursday, and Friday, July 30th to August 2d, Dr. E. Long Fox presiding. The meeting promises to be an unusually large one, owing to the choice of the place in which it is to be held, and a large number of American physicians will be present. Sir William Broadbent delivers the Address on Medicine, and Mr. Jonathan Hutchinson that on Surgery. In the Section on Medicine there are to be discussions on diphtheria, on pneumonia, and on the causes of acute rheumatism. In the Section on Surgery there are to be discussions on fractures of the upper third part of the femur, and on the surgical treatment of cysts, tumors, and cancer of the thyroid gland. There will be on the first day a reception at the Imperial Institute in the evening, following the President's address, and on the third day there will be a dinner at Langham Place.—The American Academy of Railway Surgeons will meet in Chicago on September 25th, 26th, and 27th.—The Third International Congress of Physiologists.—The Third International Congress of Physiologists will be held in September, 1895, from the 10th to the 14th of the month, at Bern, Switzerland.

New Medical Law for Delaware.—The Governor of Delaware, acting under the medical law passed by that State, has appointed two Boards of Examiners, one to represent each of the chief schools of medicine. The law provides that the Chief Justice and the Chairman of each Board shall constitute a Council of Medicine empowered to issue licenses to persons that have passed the required examination. The law provides a fine of $500 or not more than one year's imprisonment for persons convicted of practising without a license. The new Boards of Examiners will meet the first week in July to organize, and the Council of Medicine will then be constituted. Thereafter newcomers must submit to examination.

Obituary Notes.—Dr. Henry D. Hall died at Jamaica, L. I., July 1st. He was born in Clinton County eighty-seven years ago. He was Assistant Surgeon in the United States Army during the war, and for a number of years practised his profession at Glen Cove, L. I.—Dr. Ezra Graves, a prominent physician of Amsterdam, N. Y., died on June 30th. He was fifty-six years old. He had served as coroner of Montgomery County, and also as city physician of Amsterdam. He was a graduate of the Buffalo Medical College.—Dr. J. B. Wilbur, formerly a well-known Brooklyn practitioner, died at Montclair, N. J., recently, aged seventy. He was a graduate of Harvard College and Harvard Medical School, and served as surgeon of a Massachusetts regiment during the war.

The New Health Commissioner.—Dr. George B. Fowler has been appointed Health Commissioner of this city in place of Dr. Cyrus Edson, resigned. Dr. Fowler is a native of Alabama, but came to this city during the war, and graduated from the College of Physicians and Surgeons in 1871. Dr. Fowler is a well-known and very popular member of the profession of this city, and his appointment will give pleasure to his very large circle of friends. Dr. Edson's career as a member of the City Board of Health was most creditable to him, and he retires with a reputation of the highest kind as a sanitary and executive officer.

Monument to Dr. Guerin.—The friends of the late Dr. A. Guerin have raised sufficient money to erect a statue to him in his native city.

Doctors' Bills.—The Chicago *Tribune* publishes an account of an interview with a member of a firm in that city whose business consists entirely in the collection of doctors' bills. He was asked if the majority of patients paid their accounts, and said that they did not. From this it would be inferred that in Chicago over one-half of the patients failed to pay their doctors' fees—a statement that is extraordinary and improbable. We believe that in most American cities from seventy to eighty per cent. of the fees charged are paid and collected, and probably a larger percentage would be obtained if doctors rendered better service or managed the business side of their profession in a more rational manner.

Clinical Department.

CASES SIMULATING TYPHUS FEVER.

By S. DANA HUBBARD, M.D.,

NEW YORK.

THE following histories of two very interesting cases came under my observation while at the Riverside Hospital, and I deem them worthy of record:

CASE I.—A. T——, German; married; thirty years of age; laborer; residence, New York City. Habits: Alcoholic, vagabond; family history not obtainable; past history not obtainable. Present history: As perfect as could be obtained, was to the effect that having "cold and cough" went to a dispensary for medicine, and here they said he had measles, which was confirmed by the diagnostician of the Health Department, and in the course of events he was transferred to North Brother Island, where he came under my observation.

On admission he had a general bronchitis, with suffused eyes and watery discharge from nose, and an eruption over entire trunk, face, and extremities—the eruption consisting of large, multiform, coalescent blotches, with curvilinear borders crescentically arranged and of a deep pinkish red color. His face in addition was much swollen. His temperature was 105⅕° F.; pulse, 100; respiration, 28. Patient was slightly delirious. Stimulants, antipyretics, and enema were ordered. At 7 P.M. the temperature had fallen to 102⅕° F., and patient was resting easy. During the night the patient was restless, though delirum had disappeared.

October 13th.—Diarrhœa set in and continued in spite of treatment. Pulse irregular and compressible. Patient sighing and has gloomy forebodings.

October 14th.—Temperature elevated and persists above 102° F., in spite of antipyretics and cold packs. Patient apparently losing ground rapidly. Stimulants pushed without effect. Pulse very weak and irregular. Patient very delirious. Eruption fading and I considered him improving as regard his measles; but what underlying condition was causing all this constitutional disturbance I was at a loss to explain. Consultations were held and a change of diagnosis was made from measles to typhus fever, I disagreed, but was willing to use all precautions and accordingly the patient was isolated and observed just as if it were a *bona fide* case of typhus.

Here was a man, a tramp, filthy, unkempt, coming from a lodging-house (where we got nearly all of the second epidemic of typhus cases), having a purplish (for the rash was now fading), mottled eruption, with high temperature (persistent), congested eyes, contracted pupils, with a dull, listless expression, and a delirium of a talkative character.

Surely one would be justified in diagnosing typhus in a case of this kind if we had no history previous to this examination; and we had, for on the 12th it was as clear a case of measles as one would wish to see; but on the 14th it most assuredly resembled a typical case of typhus fever.

On the 15th, as the patient was sinking, the darkness of our difficulties grew deeper, but with the morning the star of clearer vision began to rise, and when the brightness of the day shone our mysteries were fading as fast as the dew before the summer's sun, for at 5 P.M. the patient began to vomit, the ejecta being of a bright red color streaked with a darker red, and clotted and lumpy. He was examined quickly to find the source of this ejecta. The lungs showed nothing and the stomach was empty. More trouble. The dark blood, no doubt, came from the stomach; but had it not come from another source, been swallowed and then ejected? Acting on this theory and believing myself sufficiently clear, I diagnosed hemorrhage from the alimentary tract between the stomach and mouth; but where? I still felt uncertain about the lungs and examined again, when lo! the stomach was partly filled. Had I not an hour and a half ago examined him and found this organ empty, and now it was partly filled? No food (fluid) had been given, and he had not swallowed any, for I watched him to see if he would bleed from the lungs, and if it would come up the trachea and then go down the œsophagus, and I found the trachea clear. Treatment was accordingly given for hemorrhage from the stomach, but after repeated vomiting the patient finally sank rapidly, dying in convulsions at 9 A.M. on October 16th. At 5 A.M. on the 16th his temperature rose up to 108° F. (rectal), but declined gradually to 102⅕° F. (rectal) when he died.

Autopsy.—Evidences in general of an acute infectious process, and in addition the stomach and entire intestines to within three inches of caput coli, where it terminated abruptly, were filled with a dark grumous mass, apparently clotted blood.

At the lower end of the œsophagus was found the cause of all this hemorrhage. There were three lineal ulcers of varying length, arranged in a circular manner around the lower opening; the largest ulcer being about an inch and a quarter long and its depth extending through to the outer coat of the œsophagus. This latter one evidently was the cause of all this hemorrhage and of the fatal termination, for it had eroded an artery.

Owing to the peculiar shape and position of these ulcers one might suppose them to have been traumatic, as caused by sword-swallowing, though this could not be verified.

CASE II.—Michael N——, aged twenty-three; Ireland. No history. This case occurred during the epidemic of typhus fever in 1892–93, and is one of interest in many ways. The case on admission was delirious and the previous history could not be obtained. Here was a young man, a blonde, of an alcoholic, vagabondic appearance, filthy and unkempt, ill with a high temperature—105° F. (rectal)—delirious, with a general mottled eruption. The case occurred during the prevalence of typhus fever in this class of citizens.

The case was diagnosed as typhus by the Health Department diagnosticians, and passed as such by both the resident physicians of the Reception Hospital and of the Riverside Hospital. Accordingly the case was transferred to the typhus ward and treated as such.

Attention was now called to this patient, and I was informed that if this was a case of typhus then the place from whence he came (which was a lodging-house) was a new centre of infection, and wanting to be more certain than in a general routine way I visited the case again, examined him more carefully, with this result:

A young man, blonde, body fairly well nourished, with a delirium of low type, with features pinched and face cyanotic; sordes abundant, tongue dry, coated, hard, and cracked. Eyes: Conjunctivæ normal, rather "glassy," with pupils dilated if changed at all; subsultus tendinum, and carphologia present, and patient tossing, in bed. His skin was dry and hot, and another interesting condition was the eruption, which was all over trunk, anteriorly and posteriorly, upper and lower extremities, and a few spots on forehead. The eruption was of a mottled, macular character and flat, disappearing on pressure, and color deeper than pink and lighter than chocolate. The macules were numerous and the mottling slight, but easily distinguished on account of his fair skin. His abdomen was tympanitic, pressure gently exercised caused no evidence of pain.

An enema was given as was usual, and a movement, partly formed, brown and odorous, was the result. Urine: Nothing special. Not examined microscopically. Antipyretics, sedatives, and stimulants ordered, and spots marked out as best as was possible.

July 11th.—Patient semi-unconscious, takes nourish-

ment and medicines. No change in his condition or eruption, constipated, and voided very little urine.

July 12th.—Bowels moved once, partly formed, brown and odorous. Temperature continues high, subsultus and carphologia absent. Patient restful and very weak. Pulse very rapid and compressible. Has difficulty in swallowing. Tympanites still present, though not so marked. Spots looked out for as well as possible, and no new ones found, therefore no crops. Eruption brownish and apparently fading.

July 13th.—Patient at 1 A.M. had temperature 105 ⅘° F., and was failing rapidly, and at 3.30 A.M. he died.

Autopsy.—Beyond the evidences of an acute infectious process we found several ulcers, some very large. The presence of these undoubtedly clear the diagnosis.

This case is interesting, for here was an irregular typhoid case, and that it was a mixture of the two diseases I do not believe, but lean toward the former diagnosis, for we do have irregularities during the course of a disease, and rarely have the two existing at one and the same time. Now this case is interesting because it happened at the time of a typhus epidemic, and secondly, having symptoms of both diseases.

Tympanites is frequent in typhoid, and while some say it is absent in typhus this is not the fact, for I, in my limited experience, have seen two cases, one of which died.

The eye in typhus is peculiar of itself. It has to be seen to be appreciated, and a typical typhus-fever eye is not soon forgotten. The pupils are contracted, sometimes finely so. The conjunctivæ are injected peculiarly, the little vessels radiate from the iris toward the periphery like lines from a light, with smaller vessels forming a net-work between the larger radiating vessels. The surface of the conjunctiva is moist. The eyelids are thin, and the cartilages are prominent, the edges red and dry, giving to the countenance a peculiar cast and spoken of as the "typhus eye," in contradistinction to the smooth, shiny, white "china eye" of typhoid.

Now in measles the eye is injected and the surface moist, accumulations of secretions forming and frequently running over lids. The lids are red, swollen, and moist, just the opposite of the "typhus eye."

I exhibit this relic of a very interesting case, and hope that future diagnosticians will not be so hasty in making diagnoses, but use the safest two methods, that of isolation and observation; and with our surgical friend exclusion I know all will be helped on the road to success with greater speed.

79 West 104th Street.

MORNING DIARRHŒA.

By L. W. ZWISOHN, M.D.,

NEW YORK.

I have read with great interest the article of Dr. F. Delafield, in the Medical Record, May 11th, entitled "Morning Diarrhœa," and I would venture to suggest the etiology of the disease of which the author says he has not been able to determine satisfactorily. As there can be no better experience for a physician than to study a disease in his own person, I will cite my experience, for I have been suffering from morning diarrhœa for years.

Dr. Delafield describes five varieties, all of which I have observed in my case, of course at different periods. At the beginning I had the first variety, the simplest; after a few months the disease progressed and took the form of the second variety, *i.e.*, the colicky pains, the exhaustion after the passage, the mental and nervous disturbances, the apprehension, etc. Then there appeared the fourth variety, *i.e.*, there was a sort of relation between the stomach and the colon, so that whenever I took food into the stomach there was a movement from the bowels. Then the disease took the form of the fifth variety, marked by the presence of considerable mucus in the discharge. This state of affairs kept up for years, passing alternately from the simplest form to the severest, and *vice versa*.

From my own experience I believe, 1. The chief cause is indigestion, aggravated by cold, anxiety, etc. 2. The main treatment is dietetic. Of course the progress is very slow, and some patients will think they get worse, and will never follow the directions of the physician. My patients, when I put them on a milk diet, after a week or two frequently say that they are not well yet, or they are getting worse. Some, or the majority of patients, as soon as they are better, will return to their old habits and suffer a relapse, and that is the reason why they get worse. I was obliged to keep up strict diet for a year before I was cured, and even at the present day I am careful with my diet. 3. I am of the opinion that the five varieties described by Dr. Delafield are all only degrees of the same affection, which begins with the simplest form and gradually comes to the severest.

A CASE OF PNEUMONIA SUCCESSFULLY TREATED BY COLD APPLICATIONS, GUAIACOL, AND STRYCHNINE.

By J. C. WORTHINGTON, M.D.,

MAJOR AND SURGEON, U. S. ARMY, FORT THOMAS, NEWPORT, KY.

Private F——, Company G, 6th Infantry, aged twenty-three, of temperate habits, was admitted to hospital, December 29, 1894, at 5.15 P.M., with a temperature of 103° F.; respiration, 36; pulse, 120. He had had pain in the left infra-mammary region all day. On auscultation at the time of admission, normal vesicular breathing was found at the seat of the pain and over the base of the lung posteriorly. Incipient lobar pneumonia was suspected. He was given Dover's powder, gm. 1, and four dry cups were applied to the painful side. Strychnine sulphate, gm. 0.002, was given at once.

December 30th, 7 A.M.—Temperature, 104.6° F.; respiration, 36; pulse, 116. Drowsy. It was ordered to continue the strychnine sulphate gm. 0.002, t. i. d., and to give tincture of digitalis t. i. d., and warm milk and beef-tea as nourishment. There was dulness and absence of respiratory sounds over the whole lower lobe of the left lung. Ordered cotton wadding and oiled-silk jacket to cover the whole chest. 12 M.: Temperature, 104° F. 7 P.M.: Temperature, 104.2° F.; respiration, 28; pulse, 116. Drowsy. No pain. Ordered strychnine sulphate gm. 0.001, hypodermically, at once, and at midnight. Also whiskey, 15 c.c., in milk, every two hours. Apply to side a flat rubber ice-bag filled with hydrant water (temperature, 54° F.), so as to cover the affected lobe of the left lung, this to be refilled every half hour during the night, but to be kept up only if grateful to the patient. The patient found this application comfortable and preferred to have it, and it was kept up regularly all night and until 10 A.M. on the 31st. It did not reduce his temperature.

December 31st, 7 A.M.—Temperature, 104.2° F.; respiration, 36; pulse, 116. Patient drowsy, but not delirious. Fine crepitant râles can be heard at the upper part of the lower lobe. Dulness over the whole lower lobe is marked. The patient still expresses himself as feeling a sense of comfort whenever the ice-bag is refilled with cold water. 9 A.M.: Temperature, 104.4° F.; respiration, 28; pulse, 112. As the temperature had now been over 104° F. for more than twenty-four hours and showed a tendency to rise, and having ordinarily seen cases of pneumonia prove fatal where such a high temperature persisted in the early stages, I determined to try the effect of the external application of guaiacol as a means of reducing the temperature. I accordingly applied, with a camel's-

hair brush, at 9.52 A.M., 2 c.c. of guaiacol to the inner side of the left thigh, from the groin half way to the knee, applying a brushful and briskly rubbing it in, and then another brushful until the 2 c.c. were absorbed; this required just eight minutes. The skin on which the guaiacol was applied was then covered with cotton batting and paraffined paper and a light bandage. The patient was well covered and it was directed that the cold-water bag on the side should not be refilled again. In fifteen minutes the patient began to perspire, the perspiration soon became very profuse. At 11 A.M. the temperature was 101.6° F.; respiration, 28; pulse, 112, but not weakened. The profuse perspiration continued. At 12 M. the temperature was 100.6° F. Strychnine sulphate, gm. 0.001, was then given hypodermically. Shortly after this the perspiration was checked. I believe that this was an effect of the strychnine, and that it was beneficial in preventing a too great fall of temperature. At 1 P.M. the temperature was 100° F. The patient was no longer drowsy, said his head felt clearer, and seemed altogether better. There was no indication in the pulse or voice that the profuse perspiration or rapid fall of the temperature had weakened the patient. It seemed, however, to produce a marked pallor of the face that was apparent for several days, as well as considerable emaciation. At 3 P.M. the temperature was 102° F.; at 5 P.M., 102.4° F. No alarming symptoms accompanied this reaction, and at 7 P.M. the temperature was 101.6° F., and at midnight 99.4° F.

January 1st.—Patient feels well. 7 A.M.: Temperature, 99.4° F. 10 A.M.: Vesicular sounds are returning in diseased lobe; respiration, 22. No cough or expectoration. There was none of either after the guaiacol was used. 12 M.: Temperature, 99.2° F.; 7 P.M.: Temperature, 100° F. After this convalescence was uneventful, and the temperature remained normal throughout.

The cold application to the chest in this case appeared to have no bad effect. If it did no good it made the patient more comfortable. The local application of guaiacol produced a crisis on the third day such as we might expect a few days later in a favorable case, but this was not the sort of case that I should have expected to terminate in that way. A steady rise in temperature and death during the night of the 31st, would have been the most natural prognosis to be given from the history of the case up to 9 A.M. on the 31st.

The use of the strychnine, gm. 0.001 every six hours, hypodermically, I consider to have played an important part in this case and to have prevented any undue depressing effect or subnormal temperature from the guaiacol. The whiskey, 15 c.c. every two hours day and night, may have contributed to the same result.

The man made a favorable recovery under tonics and a liberal diet, and was returned to duty with, to all appearances, a perfectly sound pair of lungs on February 3, 1895.

A CASE OF OPIUM AND CHLORAL POISONING.

By FRANK EDMONDS COUDERT, M.D.,

WALLINGFORD, CONN.

The following case may be of interest to the profession on account of the dual combination—chloral and opium.

On March 18, 1895, R. R—— consulted me at my office for some nervous trouble complicated with insomnia, for which I prescribed chloral in ten-grain doses, to be repeated in two hours if necessary. A few days later he returned complaining bitterly about his insomnia. This time I gave him a four-ounce mixture containing two grains morphia acetate and two and a half drachms of chloral hydrate, two teaspoonfuls at a dose, representing one-eighth grain of morphia and ten grains of chloral.

The following information was obtained from Mrs. R——: During the forenoon R—— was in an unusually happy state, and his wife, thinking it safe, left him shortly after the mid-day meal to take a much-needed walk. Three hours later she returned to find her husband lying on the floor in a state of profound coma. She hurriedly summoned assistance, and a neighboring physician was called in, who administered potassium permanganate in full doses, some eight or ten grains being given with one-fortieth grain strychnia, hypodermatically. I saw the patient shortly after and he was reacting well, complaining of being somewhat chilly, due, no doubt, to the chloral. He now confessed to having taken the whole contents of the chloral mixture. The following day my patient had quite recovered from the toxic dose. The question that now arises in my mind is whether the permanganate has antidotal effect upon the chloral as well as the morphine? When first seen he was breathing about five times to the minute and was extremely cold. Soon after the permanganate was given reaction commenced, and inside of three hours all symptoms of chloral and opium poisoning had vanished.

RATIONAL TREATMENT OF ERYSIPELAS.

By CARL ENGEL, M.D.,

MINDEN, IA.

The treatment of erysipelas has been undoubtedly disappointing to the majority of medical practitioners. The different methods described by different authors have been faithfully tried in their turn without producing the desired end. Nitrate of silver, iodine, and the drug treatment with oxide of zinc or starch-powder, covered with cotton, served only to increase the patient's sufferings. Many a physician has believed that he has found a specific, when in his very next case the same remedy will fail utterly.

In the last few years I have treated quite a number of erysipelas cases, and believed at one time I had in corrosive sublimate an unfailing remedy, but it will not do in every case.

On Wednesday, March 13, 1895, I was called to see Mr. John H——, barber by occupation, and intemperate in habits. Being a bachelor, food was of minor importance to him, his mainstay being whiskey. I ordered his face painted with a solution of four and a half grains of corrosive sublimate in an ounce of glycerine, and had this covered by cold, wet, 1 to 1,000 corrosive sublimate gauze. In addition I applied a rubber bandage around the head just above his eyes, waited a few minutes, and, after removing the tourniquet, pasted adhesive plaster, one-quarter of an inch wide, in its place. I have yet to see the case where the inflammation will overrun this line. The same procedure I employed at the temples. I gave no iron, in order to test whether the tincture of iron is "the remedy" in erysipelas or not.

Vesicles of double-pinhead size, containing yellowish serum, appeared on the face April 14th. There was the genuine pig-eye appearance, but the eyelids were not closed yet. Two sulphonal tablets of five grains each left for the night. The wet-pack was kept on continually. The patient's condition remained about the same up to the 16th, when the cheeks looked dusky, and the nose more natural. On March 17th I changed to carbolic-acid solution, 1 to 20, and plugged his ears with cotton soaked in carbolic oil, 1 to 40. On March 19th he was much improved; swelling of face down, ears better. Painted face with 1 to 40 carbolized oil. On March 23d patient was bright. Several abscesses developed, which I lanced, and introduced iodoform gauze strips.

Sulphonal and chloralamid were employed for the night, beside the following:

℞. Acetanilide ..... gr. xx.
Quinine ..... gr. iv.
M. ft. pulv. Chart. iv. Sig.: One powder every three hours.

Thirty grains of chloralamid in four capsules were given at one time, March 19th, P.M. This dose kept the patient drowsy for several days, and though rest was desirable, its action was so prolonged that I would not repeat this dose in another case. The patient had the very worst of nursing during the first days, until his sister arrived from a distance. Now, as far as iron is concerned, I think we can safely dispense with it. The cold wet compresses were very grateful to the patient.

HYDRAMNIOS AND SPINA BIFIDA.

By A. N. WITHAM, M.D.,
SOUTH PARIS, ME.

I WAS called October 3, 1894, to attend Mrs. M—— in her fifth labor. I found an enormous abdomen—the largest that I had ever seen in a pregnant woman of her size. All the wise old ladies said, "Twins," as she had given birth to twins eight years before. Abdominal palpation failed to show part of the child. Vaginal examination showed a large bag of water protruding from a well-dilated cervix, but no part of the child was presenting. Pains were regular and strong, but labor did not advance. I became satisfied that it was a case of hydramnios, and told the lady her condition. I then ruptured the membranes, and the water gushed out like a brook, and ran off the rubber sheet over the edge of the bed into a vessel, and continued till I had caught nearly five vessels full. This, with what had run on the floor and had soaked into her clothes and the sheets, was certainly five gallons, or nearly forty pounds weight of fluid. I then found the feet presenting, gave ether, and delivered the woman readily.

The child was stillborn. It had no occipital bone, and the brain and spinal cord were exposed down to the last dorsal vertebra. The posterior convolutions of the brain and the fourth ventricle were plainly distinguished. The lower vertebræ were normal. The sac that had held the spinal fluid was ruptured and there was no tumor. The head was greatly extended, which made some deformity in this respect, but otherwise it was a perfect child.

A LARGE DOSE OF DIGITALIS.

By GEORGE F. KOEHLER, M.D.,
PORTLAND, ORE.

BEING called to attend a case of confinement at Sunny Side I had pre-arranged a small table near the bed of the patient, upon which I had placed bottles containing fluid extract of ergot, persulphate of iron, tincture of digitalis, and several other drugs which might be required in an emergency, as is my usual custom. After the birth of the child the placenta remained adherent. Waiting a reasonable length of time, I inserted my hand into the uterus. While detaching the placenta a great amount of hemorrhage ensued. Not wishing to remove my hand, I requested the husband of the woman (the only assistance at my command) to give the patient a teaspoonful of the dark medicine labelled ergot, and he promptly administered the remedy. Still retaining hold of the uterus, and after getting it well cleaned out, I ordered the husband to repeat the dose, which he did. The uterus now well contracted, I left the patient to wash my hands, when, to my surprise and annoyance, I discovered that my digitalis bottle was almost empty, while the bottle containing the ergot remained full. Sure enough my worthy assistant had given the patient two heaping teaspoonfuls of tincture of digitalis. I now gave the patient a teaspoonful of the fluid extract of ergot, and awaited with some anxiety the effect of the digitalis. In one hour the temperature rose to 102° F.; pulse, strong and full, 106 pulsations per minute; the face flushed; patient complaining of feeling warm; otherwise comfortable.

Two hours after the last dose of the digitalis, patient resting easy. Temperature, 101° F.; pulse, 100. After-pains well marked. 1 A.M., four hours later, patient perspiring freely. Temperature, 99° F.; pulse, 108 and weaker. Opium, carbonate of ammonia, and whisky administered. At 2 A.M., temperature normal; pulse, 100 and stronger. Patient comfortable. At 7 A.M., temperature normal; pulse, 88.

From this time on patient remained comfortable with the exception of severe after-pains, which lasted almost continuously for forty-eight hours, interrupted by the administration of opium. From the fact that about three fluid drachms of tincture of digitalis was taken and retained (no emetic being used), the moderate amount of systemic disturbance, the severity of the after-pains, and the apparent antagonistic action of the ergot, tend to make the case one of clinical interest.

FAILURE OF THYROID EXTRACT IN A CASE OF MYXŒDEMA.

By H. T. MILLER, M.D.,
SPRINGFIELD, O.

THE case of myxœdema reported by Dr. Abrahams in the MEDICAL RECORD of April 6, 1895, has prompted me to report the following interesting case. It dates back to June, 1892. Just previous to this date he had an acute attack of muscular rheumatism, and it was while treating him for this that my attention was drawn to an insulated dropsical condition in both supra-clavicular spaces that did not obey the physical law of gravity, did not pit on pressure, and would suddenly appear and disappear, without the least fluctuation in the quantity of urine secreted.

Physical examination revealed only a slightly hypertrophied heart; pulse full and strong, and averaging sixty-five beats to the minute; urine secreted was high colored, of low specific gravity, 1008 to 1010; acid in reaction; non-albuminous; no sugar; small in quantity; twenty-four to thirty ounces in twenty-four hours, and contained a diminished quantity of urea. The specific gravity at present has changed to 1030 and the color is normal; this is likely to change suddenly, but the quantity remains always the same.

I will frankly confess that I was at a loss for a diagnosis, until the club-shaped nose, thickened lips and porcelain-like appearance of the face led me to believe that here was a case of myxœdema. The subjoined history of the case will, I believe, bear me out in my conclusions.

Mr. P——, aged seventy-one; weight formerly 170 now 140 pounds; height, 5 feet 3½ inches; nativity, England, but has lived in this country for the past forty years. His own and family history is excellent. Occupation, that of an expert machinist. I would here interject that he used daily, for years, cyanide of potassium in his work. Whether this had anything to do with his present condition, I am not prepared to say, yet the following interesting fact, that no article of food, such as butter, meats, bread, milk, etc., can be left in his room for a length of time without assuming a decidedly greenish tint, should be noted in detailing this history.

Memory is defective, he will forget one moment what he intended doing the moment before, he is fretful, and at times becomes maniacal, with suicidal tendencies. The latter condition is preceded by a de-

termination of blood to the head, as manifested by the livid appearance of the face; the appearance of pallor is always followed by a subsidence of the paroxysm. At times there is an incoherency of speech, and when talking on a particular subject he is apt to go off at a tangent on some other subject. The nose is club-shaped; the lips are thickened; the eyes are expressionless; the face is puffed and porcelain-like in appearance, and the whole countenance marked for its stupid appearance—cretinoid. The tongue is hypertrophied and mapped; breath exceedingly offensive; the hair is shaggy and is falling off.

As stated before there are insulated collections of fluid over clavicles in supra-clavicular spaces, that do not pit on pressure and feel like cushions of air. There is a noticeable depression where the thyroid formerly was. Insulated collections of fluid have been observed on the chest. The hands are puffed and are closed with difficulty; the tips of the fingers are like cushions of air; there is dyspnœa; the body is nearly always cold, this is not only seemingly but actually so, as shown by the temperature varying from 96½° to 98° F., yet a peculiar feature noted is an occasional coldness of the knees with the legs and rest of the body warm. An herpetic eruption is at times noticeably prominent. The bowels are generally constipated, and the stools hard and clay colored; there is a slight œdema of the feet, which pit slightly on pressure. The odor of the room which he occupies resembles that of decaying animal matter.

Little good was accomplished by the use of diaphoretics and diuretics, in fact nothing seemed to avail. Thyroid extract never caused any improvement in the case. For over four months he has not taken any medicine at all, and I cannot see that he is in any way worse, excepting, perhaps, that he has grown weaker, yet he is able to be out of bed and to walk from room to room. I have little confidence that a change for the better will take place, as his age is against him. The failure of the thyroid extract in this case would not preclude my using it in another should it present itself.

A WELL-MARKED CASE OF KAHLBAUM'S SO-CALLED KATATONIA.

By L. W. DODSON, M.D.,

ASSISTANT PHYSICIAN TO THE BINGHAMTON STATE HOSPITAL.

F. G. D——, United States, male, aged twenty-seven, single, laborer; family history good; alleged causes, insolation and masturbation. Second admission. Was first admitted in January, 1894, remained three months, and was then discharged unimproved. During that time was depressed, had delusions of persecution, but showed little if any agitation when discussing his troubles. After discharge gradually grew worse, refused to talk to parents, laughed inanely when accosted, broke windows, destroyed furniture, and would only eat when food was placed in his room at night. Remained home five months, and was readmitted to the State Hospital, October, 1894. Was transferred to the infirmary ward in November, being confined in bed with the following symptoms: Limbs rigid and immobile, hands clenched, jaws fixed, rhythmical movements of oral, brow, and cheek muscles, causing continual grimacing and frowning. Muscles of extremities in a state of tonic contraction, with marked resistance to passive motion. When an attempt was made to move the arm or leg on one side, the corresponding limb on the opposite side moved in unison with it. When the limbs were released they immediately sprang back to their original position, not remaining wherever placed, as in catalepsy. Sensibility to tactile and painful impressions diminished. Titillation of soles of feet elicited no movement; pin pricks on arms and legs gave no response, but on soles of feet were responded to by a slight grimace after an interval of about three seconds. Tendon reflexes absent. Laid in bed with thighs abducted and widely separated, the legs flexed on thighs with soles of feet together, the head extended, the hands tightly gripping the scrotum. At times would suddenly straighten the legs, arch the back, and support the entire body weight on occiput and heels, remaining in the position of opisthotonos for from fifteen to twenty minutes. Usually preserves an unbroken silence, but at night frequently shrieks, and at times monotonously repeats the same profane words over and over. Refuses food when the attendants are near, but has bulimia, and when not watched will not only bolt his own meal, but suddenly jump from bed and gormandize that of the other patients. Passes his urine and fæces in bed. All the symptoms are intensified when he is under observation. Under treatment his condition ameliorated somewhat, but he has relapsed, and now presents almost all of the above-mentioned features.

This case appears to fill all the requirements for the diagnosis of katatonia. The insidious onset with melancholy and unsystematized persecutory delusions, the marked resistance to passive motion (symptom of negativism), the sudden spasmodic contraction of the extensor muscles with opisthotonos, the athethoid movements of the facial muscle, the obstinate silence alternating with the monotonous verbigeration of profane words, the sudden shriek, due probably to hallucination, the bulimia, the state of pseudo-pathos rather than true pathos, the melancholy being more apparent than real, and the hysterical element in that all symptoms are intensified when he is under observation, present in toto, a symptom-complex characteristic of no other disease.

There is another case in the hospital at present simulating katatonia, yet clearly distinct. It is that of a young female, aged twenty-three, with stuporous melancholia and catalepsy. There is no resistance to passive motion, no sudden spasm of the muscles; they remain in whatever position placed. No verbigeration. She refuses all food, and the mental condition is one of acutely intense melancholy.

Certainly, the symptoms in these two cases can be clearly differentiated. Etiologically and pathologically, it is impossible to draw a sharp line between the so-called katatonia and stuporous melancholia with cataleptoid symptoms. Clinically, however, the difference would be obvious to the most casual observer, and all honor is due Kahlbaum and Kiernan for having clearly and concisely marked out the characteristic features of katatonia.

ESSENTIAL DROPSY.

By MARCELL HARTWIG, M.D.,

BUFFALO, N. Y.

In my first communication about this subject, in the Medical Record of September 27, 1890, I had already ventured the hypothesis of bacterial origin. A new case, which occurred in my practice in November, 1894, seems to corroborate this view, although I have failed again to make any attempt at bacteriological search.

The patient, N. W——, had enjoyed excellent health for many years, and I knew him well. He suddenly became dropsical. General anasarca. Heart-sounds somewhat muffled. Temperature, 99½° F.; area of cardiac dulness enlarged. Trace of albumin barely recognizable. I gave him salicylate of soda, ʒ iv.; tincture of nux vomica, ℈ iss., in an infusion of digitalis, ℈ iss. in ʒ vj. One tablespoonful three times a day.

The patient was cured with this one bottle and remained well. The only causation I could elicit was that, about two weeks previously, he had had a sore throat for about three days. Is it not very likely that some microbes from the throat had infected his blood?

Surgical Suggestions.

Perforating Ulcer of Stomach.—Many surgeons are disposed to attach more importance to the toilet of the peritoneum than to the actual searching out and sewing up of the point of perforation.

Symphyseotomy is indicated in flat pelves with a conjugate of from 67 to 88 mm.; in funnel-shaped pelves with a transverse diameter of pelvic outlet of 88 mm., or less; in cases of dystocia caused by tumors of the pelvic cavity; in cases of abnormal size of the fœtus, but with normal pelvis. It is easily performed.—WINTERBERG.

Ganglion.—Inject five to ten drops of tincture of iodine and bandage.—DUPLAY.

Use Black Pins in surgical dressings, since they will not rust and can be more readily seen.—MEDICAL AGE.

Iliac Abscess.—The indications for operation are: 1. Where the abscess is large and making pressure upon important organs; 2. Where the abscess is increasing rapidly in size; 3. Where there is danger of rupture of the abscess into the peritoneal cavity.—YOUNG.

Iliac Abscess may not be of spinal origin, but arise from hip disease, perforating the acetabulum, innominate disease, etc. Sarcoma also occurs in this region.—WILLARD.

Appendicitis.—1. The first inference from a general consideration of ileo-cæcal troubles is that all collections of pus should be evacuated by free incision followed by gauze drainage. 2. Should the appendix be involved in the abscess and already in a necrosed state, it is fair to infer that the canal is closed so that there is no communication with the cæcum, and hence excision is not requisite. 3. If, on the contrary, the appendix is found to be enlarged and indurated without perforation, it should be ligated and removed at once. 4. In suspected cases of appendicitis, without the signs of suppuration or the presence of a local swelling or induration, an exploratory operation by a transverse incision above Poupart's ligament, with separation of the muscular fibres, should be resorted to without delay. 5. With a clear diagnosis of appendicitis, a longitudinal incision on the outer border of the right rectus muscle, extending downward over the cæcum, is best adapted to reach the appendix. 6. In all cases of recent occurrence, in which suppuration has not appeared, but there exists an inflammatory process of the appendix, it should be removed.—GASTON.

Empyema.—The indiscriminate use of antiseptic injections cannot be too strongly condemned, since many fatal results have immediately followed its practice. Immediate washing out of the pleural cavity after operation, for ordinary empyema, is always an inadvisable and hazardous procedure, and is only permissible at later periods when practised with the greatest caution.—WHITE.

Stricture of the Urethra is most safely healed by gradual dilatation repeated every third day. In continuous dilatation a filiform bougie can remain three days, after which other instruments can be used.—HORWITZ.

Varicose Ulcers.—Cleanse with sodium bicarbonate, apply methyl-violet solution, cover with absorbent cotton, and give even support to the tissues by bandage.—SUMMERS.

Bed-sores.—Early application of strong nitrate of silver solution.

Sterilizing the Hypodermic is apt to spoil the leather packing.

Carbolic Acid should be applied very sparingly to open wounds, especially in young and old subjects.

Fistula in Ano.—After the sphincter is thoroughly stretched, the rectum is washed out carefully with bichloride solution 1 to 4,000; the fistula is split open. Then the indurated tissue is thoroughly removed, taking care to cut out clean both ends of the fistula, not leaving any unhealthy skin or mucous membrane at these points. Search for branch channels, treat them in the same way, and finally close the wound with catgut, using only a single row of sutures.—COOK.

Chancroid beneath the Prepuce.—Wash out with boric solution, inject beneath the foreskin a saturated solution of chloride of zinc, after about a minute wash again with boric acid and perform immediate circumcision.—CORDIER.

Watch the Respiration in chloroform anæsthesia. If this keeps good, the heart is not apt to give trouble.

Society Reports.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, April 22, 1895.

EGBERT H. GRANDIN, M.D., PRESIDENT, IN THE CHAIR.

Refracting Opticians.—In accord with a resolution offerred by Dr. Van Fleet at the last meeting of the Society, Mr. Taylor, counsel for the Society, sent a written opinion to the effect that opticians, like other manufacturers and dealers in instruments, were permitted by the statute regulating the practice of medicine to fit instruments, such as trusses and glasses, for those in need of them. Mr. Taylor doubted, therefore, whether the optician who advertised to fit glasses could be held for violation of the law.

DR. VAN FLEET thought there could be no doubt but what advertising opticians violated the spirit of the law, whether they violated the letter or not. At least one of them had an advertisement in the County Directory, which he thought amounted practically to an endorsement of his work by the County Medical Society. That advertisement, he said, ought to be expunged, and he offered a resolution to that effect.

DRS. S. D. POWELL and DANIEL LEWIS doubted whether the advertisement in question led physicians and other persons astray to the extent implied in Dr. Van Fleet's remarks. At any rate, since it seemed to be within the law, and a written agreement had been entered into with the advertiser, to cancel it without his consent would render the Society liable to an action at law.

DR. VAN FLEET still strenuously opposed such misleading advertisements, but withdrew his original motion and moved that the comitia minora be instructed to consider the best method of having this particular advertisement taken from the Directory. Carried.

The Status of the Physician when Called to Cases of Abortion.—The following are extracts from a communication from the counsel of the Society, MR. ROBERT C. TAYLOR:

The Medical Society of the County of New York has requested me, as their counsel, to advise them what is the status of a physician who has been called in to attend a case where a miscarriage or abortion has been brought about, in order that the rights of a professional man in such a delicate predicament may be more distinctly understood and he may be able to render the offices of humanity freely, without fear of himself being suspected as accessory to a crime.

It may be said, by way of preface, that there is no definite or positive rule by which a physician may be guided in such a case; and the question, therefore,

becomes one rather of general good sense and prudence. It is assumed that the physician is brought face to face with a state of facts in which he has reason to fear that a criminal operation has been performed, and yet cannot positively so conclude.

At common law there was a certain crime known as misprision, but in New York State the common law has been superseded by the penal code, and misprision [failure to report a suspected crime] as such is not a crime here.

There are many laws requiring reports to boards of health of contagious diseases, deaths, etc. As to the duty of reporting matters to the coroner, we find no statute of general application throughout the State, but note the following sections of the consolidation act affecting New York City. Section 1773 [on the cases of death which shall be reported to the coroner]. Section 1775. It shall be the duty of any citizen who may become aware of the death of a person who shall have died in the manner stated, to report such death forthwith to one of the coroners, or to any police officer, and such officer shall, without delay, notify the coroner of such death, and any person who shall wilfully neglect or refuse to report such death to the coroner shall, upon conviction, be adjudged guilty of a misdemeanor, and shall be punished by imprisonment in the county prison not exceeding one year, or by a fine not exceeding five hundred dollars, or by both such fine and imprisonment.

It would thus seem that by the very wording of the statute there could be no crime in the mere failure to report any suspicious case which did not result in death.

It therefore follows that the physician's duty to report a case of illness which he suspects to involve criminal malpractice, is not a duty imposed upon him by any statute ; and that for his failure so to report, he is not liable to any specific punishment.

The practical aspect of the case is, that if the circumstances are such as to lead one to believe that malpractice has been committed, the physician runs the risk of suspicion as an accessory. His duty under the circumstances, then, relates only to himself ; and his conduct should be such as to conduce to his own protection. If he receives a call to attend an urgent case, he cannot decline it, even though it be suspicious. If the patient is in the house of a midwife, or where there is the slightest reason to believe that a criminal act has been committed, or that death might ensue, he should call in a consultant who could prove the integrity and wisdom of the treatment. His suspicions should be communicated to the coroner, thus casting upon that official the duty of ferreting out the crime. In all that he does he should be open and above board, so that suspicion, if any arise, may be disarmed. This is, after all, all the advice that can be given.

If it be suggested that the physician is, by law, incompetent to divulge information professionally acquired, a sufficient answer is found in the statute creating the incapacity : A person, duly authorized to practise physic or surgery, shall not be allowed to disclose any information which he acquired in attending a patient, in a professional capacity, and which was necessary to enable him to act in that capacity.—Code Civ. Proc., Sect. 834.

A most embarrassing mass of adjudication has been the result of the effort to construe this enactment ; and its true meaning is much in doubt. His clear duty to protect himself by making the disclosure would not, therefore, be complicated by any supposed duty of silence existing toward the patient. As far as the risk of being held liable for slanderous or libellous statements is concerned, it is enough to say that a physician who, in good faith, had reason to believe that the crime of procuring an abortion had been committed, would be protected from any action for damages, if he communicated his suspicions to the proper authorities, even if it afterward turned out that the person as to whom he had given the information was not guilty of the suspected crime. If the physician idly disseminated his suspicions, and they turned out to be false, he would then plainly and justly be liable to the individual whom he had carelessly slandered.

Nevertheless, if, after all precautions, a physician should be arrested upon suspicion of being accessory to an act of criminal malpractice, his remedy, if he is innocent, is to prosecute those who caused his arrest. As against the newspapers, if he was in fact arrested and they published annoying accounts of the matter, he would have no remedy ; but this is an unfortunate case for which it is impossible to provide.

Health Board gets Thanks.—Dr. S. D. Powell said he had noticed that the Board of Health had seen fit to instruct their inspectors as to their duties relating to medical practitioners and their patients. As this was in line with a resolution passed during his term of service as president of the Society, he moved that a vote of thanks be extended the Board of Health for the fair and just treatment which they had extended the practitioners of the city. Carried.

Apoplexy.—This was the scientific subject for discussion during the evening. Three papers were read.

Etiology and Pathology.—Dr. Edward D. Fisher read a paper on this division of the subject. Under cerebral apoplexy he considered cerebral hemorrhage, embolism, and thrombosis. The term apoplexy signified to strike down, and an essential symptom was loss of consciousness, and associated with it there was usually paralysis of one-half of the body, due to impairment or destruction of some part of the brain. The commonest cause was hemorrhage, and this was due to disease of the blood-vessels. There was a natural tendency to atheromatous changes in the vessels in advanced life. Alcohol and syphilis were also predisposing causes of arterial disease. Associated with the arterial sclerosis, there was usually sclerosis of the kidneys and concomitant hypertrophy of the left ventricle of the heart. Hemorrhage in early life was likely to occur in persons of sedentary habit, who ate excessively, the tendency to arterial sclerosis being much augmented if alcohol were used even in moderation. Chronic lead-poisoning would produce arterio-sclerosis and interstitial nephritis. Heredity might be a predisposing cause, especially in showing a tendency to arterial degeneration and kidney disease. The old idea that short-necked persons were especially liable to apoplexy had hardly any scientific support, except so far as increased adipose tissue was an indication of excessive eating.

Dr. Fisher thought syphilis was rarely the cause of cerebral hemorrhage, although it was a common cause of thrombosis. In many cases alcohol and syphilis were combined and had a deleterious influence on the kidneys. Hemorrhage might occur during acute infectious fevers, also in scurvy and purpura. Intra-uterine hemorrhage into the brain might take place as a result of operation or tedious delivery, but later, when the cases came to autopsy, it was very difficult to state what was the original cause of the brain sclerosis. In cases seen by him it probably had been occlusion of some vessel. The cerebral hemorrhage might be induced immediately by some strong emotion, as public speaking, bad news, or taking a cold bath, which drove the blood into the diseased vessels.

The next most frequent cause of apoplexy was thrombosis of the cerebral vessels. It occurred oftenest in early life—twenty-five to forty—and was usually due to syphilis, but might be due to alcohol, etc. Dr. Fisher believed that thrombosis occurred oftener in old people than was generally supposed. Sudden and complete recovery from attacks of apoplexy in the aged suggested incomplete thrombosis. There might be little evidence of disease at autopsy. There was probably interference with the circulation, especially in the middle cerebral. He believed, also, that œdema or cere-

bral effusion was sometimes a cause, notwithstanding Watson's old theory of serous apoplexy had been largely discarded. The local serous effusion was apt to disappear on cutting into the dura, and be overlooked.

The next most frequent cause of apoplexy was embolism, which usually was due to a clot starting from the heart, and which was more apt to proceed to the left half of the brain than to the right, and to involve the middle cerebral and its branches. Brief allusion was also made to meningeal lesions resulting in symptoms like in apoplexy — unconsciousness and hemiplegia. So-called birth palsy was often due to meningeal hemorrhage. Pachymeningitis and an alcoholic history were frequently combined in the paralysis of the insane.

The pathological changes were due, first of all, to disease of the blood-vessels. The hemorrhage was usually from the smaller vessels. The larger vessels being rigid, from changes in their walls, allowed the blood to pass with unrestricted force into the smaller ones whose weakened walls gave way. The blood-clot changed in appearance with time. A cyst might form, its contents might become absorbed and leave scar-like tissue. In plugging of the vessels there was anæmia, later softening. According to the vascularity of the parts there was gray or white softening. The changes seen would vary according to the remoteness of the autopsy from the time of the stroke. In old cases there were structural changes in the nervous areas and corresponding tracts proceeding to the cord. As early as two weeks descending degeneration was found in animals, somewhat later in man. The lateral sclerosis left by such degenerated tracts was on the same side as the hemiplegia in the cord, on the opposite side above the crossing of the tracts in the medulla. The most common site of the hemorrhage or occlusion of vessels was in the internal capsule.

Symptomatology and Treatment.—Dr. William H. Draper said that since the term apoplexy was generally restricted to cases of intra-cranial hemorrhage, he would ask attention to the symptomatology of that condition. Although he knew perfectly well the difficulty of differentiating the unconsciousness or the apoplectic fit the result of hemorrhage from that which was the result of embolism or thrombosis, yet he thought the differential diagnosis could usually be made. In describing the symptoms of apoplexy he spoke of those which were primary and those which were secondary. The primary symptoms were those belonging to the attack, the secondary those associated with the lesion. The primary were divided into those preceding and those accompanying the attack. The symptoms which preceded it consisted of disturbed sensation, as pain in the head, nausea, paræsthesiæ of the extremities, which could hardly be regarded as premonitory of the attack, as they were often absent, and were often present in derangements of the cerebral circulation and disease of the peripheral nerves. Severe pain in the head had preceded the attack in a few of his cases, but usually this symptom pointed to intra-cranial syphilis unless present only a few hours before the hemorrhage.

The symptoms of the onset varied. There might be sudden agonizing pain in the head while the victim was at his work or in the enjoyment of perfect health. He might cry out, and exclaim that he was giddy and could not see, or that he had no feeling in the limbs, and within a few minutes become unconscious, with or without convulsions. Instead of this sudden attack, the patient might be taken with a sense of general exhaustion, perhaps nausea and vomiting, and then inability to use one leg or arm. Indeed, the attack might be of varying degrees of suddenness, depending upon the location and extent of the hemorrhage. If the patient were attacked in his sleep, he would awake to find himself paralyzed on one side. Whether in such cases the attack had been preceded by convulsion or coma was usually impossible to determine.

When called to cases of apoplexy we observe considerable variation in the degree of unconsciousness. It might be complete, with absolute loss of pain sense and relaxation of the muscles, even of the sphincters. There might be an effort to answer simple questions. The head might be turned away from the paralyzed side, the pupils might be equal or unequal, the reflexes more or less completely abolished, the surface might be bathed in perspiration, the lips cyanotic, the temperature might be below normal one, two or three degrees, but it might rise in twenty-four hours, and register in fatal cases toward the end 106° F. or more. In favorable cases it usually returned to normal in from one to three days. The pulse might be increased or diminished, and vary in force and rhythm. Dr. Draper gave a graphic picture of the respiratory difficulty in these cases, which might be due partly to the influence of the stroke on the respiratory centre, partly to mechanical obstruction. The unconsciousness might last forty-eight hours and be recovered from slowly, or it might disappear in a much shorter period. In his experience the longer the unconsciousness the more serious the prognosis.

In distinguishing cerebral hemorrhage from embolism and thrombosis, the former was characterized more by suddenness. The previous history, the condition of the heart, and the age of the patient were further aids in differentiation. The secondary symptoms of apoplexy were omitted.

Treatment. — Regarding treatment, Dr. Draper thought there was probably no other condition in which the doctor felt himself so helpless as in cerebral hemorrhage. Something had to be done quickly, and Dr. Draper felt disposed to try bleeding. To relieve the breathing and prevent stertor, turn the patient on the side, or pull the jaw forward and thus prevent the tongue from falling back into the throat. The ice-bag, recumbent posture, purge, mustard foot-bath, all had reference to the circulation, being intended to drive the blood from the head.

Points in Differential Diagnosis.—Dr. Charles L. Dana read the last paper. He used the term apoplexy in the sense described by Dr. Fisher, including cerebral hemorrhage, embolism, and thrombosis. A person whom we found in a state of coma suggesting apoplexy might be suffering from one of a dozen or more conditions. The more probable ones were hemorrhage, thrombosis, embolism, hysteria, syncope, alcoholism, concussion of the brain with shock, poisons of various kinds, uræmia, sudden bursting of an abscess, epileptic attack. He would not undertake to point out all the differential points relating to these conditions. The more common of these states which we were called upon to differentiate from apoplexy were syncope, alcoholism, concussion and shock, epilepsy, and opium poisoning. Most of these could be readily excluded after the physician had learned the history and mode of onset of the attack, the condition of the pupils, urine, and heart.

In syncope there was loss of consciousness but no paralysis. In the condition which gave ambulance surgeons so much trouble, alcoholism with blow on the head, against apoplexy there was alcoholic breath, usually absence of hemiplegia and facial paralysis, no stertor to the breathing, the patient could almost invariably be aroused and muttered some incoherent words. In hysterical apoplexy the patient could be slightly aroused, there was no stertorous breathing, no facial paralysis, only hemiplegia affecting arm and leg; the hemianæsthesia often responded to pricking with the pin, there was no rigidity of the affected side, no exaggeration of reflexes, the pupils were equal.

In differentiating between cerebral hemorrhage, thrombosis, and embolism, one should remember, when in the presence of a case of apoplexy that, so far as chance was concerned, it was two to one in favor of hemorrhage, and if the patient were in the prime of

life, between forty and sixty, it was six to one in favor of hemorrhage. Suddenness of onset, profoundness of coma and of hemiplegia favored hemorrhage, next embolism. The extremes of adult life pointed to thrombosis. Where the attack came on gradually, with symptoms of headache, vertigo, and there had been slight hemiplegia a few days before which had disappeared, the probability was strongly in favor of thrombosis.

Stout people, or those with the so-called apoplectic temperament, were rarely subject to thrombosis. If the attack were sudden and cardiac disease existed, paralysis following loss of consciousness, there was probably embolism. In thrombosis there was often considerable paralysis before loss of consciousness. Anæsthesia and moderate hemiplegia pointed to thrombosis.

Regarding the temperature, which should be taken in both axillæ, in thrombosis and embolism there was hardly ever any disturbance of the temperature the first days, it being even on the two sides of the body, whereas in hemorrhage he had found the temperature a degree or a degree and a half higher on the hemiplegic side. In acute softening from embolism and thrombosis he had found the temperature rise about one degree perhaps one or two days after the attack, while in hemorrhage it rose to two or three degrees by this time, and began to fall the third day if the case got better, but continued to rise if it went on to get worse. The temperature, therefore, was of value in diagnosis and in prognosis. It had not received the attention which it deserved.

Syphilis and Apoplexy.—Dr. Joseph Collins laid stress on the sinister effects of syphilis in leading up to arterial degeneration and apoplexy, whether the apoplexy were due to thrombosis or to embolism. It was of extreme importance because of its frequency and the valuable indication which it furnished in treatment.

Dr. William H. McEnroe, speaking of the differential diagnosis between hemorrhage into the pons and opium poisoning, said that in the former the coma was more profound, in the latter the patient could be roused to an extent and would answer intelligently, as far as he answered at all. The pulse was full and healthy in the early stage of opium poisoning, while in hemorrhage it was wiry, sometimes slow, sometimes rapid, but never full, strong, and regular. In opium poisoning the whole body was bathed in perspiration, and the respirations were less frequent than in hemorrhage.

Dr. Van Santvoord spoke of drugs. They were used to check continuous hemorrhage. He had given aconite with the intention of weakening the heart-action and reducing the blood-pressure in the vessels. He thought nitrate of sodium being slower in its action than nitrite of amyl, would be safer. Atropia commended itself to him as the best remedy.

Physicians and the Presidency of the Board of Health.—Dr. Warner read some resolutions sent by Dr. H. D. Chapin, endorsing the bill before the Legislature giving the Mayor power to appoint either a layman or a physician president of the Board of Health. The present law made it obligatory upon him to appoint only a layman. The resolutions were adopted.

Similarity of Features in Trades.—Dr. Louis Robinson has shown to the world the interesting fact that new-born babies can hang in mid-air from a stick. He now assures us that people who follow the same trade get to look alike. He does not say whether this applies to doctors.

Berlin Physicians are supplied with diphtheria antitoxin free of cost, on condition that they return accurate reports of the cases in which it has been used.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, May 20, 1895.

Samuel B. W. McLeod, M.D., President, in the Chair.

Deformity Caused by Adduction and Flexion in Hip-disease, with a Mechanical Demonstration Thereof.—Dr. A. B. Judson read a paper with this title (see page 13).

Dr. Lewis A. Sayre was requested to open the discussion. He thought the demonstration had been so clear as to leave nothing to discuss. It was a simple statement of facts with a clear demonstration. He was very glad to have heard the author impress the great importance of educating children with deformity from hip-disease to walk. If one would get them off of the lame limb by giving them a crutch and then teach them how to walk with proper rhythm, he would accomplish a great deal. Keep concussion away from the joint and the motion could be increased a great deal. Deformity resulted largely from muscular contraction, and this took place in order to protect the joint from concussion. Have the child walk with a crutch under the arm or perineum, make gentle traction, then instruct it to walk properly, and a large amount of good would be accomplished.

Tincture of Iodine in the Treatment of Chronic Suppurative Inflammations of the Ear.—Dr. F. P. Hoover read the paper. He had tried to stop the discharge from the ear in chronic suppuration by such agents as nitrate of silver, bichloride solution, boracic acid, iodoform, but with indifferent success, and at last had decided to test tincture of iodine. This was applied on a probe wrapped with cotton. If the perforation in the drum membrane was small, it was enlarged. The applications were made two or three times a week. The patient complained at first of a tingling sensation, but this soon passed off. When freely applied some of the medicine trickled down into the Eustachian tube and caused a taste of iodine. There had been no ill effects.

The curative results had been striking, as shown by the recital of several illustrative cases. Case I.—Age of patient twenty years, duration of suppurative discharge five years; no permanent results under various remedies until tincture of iodine was tried. After its use for three weeks the discharge ceased and had not returned. Case II.—Discharge for fourteen years, failure under nitrate of silver, etc.; recovery in three weeks after commencing tincture of iodine applications. In Case IV. the man was thirty years old, had had aural discharge for twenty years; was cured with tincture of iodine in eight weeks; saying he then felt like another man. The treatment was best carried out in private practice, since it required regular attendance.

Dr. N. J. Hepburn said he had used tincture of iodine in suppurative discharges from the ear at intervals for ten years, and had found it valuable in some of the obstinate cases with, as one might say, a pyogenic lining membrane. A young woman came to the clinic about 1884, with a history of suppurative discharge which had not ceased entirely at any time during twenty years. Since she said everything else had been tried and failed, he resorted to tincture of iodine, and the suppuration ceased entirely after the third application. It had not returned when he saw her about six months later. One advantage of tincture of iodine was the absence of pain attending its application. The burning sensation ceased as soon as air was shut off by putting cotton into the ear.

Dr. S. M. Payne had been using tincture of iodine since the summer of 1892. At first he used it very cautiously, but later, finding no injurious results, he saturated the cotton with it and then obtained much better results; all the patients recovered. By its free use some of the iodine ran down the Eustachian tube

and was tasted, and it was only after such free use that all the patients were cured of their chronic discharge. But where there were granulations this method of treatment had to be supplemented by curettage or application of trichloracetic acid. The treatment was also followed by marked improvement in hearing.

DR. QUINLAN said that about seventy-five or eighty per cent. of all cases of chronic inflammation of the middle ear, whether suppurative or catarrhal, depended upon rhino-pharyngeal irritation, and it seemed to him that the best way to get rid of the ear trouble was to remove the cause.

DR. HOOVER replied to Dr. Quinlan that in one of his cases there were enlarged tonsils and hypertrophy of the turbinate on the left side. These were cured, but the ear was still running at the end of five or six weeks, and ceased to do so only after the use of tincture of iodine.

Multiple Cerebro-spinal Sclerosis.—DR. W. C. GILDAY reported a case in which he had made the diagnosis of multiple cerebro-spinal sclerosis and stated that the diagnosis was confirmed by autopsy, sclerotic patches varying in size from the head of a pin to a bean being found on the cerebellum, pons, medulla, cord, and sciatic nerve. The symptoms had come on gradually, beginning about 1875, and resulting when Dr. Gilday first saw the patient (1893), three months before death, in complete paralysis of the entire body excepting the neck. The muscles were flabby but not atrophied. Passage of the fæces could not be restrained when the desire came. No analgesia, no loss of temperature sense, perception of odor diminished. Almost complete loss of vision. Marked nystagmus. The mind was not affected. Prior to these marked symptoms, the patient felt as if he would "topple" over on attempting to cross the room; there were some pain sensations, paralysis of the legs occurred some years before paralysis of the hands. There had been a history of a fall some time before the commencement of the symptoms. Death came suddenly.

DR. VON DONHOFF thought the clinical history of the case was not that of disseminated sclerosis. It impressed him rather as one of spinal irritation from severe shock, which finally ended in changes, perhaps undiscovered, which caused paralysis and death.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, May 16, 1895.

JOSEPH D. BRYANT, M.D., PRESIDENT, IN THE CHAIR.

Donation to the Library.—DR. GEORGE THOMAS JACKSON announced recent donations to the library, including the sum of $200, given by Mrs. Elizabeth A. Galloway, through D. Ellsworth Eliot; also a portrait of Professor Thiersch, drawn and presented by Dr. Arpad G. Gerster. A vote of thanks was extended the donors.

A Clinical and Bacteriological Study of the Gonococcus as Found in the Male Urethra and in the Vulvo-vaginal Tract of Children.—DR. HENRY HEIMAN read the paper, which was illustrated by lantern slides and cultures of gonococci on various media, as well as of other diplococci obtained from the genito-urinary tract. (See page 769, vol. 47, MEDICAL RECORD.)

DR. SIGMUND LUSTGARTEN said he appreciated the great task performed by Dr. Heiman, and the fact that it offered little room for criticism except it were founded on work of like positive character, yet he felt like making a few remarks on one point, namely, the diagnostic value of the gonococcus under the microscope. His own researches were published in 1887, in which he stated that there was a diplococcus found in the normal male urethra closely resembling the gonococcus, and which could not always be distinguished from this by the Gram test. He had since given attention to the same point, and had been compelled to retain the same opinion. Even a pupil of Neisser had admitted the possibility of a mistake in the differential diagnosis between the two in at least five per cent. of the cases. Of late the opinion had again been brought forward that the secretions from the male urethra might be contagious even if the gonococcus were not present. He must confess that personally he had often been very much embarrassed to decide this question, and he thought we must admit that at present there were a number of cases in which we could not give a positive opinion based on the microscope. Probably, like in diphtheria, we would have to fall back on cultures for assistance, and chest serum, which Dr. Heiman had so highly commended; could always be obtained as a culture medium. Microscopic examination, in spite of the much-praised method of Gram, was not alone reliable.

DR. IRA VAN GIESON was glad to be able to speak of Dr. Heiman's work in terms of highest commendation. It had been careful and painstaking, and little disposition had been shown to draw deductions which were not substantiated by facts. Few could realize the amount of work embodied in such a paper. Yet it was of enormous importance because of the danger of one affected with gleet and contemplating marriage infecting the wife and giving rise to serious uterine and tubal trouble. He thought we were ready to go back to Noeggerath's original dictum, that fully eighty per cent. of these troubles were due to the gonococcus.

Referring to the practical bearing of the work, he might say that in antiseptic therapeusis the discovery of the gonococcus had been of little value. The best treatment of the urethritis had been found empirically before the discovery of the gonococcus, and the meddling with antiseptics later had probably done more harm than good. But the value of the discovery of the gonococcus had been great in the management of the later stages of the disease, for it had led to a better knowledge of its pathology and thereby to a more rational management.

Dr. Van Gieson would say deliberately that a great deal of work in identifying the gonococcus in the later stages of gonorrhœa had been careless and unreliable, consisting simply in observing its shape and size on the cover-glass. If we would make the diagnosis purely on morphological ground in the stage of gleet, it should always be supplemented by Gram's method. The pseudo-gonococcus was frequently mistaken for the gonococcus. As to its persistence for months, and even years, after the primary urethritis, he thought we were not yet able to say, and the only way to settle the question was by work of just the character performed by Dr. Heiman.

As to the case referred to in the paper in which Dr. Van Gieson made the autopsy thirteen days after the acute gonorrhœal urethritis from inoculation, he would say that the urethral membrane simply looked red, perhaps redder than usual in the anterior portion, but in the deep or prostatic portion there was severe damage. It was crowded in the prostatic portion with small round cells beneath the epithelium. The epithelium was abraded in many places, there were extravasations of red blood-cells beneath the epithelium, and many of them had found their way to the free surface of the urethra.

It was to be remarked that the first urethritis was altogether different, both clinically and pathologically, from subsequent attacks, doing much less damage to the urethra. The first attack was something which one could recover from, as few changes were present, but after several attacks there were extensive changes, leading to connective tissue and contractions.

He could confirm the statement in the paper, that a discharge from the urethra might show no gonococci for days and weeks, yet after irritation, as by division of a

real or imaginary stricture, their presence would be detected. Examination on three successive days was not sufficient. In conclusion, he impressed the necessity for applying Gram's method, and of deciding the questions, if it were possible, how long the gonococcus was capable of persisting, and whether there was such a thing as so-called latent gonococcus.

DR. HEIMAN, in some concluding remarks, described how he applied the Gram method.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

MEDICAL COUNCIL—PHARMACOPŒIA—IRISH CONJOINT BOARD—IMMUNITY AND SNAKE-POISON—SOCIETIES' CLOSING SESSION—THICKENED MESENTERY AS A TUMOR—PYLEPHLEBITIS—RENAL GROWTH—ROYAL SOCIETY.

LONDON, June 14, 1895.

BESIDES the subjects I have already noticed the General Medical Council discussed before separating the coming Pharmacopœia and the alleged defects of the Irish Conjoint Board. As to the Pharmacopœia the committee thereupon had gathered information from medical authorities, the Pharmaceutical Society, from India, and the colonies. Drs. Brunton, Fraser, and Walter Smith had been requested to act as referees as to the properties of certain preparations, and help had also been called in on chemical and botanical matters. Professor Attfield's ninth report was received and ordered to be printed, and some conversation took place as to his remuneration. It was also said that a considerable sum would have to be paid to the Pharmaceutical Society for its assistance—a statement somewhat surprising to those who remember the anxiety once displayed by that Society to take a share in the work and the off-hand manner in which its kindly offer was rejected. It must be admitted that whatever may be the excellences of the volume it is likely to be excessively costly, and the preparation seems to be conducted in a clumsy manner. The College of Physicians used to give us a convenient Pharmacopœia in two sizes at a reasonable price. Now the Council lavishes on the work enormous sums, and not a few fail to find it of the value they anticipated. Committees are no doubt useful, but when they have to engage experts to do the work at much greater cost than would be expended in other cases on the same experts, it is no wonder people are asking what is the use of the committees? A vote of £3,000 was taken on account by the Pharmacopœia Committee, and Dr. Tirard was engaged to act as secretary.

With regard to the allegations against the Irish Conjoint Board and the Dublin Apothecaries' Hall there was an animated—not to say ill-tempered—discussion. Sir P. Smyly declared that the Dublin College of Physicians had boycotted the Hall, and defending the expression said there were three kinds of boycotting—shooting a man dead, shooting him in the legs, and preventing him from obtaining food. All three methods, Sir Philip declared, had been employed by the College of Physicians against the Conjoint Board. The jealousy of the College toward the Hall has no doubt been intense, though it may be admitted that there have been shortcomings. If the Hall could not get members of the Dublin College to act as examiners on account of this jealousy, what was to hinder members of the London or Edinburgh College being appointed? There are plenty of men who would be ready to take a trip across the Irish Channel and examine the candidates—men, too, in whom full confidence might be placed as to the just discharge of the duty. However, the Conjoint Board will cease to exist very soon, its term of agreement coming to an end. What the Privy Council is to say to an expiring Board we may yet see.

The subject of immunity attracts still further attention. On the 6th inst. Professor Fraser brought before the Edinburgh Royal Society the results of a research he had carried out on snake poison. From his investigations it would seem not unlikely that we are on the eve of discovering how to prevent, and possibly cure, the effects of a venomous snake-bite. Dr. Fraser has succeeded in rendering rabbits immune to from twenty to fifty times a lethal dose of snake-poison. His previous researches on strophanthus gives confidence in his care and exactitude, and great hopes are entertained as to the outcome of his work.

Our societies are closing their doors for the session. On Tuesday last the Medico-Chirurgical held its concluding meeting, when two papers were read—one on "The Development of Mammary Functions by the Skin of Lying-in Women," the other on "Intra-peritoneal Rupture of the Bladder."

At the concluding meeting for the session of the Clinical Society, Dr. F. Lucas Benham read a paper upon a "Case of Thickened and Contracted Mesentery simulating Tumor in a Case of Cirrhosis of the Liver," in a man, aged fifty-five, with a history of former excess of alcohol and of an attack of jaundice some years ago. He had a large amount of ascites and was almost in *extremis* when first seen. Paracentesis was performed to give relief, and it did so, but he died two days after. A tumor which was discovered during life was found at the autopsy to consist of the enormously shrunken mesentery, shortened, thickened, and loaded with fat, the small intestines being huddled up compactly together. The omentum was thickened and condensed into the shape of a sausage. The condition was evidently that of a form of chronic peritonitis.

Mr. Barker and Dr. Hale White spoke of similar cases.

Dr. Sidney Phillips related a case of suppurative pylephlebitis with abscess in the spleen and a foreign body in the mesenteric vein, in a man, aged fifty-two, who had had rheumatic fever at the age of seventeen, had suffered from asthma, and had been a free spirit-drinker. The cause of the general suppurative pylephlebitis was in all probability two bristles found at the necropsy in the inferior mesenteric vein; they had probably been swallowed at some previous date, and must have passed, probably as one bristle, through the wall of the intestine, and that of the vein, though no trace could be discovered of their passage. When the spleen became purulent it was so much softened that it gave the erroneous impression that its enlargement had lessened.

Dr. Samuel West described a case of recovery from tuberculous meningitis in a girl, two and one-half years of age. Two children of the same family were taken ill at the same time with similar symptoms. One died, and the autopsy confirmed the diagnosis, so it was presumed the other child also had tubercular meningitis, though it was admitted that the course of the disease was unusual in both cases. Scepticism was expressed by one or two speakers.

Mr. Battle related a case of calculus of the kidney associated with a growth in the renal pelvis. Nephrotomy and, five months later, nephrectomy, were performed. At the first operation it was expected that epithelioma would be found, but there was only a growth of the non-malignant kind, and so it was removed by scraping. The pathologist, however, reported squamous epithelioma. Subsequently the patient returned with clinical signs of innocent growth, but there was severe hemorrhage constantly, and the kidney was removed (August, 1894). He is now in good health. From examination of the kidney the pathologist now considers the case simple papilloma.

The night before last the Royal Society held its soirée. This is the "Ladies' Night," and the exhibition is very popular. Many of the exhibits were exceedingly attractive, but perhaps none excited more admiration than the telephonic communication established for the occasion with Edinburgh, Belfast, and other places. A song, distinctly heard, from the North seemed to some of the visitors to border on the incredible or the supernatural.

OUR PARIS LETTER.

(From our Special Correspondent.)

PATHOLOGY OF THE TONSILS AT THE ACADEMY OF MEDICINE; TUBERCULOSIS AND FOREIGN BODY OF; CALCULUS OF—SUPERNUMERARY URETHRA AND BLADDER—INTERMITTENT FEVER OF PARISIAN ORIGIN—DISEASED VEAL—MONUMENT TO CHARCOT, ETC.

PARIS, June 8, 1895.

THE attention of the Academy of Medicine seems to be just now called to the pathology of the tonsils. Professor Dieulafoy claimed to have proven that the tonsils were often the original seat of tubercular deposit. This he did by means of a series of inoculations of hypertrophied tonsils taken from patients, and the guinea-pigs used in the experiments invariably became tuberculous; he added, "I have examined the question in another aspect and I have endeavored to demonstrate that tuberculosis can have a descending course, that is to say, start from the tonsils and then invade the ganglia, the lymphatic system, and finally the lungs."

Professor Cornil doubted this, the more so as no histological examination of the tissues had been made—this Professor Dieulafoy had considered unnecessary, as the autopsy of the animals inoculated showed such characteristic lesions. Professor Grancher seemed to decide the question by saying that, Professor Dieulafoy had tuberculized guinea-pigs by inoculating them with fragments of hypertrophied tonsils, and if he had not proven the tuberculous nature of the hypertrophy, he had at least directed the attention of the Academy of Medicine to the frequency of the bacillus in the tonsils. The same was true of other mucous membranes, such as the intestinal membranes, which the bacillus of Koch may traverse without lesion at all, and yet go on and produce general lesions in the ganglia.

MM. Combe and Dubourquet-Laborderie presented a calculus of the tonsil about the size of a small nut. They dwelt upon the formation of these calculi, which have for point of departure, or kernel, a foreign body surrounded by mucous deposit, the salts of lime and magnesia, etc., offering an analogy with rhinoliths. Such calculi occasion sometimes severe accidents, but often, on account of the tolerance of the tonsil, they only cause a slight inflammation. Repeated and persistent amygdalitis is almost always caused by their presence in the crypts, where they are the origin of inflammation of the gland and abscesses. The therapeutical indication is antiphlogistic (gargles with carbolic acid as a base, or phenosalyl and saccharin). That failing, resort must be had to surgical treatment, discision, completed by a galvano-cauterization of the wound.

As we know that the tonsils are the starting-point of diphtheria, and as the physiology of these organs has never been made clear, it does seem as if they were only there as a causa morbi. At the same sitting Professor Pêan presented a young girl not yet menstruating, with an incontinence of urine having lasted since her birth, which, however, was not congenital, although it appeared to be. The infirmity persisting, the vulva was examined, and a sac-like protuberance discovered in the median line and on the anterior wall of the vagina, beyond the intact hymen. The diagnosis of cystocele was made. A more attentive examination then led Professor Péan to discover the true nature of the case. Introducing his index-finger into the vagina and pressing the tumor, he saw the urine come out, not of the external orifice of the urethra, but out of another opening in the median line 3 mm. below the natural one. Passing a stylet into that opening, a vesical diverticulum was found having a supernumerary urethra. To cure this infirmity the only treatment was to open the supplementary urethra and bladder, and excise them. The incision showed that the accessory urethra was 8 ctm. long, and separated by a thick tissue from the normal urethra. The pocket communicated high up and behind with the bladder. There was no orifice of ureter in the pocket.

Intermittent fever of Parisian origin is certainly a rarity here, but Dr. Ducazal admitted recently into the hospital a soldier suffering with malarial fever, who, never having had a paludal attack before, had contracted the disease at the École Militaire, where he was in garrison, near embankments that had been thrown up on the first works of the Exposition of 1,900. He had an enormous hypertrophy of the spleen that had led the physicians at first to think that he had a tubercular peritonitis and an abdominal abscess. The writer has seen many such cases in Paris, both in the hospitals and in private practice, but never one of Parisian origin—all had come from malarious countries.

It seems that alimentary hygiene is still interesting the committee on sanitation, and M. Vallin has just read a paper on alimentary poisoning caused by veal. This poisoning, or intoxication, as he calls it, is caused by eating veal that has died of infectious diarrhœa or septico-pyæmia. This disease should be noted by veterinarians, and the attention of the authorities directed to the matter.

A monument is soon to be erected to the illustrious Charcot by his fellow-professors, students, friends, and admirers in general throughout France, and it now seems the world. At a recent meeting of the committee under the presidency of Professor Brouardel, it was found that there were actually in the treasury, including subscriptions, 40,000 francs. It is noteworthy that a very large proportion of the subscribers are foreigners. The execution of the work is to be given to M. Falguière—a personal friend of Charcot.

HOW TO GET PRACTICE.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Referring to the article, "An Ingenious Medical Man" in the MEDICAL RECORD, June 15th, and credited to the *Medical Press*, I am reminded of a similar device, if not the same out of which the *Press* article has been evolved, attributed to a physician of Montpelier, published in *The Penny Magazine*, London and New York, April 6, 1833, as follows: "Dr. F——, a physician of Montpelier, was in the habit of employing a very ingenious artifice. When he came to a town where he was not known, he pretended to have lost his dog, and ordered the public crier to offer, with beat of drum, a reward of twenty-five louis to whoever should bring it to him. The crier took care to mention all titles and academic honors of the doctor, as well as his place of residence. He soon became the talk of the town. "Do you know," says one, "that a famous physician has come here, a very clever fellow; he must be very rich, for he offers twenty-five louis for finding his dog." The dog was not found, but patients were. Also in the same journal the following: "New Way to Get Practice." A poor physician, with plenty of knowledge and no practice, imparted his troubles to one of his friends. "Listen to my advice," says the other, "and follow it. The Café de la Régence is in fashion; I play at chess there every day at two o'clock, when the

crowd is thickest. Come there too; do not recognize me, and do not speak a word, but seem in a reverie; take your coffee and always give the waiter the money in a piece of rose-colored paper; leave the rest to me." The physician followed his advice, and his oddity was soon remarked. His kind friend said to the customers of the coffee-house: "Gentlemen, do not think ill of this man because he seems an oddity; he is a profound practitioner; I have known him these fifteen years, and I could tell you of some wonderful cures that he has performed; but he thinks of nothing but his books, and never speaks except to his patients, which has prevented me from becoming intimate with him; but if ever I am obliged to keep my bed, he is the doctor for me." The friend went on in this way, varying the style of his panegyric from time to time, till by degrees all his auditors consulted the doctor with the rose-colored paper.

J. T. HOWARD, M.D.

WASHINGTON, D. C., June 18, 1895.

THE TREATMENT OF CHOLERA.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In the synopsis, in a recent issue of the MEDICAL RECORD, of a paper on cholera, read by Dr. Elmer Lee before the American Medical Association at Baltimore, he is made to say, "Calomel, salol, and quinine have all proven broken reeds."

If Dr. Lee knows of instances in which any considerable number of cholera patients, treated with quinine by the mouth in doses at the rate of about ten grains an hour, have failed to show the best results yet continuously obtained by any treatment known, or that may be hoped of any treatment yet to be devised, it is most certainly a duty he owes to the profession and to humanity that he should make the same known.

As I have shown in this journal and elsewhere, the quinine treatment was killed by intravenous and hypodermatic injections of the drug, and because it failed to reach the germ in the intestinal tract on its route to the kidneys when so administered.

Professor Koch virtually places it highest of all in its control of growth of the germ, and Dr. Graham, who learned his method in the laboratory of that great scientist, demonstrated that in strength of 1 to 2,500 to 1 to 1,000, it kills the germ in time varying from one-half hour to ten minutes.

From 1831 onward, in every epidemic up to and including that of 1873 in the Mississippi Valley, wherever given, in powder or in solution, by the mouth, in doses approximating the above, it has invariably shown the remarkable power in controlling the disease which we would expect from its demonstrated effect upon the germ, and for partial failures the best reasons have been educed. If Antonio Putrelli, Venice, 1831, reduced the mortality to but thirty-three per cent., it was because he gave the remedy in eight-grain pills, which, made up with any of the old excipients, would, with the rapid peristalsis of cholera, rattle down the intestinal tract, to be discharged at the anus like a stone from a catapult. If Dr. Van Meerdervoort (who, Bayard Taylor says, was first to demonstrate anatomy to the Japanese doctors) succeeded in reducing the ordinary mortality of the disease in Nagasaki of sixty to sixty-five per cent. to but 29.22 per cent., it was because of the large number of cases that he attended, an average of over eight hundred yearly in "three different fearful epidemics" (Nagasaki, 1857–63), scattered variously about the city; he being the only European physician in that city of sixty thousand souls, and rarely called until the disease was well advanced.

In Europe and America I have collected the records of cases to the number of six hundred and seventy-nine of what was undoubtedly cholera of statistic grade of severity with a loss of but thirty-two patients, less than 4.8 per cent. mortality, and almost exactly one-tenth that of the Hamburg epidemic, according to Professor Rumpf, director of hospitals in that city. Moreover, I deny that twelve of these thirty-two fatal cases have any right whatever to a place in these statistics, as they were deaths that occurred in the Tennessee Penitentiary in the epidemic of 1873, after they ceased treating the disease as pernicious intermittent and began with the polytherapy of cholera. Until then, for a period of twenty-six days, with a daily average of fifty-seven patients under treatment, in an epidemic in which 7,356 cases were reported, of whom 3,800 died, in an outbreak that previously to commencement of the quinine treatment had developed a mortality-rate of sixty per cent., and thereafter caused in the city of Nashville, Tenn., 1,000 deaths, upon a dietary of fresh vegetables and sauerkraut, in a Southern penitentiary, there was not a death.

Quinine a broken reed! Have men in the Ohio Valley yet to demonstrate their capacity for ratiocination along straight lines?

That there may be other good treatment which will succeed in reducing the mortality in an epidemic of cholera below the fifty per cent. rate is most sincerely to be hoped. That this has not yet been done is apparent, and experimentation in cholera epidemics is costly in human life.

That any treatment contemplating enteroclysis as its method of administration will give the best results in an extensive epidemic, is a matter of grave doubt, to say the least. Fairly good results may accrue in hospital practice where there is every appliance and physicians who have the requisite skill in getting the tannic-acid solution, for instance, beyond the ileo-cæcal valve, as tannic acid has one twenty-fifth the power over the germ awarded by Koch to quinine. Unfortunately, the most of the cholera so far in the United States has been in the Mississippi Valley, and much of it in country practice. Where a physician has to ride ten miles in one direction to see some of his patients, and then as far in another direction to see the rest, I doubt the practicability of this method.

Outside the great cities of our Atlantic seaboard is a stretch of American territory, of which San Francisco is yet some hundreds of miles east of the centre, where, for the most part, such means of administration could not be relied upon.

As to the hydropathic treatment proposed by Dr. Lee, I am glad to furnish a case in point—that of a German, thought to be dying of cholera when it prevailed in this city in 1852. In answer to a supposed last request a pitcher of water was furnished him, which he drank, then another, which he also drank and recovered, to become afterward one of the principal manufacturers of the State. All very well, but for the other German, who under like conditions had his last request also granted—ate, drank, and recovered. The last fellow had a plate of Limburger and a bottle of beer.

There are few things more likely to be vomited in disturbed states of the stomach than water, unless it be warm water. As to soap and water, theory and fact are both against them, as the germ flourishes best in alkaline fluids, and, moreover, both the Ganges and the Elbe consist in the main of water.

ERSKINE B. FULLERTON, M.D.

COLUMBUS O., June 19, 1895.

Science and Christian Science.—A student in one of the colleges for women in a New England town recently informed the faculty that she could no longer attend the lectures on hygiene, as the theories there taught were opposed to the teachings of Christian science.

THE AMERICAN HUMANE ASSOCIATION.

To the Editor of the Medical Record.

Sir: My attention has just been called to an editorial in your issue of June 8th, wherein a similarity of names has led to an error which I trust you will afford me an opportunity to correct. The American Humane Association, which has issued circulars requesting the opinions of members of the medical profession and others regarding vivisection, has nothing whatever to do with the American Humane Education Society of Boston, whose efforts in certain directions you have made the subject of criticism.

May I add that the results of the census of opinions in regard to experimentation upon living animals will hardly justify your very pessimistic conclusions? The inquiry was not instituted to "secure evidence" of any kind, but rather some careful expressions of opinion from those qualified to give them. So far from the replies coming mainly from "those who have taken some fanatical interest in the subject," and who "give their vote for antivivisection," answers have come from some of the leading scientific men in this country and Europe, and the majority thus far received are not from the class you designate. To physicians and surgeons of the highest eminence in this country and Europe, the American Humane Association is indebted not merely for signatures to some one of its statements, but for letters carefully defining their position in regard to the whole question of restriction or non-restriction. Certainly no American physician need hesitate to have his views on any subject contrasted with those of Sir John Eric Erichsen, Sir Joseph Fayrer, Dr. Forbes Winslow, and Dr. Robert Braithwaite.

Albert Leffingwell, M.D.

Cambridge, Mass., June 20, 1895.

SOME STATISTICS ON PARESIS.

To the Editor of the Medical Record

Sir: Your editorial of June 1st, giving rural district returns as to the number of cases of paresis, and its frequency compared with that of former years, may be supplemented with similar returns from the male asylum at Ward's Island, New York City.

The occurrence, or rather the recognition, of paresis has apparently taken place rather abruptly during the year 1873; previous to this time "ramollissement," "peri-encephalitis," etc., obscure and bewilder occasional accurate diagnosis so as to make statistics unreliable. For the past twenty years there seems to have been an almost mechanical uniformity in ratio between paresis and all other forms of insanity.

During the period from 1875 to 1895 the number of cases of paresis (diagnosed at death) was as follows:

1875 to 1880,	total deaths,	658;	paretics,	215,	or 32	per cent.
1880 " 1885,	" "	861;	"	314,	" 36	" "
1885 " 1890,	" "	1,140;	"	397,	" 34	" "
1890 " 1891,	" "	233;	"	78,	" 32	" "
1891 " 1892,	" "	290;	"	87,	" 30	" "
1892 " 1893,	" "	293;	"	92,	" 32	" "
1893 " 1894,	" "	263;	"	88,	" 33	" "
1894 " 1895,	" "	287;	"	95.	" 33	" "

Thus giving out of a total of 4,025 deaths, 1,366 cases of paresis, or about thirty-three per cent. of deaths from all forms of insanity.

So much for the dead who died of paresis, and these alone rather point to a previous non-recognition than an increased frequency.

Of the admissions, the past five years show the same uniform progress. In 4,628 male admissions, there were 705 cases of paresis, or about fifteen per cent. The death records of this disease reveal a remarkable range in duration, the maximum being thirty-five years. The oldest person at death, seventy-nine; the youngest, twenty-two. The number of syphilitics, 185. Socially the married are to the single, as three to one: to the widowed, as twelve to one; while the divorced stand as one man.

Louis C. Pettit, M.D.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending June 29, 1895.

	Cases.	Deaths.
Tuberculosis	73	117
Typhoid fever	8	5
Scarlet fever	55	5
Cerebro-spinal meningitis	2	0
Measles	251	25
Diphtheria	243	27

The License to Practise Medicine in the State of New York.—The Law Now in Force.—We present our readers with the full text of the Medical Law of the State of New York, with all amendments to date:

Laws of New York, 1893, ch. 661.—Previous laws relating to practice of medicine were repealed May 9, 1893, when this law took effect.

§ 140. Qualifications.—No person shall practise medicine after September 1, 1891, unless previously registered and legally authorized or unless licensed by the regents and registered as required by this article; nor shall any person practise medicine who has ever been convicted of a felony by any court, or whose authority to practise is suspended or revoked by the regents on recommendation of a State board.

§ 141. State Boards of Medical Examiners.—There shall continue to be three separate State boards of medical examiners of seven members each, each of whom shall hold office for three years from August 1st of the year in which appointed. One board shall represent the Medical Society of the State of New York, one the Homœopathic Medical Society of the State of New York, and one the Eclectic Medical Society of the State of New York. Each of these three societies shall at each annual meeting nominate twice the number of examiners to be appointed in that year on the board representing it. The names of such nominees shall be annually transmitted under seal by the president and secretary prior to May 1st to the regents, who shall, prior to August 1st, appoint from such lists the examiners required to fill any vacancies that will occur from expiration of term on August 1st. Any other vacancy, however occurring, shall likewise be filled by the regents for the unexpired term. Each nominee before appointment shall furnish to the regents proof that he has received the degree of doctor of medicine from some registered medical school and that he has legally practised medicine in this State for at least five years. If no nominees are legally before them from a society the regents may appoint from members in good standing of such society without restriction. The regents may remove any examiner for misconduct, incapacity, or neglect of duty.

§ 142. Certificate of Appointment; Oath; Powers.—Every medical examiner shall receive a certificate of appointment from the regents, and before beginning his term of office shall file with the Secretary of State the constitutional oath of office. Each board, or any committee thereof, may take testimony and proofs concerning all matters within its jurisdiction. Each board may, subject to the regents' approval, make all by-laws and rules not inconsistent with law needed in performing its duties; but no by-law or rule

by which more than a majority vote is required for any specified action by the board shall be amended, suspended, or repealed by a smaller vote than that required for action thereunder.

§ 143. EXPENSES.—From the fees provided by this article the regents may pay all proper expenses incurred by its provisions, except compensation to medical examiners ; and any surplus at the end of any academic year shall be apportioned among the three boards *pro rata* according to the number of candidates whose answer papers have been marked by each.

§ 144 OFFICERS ; MEETINGS ; QUORUM ; COMMITTEES.—Each board shall annually elect from its members a president and a secretary for the academic year, and shall hold one or more meetings each year pursuant to call of the regents, who may also call joint meetings of the three boards or of their officers. At any meeting a majority shall constitute a quorum ; but questions prepared by the boards may be grouped and edited, or answer papers of candidates may be examined and marked by committees duly authorized by the boards and by the regents.

§ 145. ADMISSION TO EXAMINATION.—The regents shall admit to examination any candidate who pays a fee of $25 and submits satisfactory evidence, verified by oath if required, that he : 1. Is more than twenty-one years of age ; 2, is of good moral character ; 3, has the general education required in all cases after August 1, 1895, preliminary to receiving the degree of bachelor or doctor of medicine in this State ; 4, has studied medicine not less than three full years, including three satisfactory courses, in three different academic years, in a medical school registered as maintaining at the time a satisfactory standard ; 5, has either received the degree of bachelor or doctor of medicine from some registered medical school, or a diploma or license conferring full right to practise medicine in some foreign country.

The degree of bachelor or doctor of medicine shall not be conferred in this State before the candidate has filed with the institution conferring it the certificate of the regents that three years before the date of the degree, or before or during his first year of medical study in this State, he had either graduated from a registered college or satisfactorily completed not less than a three years' academic course in a registered academy or high school ; or had a preliminary education considered and accepted by the regents as fully equivalent ; or had passed regents' examinations in arithmetic, elementary English, geography, spelling, United States history, English composition, and physics. Students who had matriculated in a New York medical school before June 5, 1890, shall be exempt from this preliminary education requirement, provided the degree be conferred before August 1, 1895. The regents may in their discretion accept as the equivalent for any part of the third and fourth requirement, evidence of five or more years' reputable practice of medicine, provided that such substitution be specified in the license.

§ 146. QUESTIONS.—Each board shall submit to the regents, as required, lists of suitable questions for thorough examination in anatomy, physiology, and hygiene, chemistry, surgery, obstetrics, pathology and diagnosis, and therapeutics including practice and materia medica. From these lists the regents shall prepare question papers for all these subjects, which at any examination shall be the same for all candidates, except that in therapeutics, practice, and materia medica all the questions submitted to any candidate shall be chosen from those prepared by the board selected by that candidate, and shall be in harmony with the tenets of that school as determined by its State board of medical examiners.

§ 147. EXAMINATIONS AND REPORTS.—Examinations for license shall be given in at least four convenient places in this State, and at least four times annually, in accordance with the regents' rules, and shall be exclusively in writing and in English. Each examination shall be conducted by a regents' examiner, who shall not be one of the medical examiners. At the close of each examination the regents' examiner in charge shall deliver the questions and answer papers to the board selected by each candidate, or to its duly authorized committee, and such board, without unnecessary delay, shall examine and mark the answers and transmit to the regents an official report, signed by its president and secretary, stating the standing of each candidate in each branch, his general average, and whether the board recommends that a license be granted. Such report shall include the questions and answers and shall be filed in the public records of the University. If a candidate fails on first examination, he may, after not less than six months' further study, have a second examination without fee. If the failure is from illness or other cause satisfactory to the regents, they may waive the required six months' study.

§ 148. LICENSES.—On receiving from a State board an official report that an applicant has successfully passed the examinations and is recommended for license, the regents shall issue to him, if in their judgment he is duly qualified therefor, a license to practise medicine. Every license shall be issued by the University under seal and shall be signed by each acting medical examiner of the board selected and by the officer of the University who approved the credential which admitted the candidate to examination, and shall state that the licensee has given satisfactory evidence of fitness as to age, character, preliminary and medical education, and all other matters required by law, and that after full examination he has been found properly qualified to practise. Applicants examined and licensed by other State examining boards registered by the regents as maintaining standards not lower than those provided by this article, and applicants who matriculated in a New York State medical school before June 5, 1890, and who receive the degree M.D. from a registered medical school before August 1, 1895, may without further examination, on payment of $10 to the regents and on submitting such evidence as they may require, receive from them an indorsement of their licenses or diplomas conferring all rights and privileges of a regents' license issued after examination.

If any person, whose registration is not legal because of some error, misunderstanding, or unintentional omission, shall submit satisfactory proof that he had all requirements prescribed by law at the time of his imperfect registration and was entitled to be legally registered, he may, on unanimous recommendation of a State board of medical examiners, receive from the regents under seal a certificate of the facts, which may be registered by any county clerk and shall make valid the previous imperfect registration.

Before any license is issued it shall be numbered and recorded in a book kept in the regents' office, and its number shall be noted in the license. This record shall be open to public inspection, and in all legal proceedings shall have the same weight as evidence that is given to a record of conveyance of land.

§ 149. REGISTRY.—Every license to practise medicine shall, before the licensee begins practice thereunder, be registered in a book kept in the clerk's office of the county where such practice is to be carried on, with name, residence, place and date of birth, and source, number, and date of his license to practise. Before registering, each licensee shall file, to be kept in a bound volume in the county clerk's office, an affidavit of the above facts, and also that he is the person named in such license, and had, before receiving the same, complied with all requisites as to attendance, terms, and amount of study and examinations required by law and the rules of the University as preliminary to the conferment thereof ; that no money was paid for such license, except the regular fees paid by all appli-

cants therefor; that no fraud, misrepresentations, or mistake in any material regard was employed by anyone or occurred in order that such license should be conferred. Every license, or if lost, a copy thereof legally certified so as to be admissible as evidence, or a duly attested transcript of the record of its conferment shall, before registering, be exhibited to the county clerk, who, only in case it was issued or indorsed as a license under seal by the regents, shall indorse or stamp on it the date and his name, preceded by the words: "Registered as authority to practise medicine in the clerk's office of —— county." The clerk shall thereupon give to every physician so registered a transcript of the entries in the register, with a certificate under seal that he has filed the prescribed affidavit. The licensee shall pay to the county clerk a total fee of $1 for registration, affidavit, and certificate.

§ 150. Registry in Another County.—A practising physician having registered a lawful authority to practise medicine in one county, and removing such practice or part thereof to another county, or regularly engaging in practice or opening an office in another county, shall show, or send by registered mail to the clerk of such other county, his certificate of registration. If such certificate clearly shows that the original registration was of an authority issued under seal by the regents, or if the certificate itself is indorsed by the regents as entitled to registration, the clerk shall thereupon register the applicant in the latter county, on receipt of a fee of twenty-five cents, and shall stamp or indorse on such certificate the date and his name preceded by the words: "Registered also in . . . county," and return the certificate to the applicant.

§ 151. Certificate Presumptive Evidence; Unauthorized Registration and License Prohibited.—Every unrevoked certificate and indorsement of registry, made as provided in this article, shall be presumptive evidence in all courts and places, that the person named therein is legally registered. Hereafter no person shall register any authority to practise medicine unless it has been issued or indorsed as a license by the regents. No such registration shall be valid unless the authority registered constituted at the time of registration, a license under the laws of the State then in force. No diploma or license conferred on a person not actually in attendance at the lectures, instruction, and examinations of the school conferring the same, or not possessed at the time of its conferment, of the requirements then demanded of medical students in this State as a condition of their being licensed so to practise, and no registration not in accordance with this article shall be lawful authority to practise medicine, nor shall the degree of doctor of medicine be conferred *causa honoris* or *ad eundum*, nor if previously conferred shall it be a qualification for such practice.

§ 152. Construction of this Article.—This article shall not be construed to affect commissioned medical officers serving in the United States army, navy, or marine hospital service, while so commissioned; or any one while actually serving on the resident medical staff of any legally incorporated hospital; or any legally registered dentist exclusively engaged in practising dentistry; or any manufacturer of artificial eyes, limbs, or orthopedic instruments or trusses in fitting such instruments on persons in need thereof; or any lawfully qualified physician in other States or counties meeting legally registered physicians in this State in consultation; or any physician residing on a border of a neighboring State and duly authorized under the laws thereof to practise medicine therein, whose practice extends into this State, and who does not open an office or appoint a place to meet patients or receive calls within this State; or any physician duly registered in one county called to attend isolated cases in another county, but not residing or habitually practising therein. This article shall be construed to repeal all acts or parts of acts authorizing conferment of any degree in medicine, *causa honoris* or *ad eundum* or otherwise than on students duly graduated after satisfactory completion of a preliminary and medical course not less than that required by this article, as a condition of license.

§ 153. Penalties and their Collection.—Every person who shall practise medicine within this State, without lawful registration or in violation of any provision of this article, shall forfeit to the county wherein such person shall so practise or in which any such violation shall be committed, $50 for every such violation and for every day of such unlawful practice, and any incorporated medical society of the State or any county medical society of such county entitled to representation in a State society, may bring an action in the name of such county for the collection of such penalties, and the expense incurred by any such society in such prosecution, including necessary counsel fees, may be retained by such society out of the penalties so collected, and the residue, if any, shall be paid into the county treasury. Any person who shall practise medicine under a false or assumed name, or who shall falsely personate another practitioner of a like or different name, shall be guilty of a felony; and any person guilty of violating any of the other provisions of this act, not otherwise specifically punished herein, or who shall buy, sell, or fraudulently obtain any medical diploma, license, record, or registration, or who shall aid or abet such buying, selling, or fraudulently obtaining, or who shall practise medicine under cover of a diploma or license illegally obtained, or signed or issued unlawfully or under fraudulent representations, or mistake of fact in material regard, or who, after conviction of a felony, shall attempt to practise medicine, and any person who shall append the letters M. D. to his or her name, or shall assume or advertise the title of doctor in such a manner as to convey the impression that he is a lawful practitioner of medicine or any of its branches without having legally received the medical degree, shall be guilty of a misdemeanor, and on conviction thereof shall be punished by a fine of not less than $250, or imprisonment for six months for the first offence, and on conviction of a subsequent offence, by a fine of not less than $500, or imprisonment for not less than one year, or by both fine and imprisonment.

NEW BOOKS RECEIVED.

While the Medical Record *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication recived by it, which in the judgment of its editor will not be of interest to its readers.*

On Some Symptoms which Stimulate Disease of the Pelvic Organs in Women, and their Treatment by Allo Piesto-Myo-Kinetics (Massage) and by Auto-Piesto-Myo-Kinetics (Self-movements of Muscles under Pressure). By A. Rabagliati, M.A., F.R.C.S. Ed. 8vo, 77 pages and plate pages. Illustrated. Published by William Wood & Co., New York City.

The History of Prostitution. Its Extent, Causes, and Effects throughout the World. By William W. Sanger, M.D. 8vo, 708 pages. Published by the American Medical Press, New York City.

Operative Surgery. By Theodore Kocher, M.D., 8vo, 303 pages. Illustrated. Price, 20s. Published by Adam & Charles Black, London.

The Care of the Baby. A Manual for Mothers and Nurses. By J. P. Crozer Griffith, M.D. 8vo. 392 pages. Illustrated. Published by W. B. Saunders, Philadelphia, Pa.

Barnjum Bar Bell Drill. By R. Tait McKenzie. 26 pages. Illustrated. Price, $1.00. Published by Triangle Publishing Co., Springfield.

Deformities of the Human Foot: With their Treatment. By W. J. Walsham, M.B., C.M. Aberd., F.R.C.S. Eng., and William Kent Hughes, M.B. Lond., M.B. Melb., M.R.C.S. Eng., L.R.C.P. Lond. 8vo., 550 pages. Illustrated. Price, $4.50. Published by William Wood & Co., New York.

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Original Articles.

SHALL INSANE CRIMINALS BE IMPRISONED OR PUT TO DEATH?

BY J. B. RANSOM, M.D.,

CLINTON, N. Y.

PHYSICIAN TO CLINTON PRISON.

SUCH assassinations as those of Czar Alexander II., President Garfield, President Carnot, and Mayor Harrison, and the many attempts at wholesale assassinations which have occurred within a score of years, together with numerous horrifying cases of homicide—all correlative with the evolution of the modern crank—have stirred the whole social fabric to a deep feeling of concern as to what disposal is to be made of this so-called "crank element;" and, naturally enough, developed an exasperated public sentiment, sweeping in its conclusions, swift to condemn, and eager to execute.

Inasmuch as medical expert testimony has figured so largely in many of the trials of these culprits, it thus becomes a necessary and profitable question for us to consider as medical men. I shall not attempt, in a paper of this length, to go minutely into the relations which criminal life and criminal acts bear to brain conditions, but will limit myself to the consideration of medical expert testimony, particularly in cases of homicide, where insanity is made the plea of the defence.

Assuming that this State, like all civilized countries of the earth, recognizes that law of common justice and right—the exemption from, or mitigation of, the penalty consequent upon the commission of crime by the mentally irresponsible—I shall base all my conclusions upon this assumption, and upon the belief that society at large does not voice the inhuman and brutal sentiment which we hear so often expressed, that the unfortunate creature

"Who, by the hand of nature marked,"

is thus made the helpless victim of his own physical environment, should be imprisoned or put out of existence with no reference whatsoever to his responsibility. There is something too revolting, too barbarous, in this sentiment of prostituting justice to so repulsive an end, and is indefensible from any medical or moral stand-point.

I shall, then, assume that when an individual is found to be mentally irresponsible under the law, he should not be treated as a responsible criminal; in other words, that such an irresponsible being should not be sent to either a prison proper or be subject to execution.

As to what is to be done with this class of criminals is not within the sphere of this paper, but could well form the subject of an ampler one. Incidentally I should say, however, that the conditions are suggestive of restrictions in immigration, and the establishing of institutions especially designed for the care of degenerate criminals, and the enactment of adequate laws permitting their apprehension, and, if necessary, lifelong detention in such institutions. In this way only will their menace to public safety be abated. Certainly there is little deterrent benefit to be derived, or safety to be secured, by the execution of the irresponsible crank, for numbers of this kind will aspire to fulfil his mission and share his diabolical glory—if I may so express it—even at the risk of such a fate. This savors too much of the philosophy of "locking the barn-door after the horse is stolen." Apprehension, not execution, is what we want, and is best calculated to mitigate this evil.

From a considerable experience and from different sources of information I am led to believe that our present methods of apprehending and trying criminals are very much at fault, especially with reference to their mental condition. It is a fact that our prisons and penitentiaries have a large number of individuals confined therein who are mentally irresponsible, and who were undoubtedly so at the time of the commission of their crimes. In these institutions you will find all grades of the degenerate, from the imbecile up to the paranoiac, and whose crimes range from a larceny to homicide. My knowledge of those doing life-sentence for homicide has convinced me that many are of unsound mind, and I have committed a number of them to the Asylum for Insane Criminals. When we come to the death penalty, even here—in more than one case—it has been my unpleasant experience to discover meningeal adhesions over atrophic and diseased brain areas. I am making no plea for the responsible criminal, nor for the abolition of capital punishment. I am simply stating a series of facts, having their causation in conditions which I believe to be largely due to the inability of the courts to decide upon the responsibility of the accused under the law, and, through the failure of medical expert testimony—as at present introduced—to determine the mental status of criminals under indictment and to properly differentiate and classify them. In cases where the defence does not make mental incapacity a plea, the matter is left wholly to the judge to decide, and he, either through inability to pass upon such a question, or indisposition to raise the question, too often leaves it to the prison authorities to decide as to a man's mental condition. If, on the other hand, a plea for the defence is made on the ground of insanity, then the whole of the cumbersome and unwieldy machinery of medical expert testimony is set in motion, and this nightmare of confusion is precipitated upon the court.

I do not wish it to be understood that I am making a wholesale condemnation of medical expert testimony, nor that I second all of the severe animadversions made by judges and writers on medical jurisprudence, many of which are rash and altogether too sweeping in their condemnation. What I would condemn is the manner and method of the introduction of medical expert testimony and the helplessness of the courts in protecting themselves against the admission of a sort of "so-called" medical expert testimony, based either upon ignorance and prejudice, or prompted by venality and the love of notoriety.

Ordroneaux as early as 1874 said: "In fact, the calling of experts has now come to be regarded as the signal for the display of forensic pyrotechnics, beneath whose smoke and lurid glare law, common-sense, and unalloyed justice are swept away in a whirlwind of muddy metaphysics. It is needless to say, however, that all honest men look upon this as a judicial farce, and a degradation of the ethics of jurisprudence."

All experts are not thus, and it is a well-known fact that there are many competent and sincerely just ones. Neither are we unmindful of the fact that there are, and always must be, serious difficulties in the way of conclusively fixing the mental status of an accused individual. A careful study, however, of the last century's criminal trials, goes to show that gross injustice has been done in many cases; that ignorance and prejudice have too often proved too much for intelligent facts; that in many of these trials the medical expert testimony has been an exhibition of contradictions and absurdities which could only be accounted for on the grounds above mentioned, or its servile submission to public clamor, which, carried to a logical and more radical sequence, simply means Lynch law. In certain forms of insanity this seems to have been especially true. There seems also to have been an almost total want of recognition by the courts of certain mental defects, constituting a most dangerous and hopeless form of mental disease, to which I shall refer further on.

To better illustrate the above I will call your attention to two cases, which on account of their recent date and wide-spread publication, are still fresh in your minds, and in which medical expert testimony failed to arrive at conclusions based upon facts:

Case I.—Patrick Joseph Eugene Prendergast, a newsboy, aged twenty-six, who shot Mayor Harrison, of Chicago, in December, 1893, and for the history of whose case I am greatly indebted to Drs. Bannister[1] and Brower,[2] who wrote up his case thoroughly. The assassination took place just as the Mayor had successfully closed an important function of the Columbian Exposition, and so great was the shock that it was almost impossible, even for months afterward, to find a person who could dispassionately discuss the mental state of this murderer. So familiar are the details of this crime that it is unnecessary to speak of them here.

"The case was clearly one for medical expert testimony to decide upon, and the State's attorney originally called six physicians to investigate the mental condition of this man. Five of them had large experience in the treatment of the insane; the sixth was a surgeon of considerable local reputation, making no claim, however, to expert knowledge of insanity. The five physicians reached the conclusion that the man was

Fig. 1.—Prendergast.

insane. The surgeon reached the opposite. Nevertheless the public was treated to another judicial murder."

Prendergast's history well sustains the conclusion of the five physicians. "He was born in Ireland, April 18, 1868. His paternal grandfather died insane; his mother had repeated attacks of hysterics; his father died of consumption. When four years old Prendergast received a severe injury to the head by falling from a bench, and was unconscious for a considerable length of time, vomiting almost constantly for four weeks afterward. He was a peculiar child; solitary in his habits; irritable; easily excited; had a poor memory; was dull and backward in school. At puberty he became distrustful and antagonistic to his parents. At sixteen years of age he left his home on account of imaginary persecutions. At eighteen he had exaggerated opinions of his own ability; he became a fanatic on the single-tax notion; professing to be a Roman Catholic he yet criticised the Pope's administration of the Church; he wrote prayers which he claimed were efficacious against certain calamities; he claimed that his prayers and electioneering elected Mayor Harrison, and that therefore he should receive the office of Corporation Counsel, and, that once appointed, he simply needed the authority of this office to speedily elevate the tracks of the railroads, so as to put a stop to the slaughter of life at the present railroad crossings in that city. When the position was filled by a skilful lawyer, he called repeatedly upon him, and demanded him to vacate the office, to which he, Prendergast, was alone entitled. During the discussion of the Silver Bill in Congress, he wrote numerous postal cards to Congressmen instructing them how to vote, and claimed that his prayers, and not their votes, passed the measure."[1] In a very deliberate manner he shot the Mayor, and then proceeded as rapidly as possible to the police station and told the officials there that he had shot Mayor Harrison.

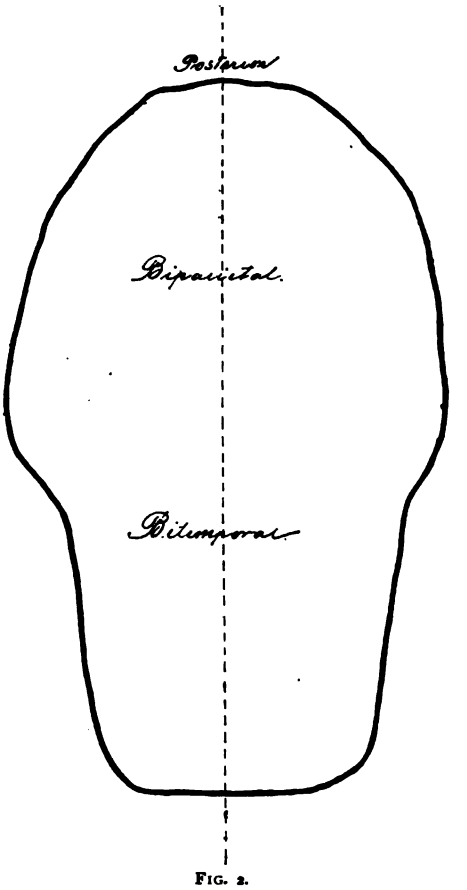

Fig. 2.

You will readily see by the picture of this man that there appears to be an unreasonable development of the lower jaw. Upon a closer examination, however, there is found an arrest of development of the bones of the face and upper jaw, extending from the upper

[1] H. M. Bannister, A.M., M.D, late Senior Physician Illinois Eastern Hospital for the Insane.

[2] H. Brower, M.D., one of the experts called by the State's attorney to examine the mental status of Prendergast.

[1] Quotations from Dr. Brower's paper on Prendergast.

border of the orbit down, producing concavity. This arrest of development carries the nose and face in

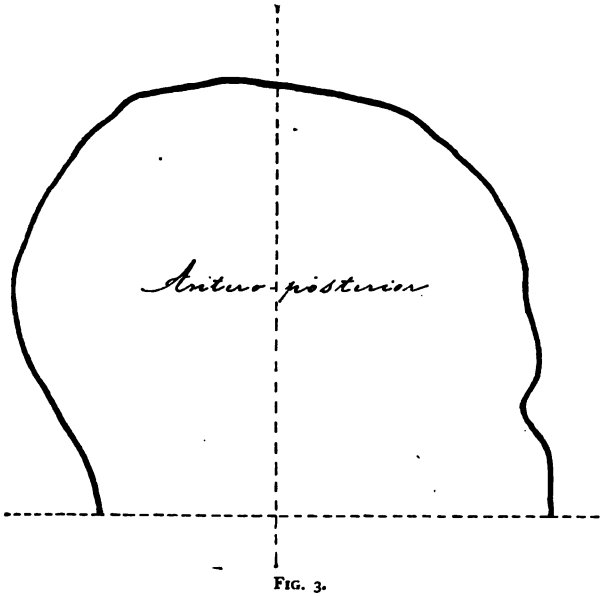

FIG. 3.

from one-quarter to three-quarters of an inch from its normal position. As a result of the arrest of development of the upper jaw, certain forms of irregularities of

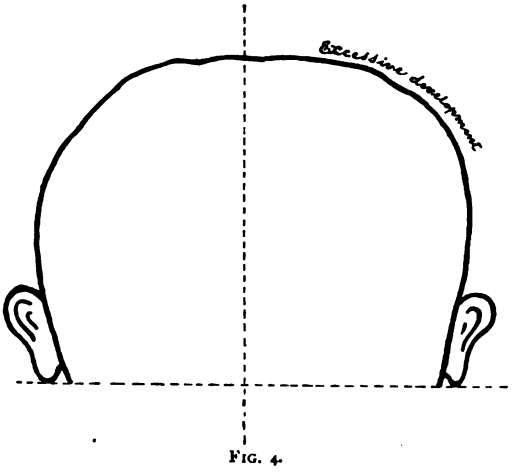

FIG. 4.

the teeth occur, as you will notice on Fig. 5.[1] On the photograph you will further notice the typical degenerate ear of Morel. Other structures of the body, such

FIG. 5.

as hair, skin, and lymphatic glands, were abnormal. These arrests of development occurred early in life, before the sixth year, and were due to defects in the cell-structure of the brain governing then utrition of these parts.

Figs. 2, 3, and 4, show the outlines of the skull. Like the facial bones they are very remarkable. You will notice that the antero-posterior and biparietal diameters are not very much of a departure from the normal type. The bitemporal diameter, on the contrary, is most unusually so. Such a remarkable arrest of development of the frontal region of the skull, as the outlines on Figs. 2 and 3 show, indicates that the higher intellectual faculties and consequent self-control are very deficient. These same figures also show the unusually large development of the lower mental faculties. Fig. 4 shows a marked depression on the top of the head. I chiefly wish to call your attention to the small intellectual and controlling power of such a developed brain. These facts go clearly to show that this man was a creature of impulses, and not of reason. In other words, impulse was the mastering element, the moving force of his nature, and he knew or could know no law of volition. Prendergast evidently belonged to that class of degenerates called paranoiacs, fitting closely the descriptions of Gray, Régis, and Kirchhoff,[1] who attribute to them self-exaltation; systematized progressive delusions; tendencies toward political homicides, apparently premeditated, well calculated, and consistent with their delusions. Such persons need but an inspiration to develop delusional impulses, which are executed with astonishing rapidity, decisiveness, and fiendish cunning.

This man labored under the delusion that it was a divinely imposed duty for him to slay the Mayor, and to see that track-elevation might be effected, and lives accordingly saved. This was emphasized by his eagerness to give himself up to the officers of the law, and the assertion that he would do the same thing over again, believing "that the God who had commissioned him would have him under his special care." It seems convincing enough to the average mind that this man was insane, and yet, in spite of this, and the fact—as before stated—that five medical experts out of six testified that he was insane, it proved to be insufficient to protect him from the injustice which public clamor visited upon him, and he was executed.

FIG. 6.—Lizzie Halliday.

CASE II.—Mrs. Lizzie Halliday, the Sullivan County triple murderess. This woman's case and trial are of so recent date that it will be unnecessary to enter into details with reference to them. She was born in Ire-

[1] The photographs and drawings illustrating this case are all copied from Dr. Brower's paper on Prendergast.

[1] L. C. Gray, M.D., New York City; E. Régis, Jr., M.D., Chief of Clinique of Mental Diseases, Faculty of Medicine, Paris, France; T. Kirchhoff, M.D., Physician to Schleswig Insane Asylum, Kiel.

The vegetable food is, as a rule, here very well borne. Strained pea- and bean-soups may be recommended very highly on account of their richness in albumen. Kumyss or matzoon, or sometimes bonny-clabber well beaten with a spoon, or plain milk with the addition of bread or crackers with butter are highly commendable. Permit meats only in small quantities, best well hashed and broiled or the white part of chicken. Brain, sweetbread, fish, and raw oysters are very suitable. In the grave cases it is advantageous to administer meat powder (two to three tablespoonfuls or even more, pro die, in soup or milk). The usual beverages, as tea, coffee, cocoa with milk and sugar, besides small quantities of beer or stout, are allowed.

Here also, like in all other chronic disturbances of the digestive tract, it will be of importance to pay attention not only to the quality but also to the quantity of food taken. And here the greatest stress must be laid that a sufficient quantity of food is taken. It is always preferable to have patient partake of a too big quantity of food rather than of a too small one, by which a condition of subnutrition is so often established.

When the intestine has adapted itself to the greater amount of work and the nutrition goes on a well-regulated basis, the achylia gastrica need not cause any trouble whatever, and the patient may enjoy perfect euphoria.

20 East Sixty-third Street.

A CASE OF ICHTHYOSIS CONGENITA WITH SOME UNUSUAL FEATURES.[1]

By JOHN CABOT, M.D.,

Clinical Assistant, Vanderbilt Clinic, Dermatological Department, New York.

My aim being to present a practical contribution, I shall omit all general references and discussion, and confine myself to reporting the case, with a brief *résumé* in conclusion.

Bertha Z——, fourteen months old, born in this country of German parentage, sent to me through the kindness of Dr. Philip Roth, Jr., of Newark, N. J., and first seen November 10, 1894.

The history, as gathered from the mother, is that both parents and two older children, of ten and seven years of age respectively, are healthy. The mother has had no miscarriages or premature births before, but says that this child was born at seven months of utero-gestation, although her abdomen was more distended than with either of her other children at full time. She was four days in labor, with gushes of a watery fluid, accompanied by uterine pain, every half-hour or so, with constant dribbling between pains. The child was weak and marasmic when born. The mucous membrane of the eyelids was much inflamed, ectropion existing. The eyes were open, and there was inability to close them. The nostrils were occluded, and there was difficulty in breathing, so that for some days it was expected to die at any moment.

The skin was thickened, dry, red, and scaly over the entire body at birth, with scales from pin-head size to one and a half inch square, the largest being on the trunk.

Dr. Roth writes, in answer to my inquiry: "In regard to Bertha Z——'s case, would say that there was a great deal of hydramnios, so much so that when I ruptured the bag it seemed to me that it might have been about two gallons. The child was in normal position, L.O.A., and delivered easily. I will state here that I delivered the woman three times, the other children being perfectly healthy. When Bertha was born she presented the appearance of a Chinese baby, the outer canthi of the eyelids were drawn downward and inward, almost completely closing eyeballs from view. There was no vernix caseosa on child's head or body, it being perfectly dry when born. The nose was like a white, bony prominence protruding from the face, giving it a most ghastly look; the angles of the mouth were tightly drawn downward and inward, and had a cracked appearance. The ears were bound down to the head and were immovable, and looked as though they were gangrenous. There was no hair on the child's head; both nares were closed, so that I had to make an incision into each one to allow the child to breathe; the rest of the body, that is the skin, had the appearance as though the child was enveloped in oil-silk, shrivelled, and not glistening, but dull."

The baby was nursed at the breast for a short time, but there was so much difficulty from the inability of the child to suck that it was spoon-fed with condensed milk and water.

The marasmus continued for two months, after which time the child gradually gained in weight, and became healthy except for the skin lesion, and occasional attacks of bronchitis. At five months of age it had pertussis, followed by diarrhœa during the hot weather, when it again became marasmic, reviving slowly after a number of weeks' illness, and for the last two months has gained decidedly.

The eyelids were at first held firmly open, with about three-quarters of an inch interval between the upper and lower lids, the conjunctivæ being forced outward, thus diminishing the space of uncovered eyeball to about one-half an inch; this condition gradually improved under simple treatment to the point that the child is now able to bring the lids within half an inch of each other when asleep, the mucous membrane approaching to within one-eighth inch.

The hair was absent at birth, but has grown sparsely, and fallen out twice. The finger-nails have never been entirely normal, growing very long, rupial in character of late, beginning to drop from the fingers about three months ago until there is only one left.

The entire skin has been shed in different portions of the body from three to five times, that on the face and upper part of the body being most frequently thrown off, that of the lower limbs and scalp the least so; the skin peeling off in large and small flakes, leaving a reddened surface almost like natural skin, but which after a few days again becomes dry and wrinkled. In peeling off, islands of the old skin, tense and smooth, were often left, which when extending around the limb, formed tight bands and gave the appearance as if the child was outgrowing its own skin.

There has always been more or less heat in the skin; no moisture or perspiration was ever noticed.

The child has had much and varied treatment by many doctors, but without any effect.

Status Presens.—The child is well nourished, though somewhat smaller than it should be at fourteen months. Weight, 13 lbs. Length of body, 24 inches. Circumference of head, 17½ inches. Chest, 18 inches. Anterior fontanelle still open one-half inch. It is active and intelligent, but makes no effort to crawl or walk; is good-natured, and only restless when the clothing is too warm; takes cold easily. Heart, lungs, liver, and spleen negative; bowels regular. Pulse, 106. Respiration, 38. Urine clear, acid, 1.022; no albumin or sugar. No hair on the head. There is only one finger-nail, that on third finger of right hand; toe-nails normal. Ears thickened and lumpy in places; hearing normal. Eyes staring, from inability to close the thickened and stiff lids; ectropion. Sight good. The mouth is held half open, and the tongue is slightly enlarged; there are only two teeth, the lower incisors.

The hands and feet are stiffened, with almost no power of flexion or extension; the child being unable to grasp even large objects with the fingers.

The surface of the body feels warm to the touch, the thermometer showing 101.2° F. in axilla; 100.4° F. in rectum.

[1] Read before the New York Society of Dermatology and Genito-Urinary Surgery, March 20, 1895.

history or themselves. Both Figs. 4 and 7 show this excessive development, which in Lizzie Halliday (Fig. 7) is more marked.

A look at these photographs of her, which were taken while she was under confinement in Clinton Prison, shows: Nose coarse and disproportionately large;

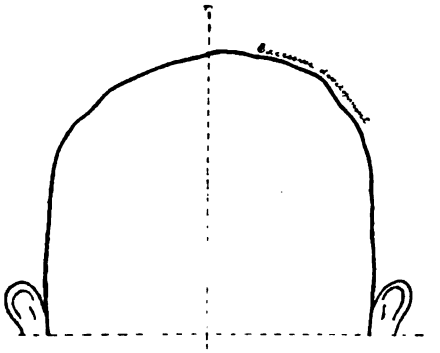

FIG. 12.

bridge flat and upturned; malars and superciliary arches prominent, mouth large, lips medium thickness, teeth fairly regular, etc. Space will not permit me to enter into a description of this woman's history and symptoms from girlhood until the time of her arrest, although it is exceedingly interesting. It is, however,

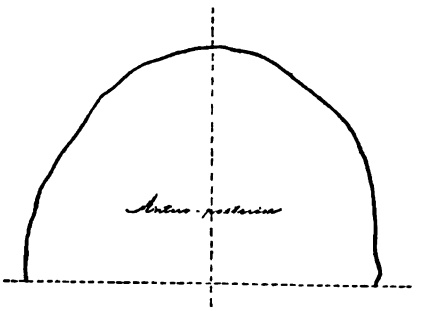

FIG. 13.

elaborately described by Dr. Blumer[1] in a paper read before the Kings County Medical Society on September 18, 1894, and I am greatly indebted to him for many valuable suggestions and quotations in the preparation of this paper. I will therefore content myself by stating that careful and painstaking research, previous to the time of the commission of the triple murder, for which she was tried and sentenced, has shown that she had always been erratic and peculiar beyond comprehension; that she had married six times—in every instance moved by some unexplainable caprice—and that she had been in two asylums in this State. There is also evidence going to show that this woman for the whole period from the time of the commission of the triple murder until her trial gave unmistakable symptoms of insanity.

She was received at Clinton Prison on June 29, 1894, and on that date came under my professional care, remaining in my charge until July 23d, same year. A careful record of observations was made daily during that time by myself and attendants.

Chief among the physical symptoms noted were rapid pulse, averaging over 100; extreme emaciation; refusal of food, necessitating forced feeding; diabetic symptoms (quantitative analysis of her urine on July 13th showing 4.5 per cent. of glucose); excessive menstrual flow; at these times she was much more violent and difficult to control; a complete anæsthesia even of the most sensitive areas of the skin, eyeballs, and nose (this analgesic condition was so complete that flies crawling over her face were never brushed away, and that tests made with the knife-point and the application of the lighted fuse failed to produce the slightest reflex, or the cessation for an instant of her incoherent jargon); drooling of larger quantities of glairy mucus from the nose and mouth; her walk was shuffling, irregular, and uncertain, and she could not maintain her equilibrium with her eyes closed.

The mental symptoms noted were: Illusions and hallucinations of sight and sound; she was violent and noisy; her habits were extremely filthy; she exhibited obsessions (or irresistible propensities), such as the ejaculation of vile language without provocation, agonizing fears of crossing a river when taken to and from her cell, constant repetition of the number 13, etc.

The following extract from Dr. Blumer's paper illustrates vividly the above: "The patient was crouching in a corner of her cell with her face turned to the wall, muttering and hallooing incoherently. When brought into the corridor she offered resistance, crying, 'Don't let me go by the river.' Her ears and nostrils were stuffed with bits of dress material. When forcibly seated in a chair she began to pick at her clothing, to spit, to stamp on the floor, and, when not restrained, pounded her thighs violently with her fists. She paid no attention to her examiners, and could not be induced to answer questions. The following were some of her incoherent mutterings, taken down at the time: 'Manure. Nicodemus. Pitchforks. Don't you stay here. No! I don't want you. Yes! You did. You took my baby. Thirteen and fourteen o'clock. Snow and bullfrogs. Take the little dress out of the drawer, and bring my little Isabella. Take them snakes away. Nineteen cords charcoal. Don't throw that over me. I can't eat that sawdust. You have got small-pox in your heels. She broke a spine of my ribs. You have got that bear sewed up in me,'" etc.

These symptoms, taken in connection with the configuration of her head unmistakably place her with that class of degenerates described by the French alienists as the phrenastheniacs, in other words, a creature of irresistible impulses, feebleness of will, yet possessed of a degree of conscious and reasoning power, and whose dominant morbid tendencies are to private murder.

Mrs. Halliday was such a being. With intelligence and reason sufficient to plan and execute, but without power to choose, without moral feeling, unknown to remorse, she only needed an exciting cause, such as some disturbance of the reproductive organs, to set in motion an impulse, which, resisted it may be for a time, yet gathering in intensity, becomes too strong for volition, the demoniacal impulse is freed from its domination, and the fiendish act is perpetrated.[1]

The picture is complete, and even if the symptoms alleged to have been feigned by the experts for the prosecution, were so, the physical symptoms above enumerated at least admit of no intelligent doubt as to her insanity. Notwithstanding this, and the fact that two expert alienists, Drs. Allison and Talcott,[2] under whose charge she had been when in asylum, testified that she was insane, this woman, principally upon the testimony of one so-called expert, was sentenced to be executed, and had it not been for the executive, who in clemency appointed the commission that declared her insane, another name would have been added to the list of judicial homicides.[3]

We have seen by the above that both Prendergast and Lizzie Halliday belonged to a class of degenerate criminals, and were both suffering from what may be termed conscious-impulsive insanity, and that both cases were decided by the courts through the agency of certain medical expert testimony, adjusting itself to suit the demand of an excited and clamorous public,

[1] G. A. Blumer, M.D., Superintendent of the State Asylum for the Insane at Utica, N. Y.

[1] H. E. Allison, M.D., Superintendent of the State Asylum for Insane Criminals at Matteawan, and who now has her in charge, believes that her crimes have been committed when she was or had recently been pregnant, and there is much to substantiate this view.

[2] S. H. Talcott, M.D., Superintendent of the Middletown Asylum.

[3] The members of this commission were Drs. G. A. Blumer, J. M. Lee, and J. D. Spencer.

in direct opposition to what we have seen to be the facts. In both cases the error seems to have arisen from a common misapprehension by the courts of just what mental responsibility means. The courts have repeatedly held that the question to decide as touching a man's mental responsibility under the law, is his ability to distinguish between right and wrong, that is, to be able to understand his moral and legal responsibility. While this applies to certain forms of insanity it is not all that is necessary in the way of a test, nor does it cover the whole ground, for it will be readily seen that by the application of this test alone to the cases above cited a rank injustice was done. The question to decide in any given case of insanity is not alone as to whether the mental perceptions admit the knowledge of the right or wrong, for which a person is held to trial, for it may be a question of the individual's power to control his impulse, a question of volition, not of a nice adjustment of moral equities. Consciousness must not be confounded with control, because, as we have seen, an insane person may be perfectly conscious of his acts, conscious of his responsibility to the law, conscious of the penalty, conscious to a degree, enabling him to use his powers of cunning to avoid the infliction of penalty, and yet in no way more responsible for the act than would be the man who, hurled from the top of some high building, falls upon a passing pedestrian and crushes him to death.

The power of controlling the acts is more or less the essential factor in insanity and irresponsibility, and more so than is the knowledge of their nature and consequences. Insanity is a disease, and not a legal question. We should not allow ourselves to be misled by the shrewd tactics of the manipulators of the law, or be influenced by the popular distrust of the plea of insanity as a defence for crime, in common parlance called " The Insanity Dodge."

If it is conceded that insanity is to lessen responsibility and to mitigate punishment, why then there is no half-way ground to be taken. This mantle of attenuation cannot justly cover only a certain type of the mentally deficient, but must extend itself over all forms and types, the inherently deficient and the degenerate as well as the demented and the melancholic. The fact that the law does not afford protection for the former class, who need it so much more than the latter against an exasperated public sentiment, is due, as before intimated, to the failure of medical expert testimony, as at present introduced, to so protect them, and in the light of these cases there has apparently been little, if any, advance made toward a more reasonable and more definite method of introducing such testimony.

It is true that occasionally a step in the right direction is taken in eliminating much that is objectionable and harmful in such trials, as was the case in a recent trial which took place in the District of Columbia.[1] But to my knowledge nothing consistent with an improved revision of the whole system of medical expert testimony has been undertaken. The question at once arises, By whom shall this needed reform be undertaken, and to whom shall we look for a first movement in the right direction? If we listen intently we may hear the indefinable mutterings of an arousing public sentiment in this regard, and I firmly believe that the first indictment lodged by that most exacting of tribunals, an awakened public mind, will be against the medical profession, and the courts will join hands with them in a mutual flagellation. The courts themselves have a way of avoiding such indictments unknown to us. Aside from this aspect of the case there remains to us as a profession the much more important necessity of preserving our professional dignity and inspiring confidence in our integrity and ability. The testifying of medical experts to diametrically opposite views in a given case is not a spectacle calculated to enhance the prestige of the profession from any point of view, or likely to increase the confidence of a critical public in the efficiency of our art. It then remains for us to act with promptness and determination, and unite in an effort toward a change in this whole method of giving medical expert testimony.

My own belief is that this whole system should be radically changed, and the right to give medical expert testimony in any court in this State should be lodged in a non-partisan State Board, appointed by the Governor and subject to approval by the Senate. I will not presume upon your time, nor upon my legal acquisitions, to more than roughly outline what seems to me would be the most likely to meet the requirements of the situation.

This Board should act in a capacity of instructors and advisory to the courts. It should consist of a sufficient number to amply provide for all criminal trials likely to take place at any time, and should be subject to the call of the proper courts. The members of this Board should be chosen from the ranks of our most expert alienists, men ripe in experience and judgment, and having an ascertained qualification. The functions and powers of this Board to be to examine with reference to the sanity or insanity of the accused, and shall therefore be empowered to call and examine any witness they may deem necessary, be they professional or lay. They shall have access to all evidence throwing any light upon the case, and it shall also be provided that both prosecution and defence shall, by showing reasonable cause, have the privilege of appealing to the courts for the calling of additional members of the said Board to also examine the accused, where the decision by the first expert called seems inconsistent. In no case shall any physician, not a member of this Board, be allowed to testify as an expert in insanity cases other than through the Board itself, and in open court his evidence shall be restricted to his knowledge of the facts in the case. This Board should receive its remuneration from the State. If it should be urged that the creation of a special Board by the State is unwise, there seems little objection to the designation of such a Board from the ranks of qualified alienists already in the State service.

I believe that it is only through some such method of procedure that the whole system of giving medical expert testimony can be purged of its incompetency, venality, sensationalism, and confusion, and that a trained, thoroughly experienced, and efficient class of medical experts can be secured. Thereby the ends of true justice can be most nearly meted out by the courts, and the medical profession, even here, as in other branches of its work, sustain the high position it so deservedly holds as a conservator of the human weal.

Mr. President, I would suggest including in the discussion of this paper the advisability of the appointment of a committee to consider and report upon the most feasible plan for an improvement in the present method of introducing medical expert testimony in cases where insanity is made the plea for the defence.

DANNEMORA, N. Y., February, 1895.

[1] See MEDICAL RECORD, November 17, 1894.

Meat Eating in England.—In the three years, 1882 to 1884, the consumption of meat in England was 108 pounds per head; and in the three years 1891 to 1893 it was 119 per head.

Medical Education for Women in Russia.—The applications for admission to the new School of Medicine for Women, which is to be opened in St. Petersburg at the beginning of the academic year 1895–96, are already so numerous that the Russian Education Department has decided that female medical students shall be admitted to the medical faculties of all the universities of the empire.

THE TREATMENT OF SUMMER COMPLAINT, OR GASTRO-ENTERITIS CATARRHALIS ACUTA, INCLUDING CHOLERA INFANTUM IN CHILDREN.

By LOUIS FISCHER, M.D.,

INSTRUCTOR IN DISEASES OF CHILDREN AT THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL; VISITING PHYSICIAN TO THE MESSIAH HOME FOR CHILDREN; ATTENDING PHYSICIAN TO THE CHILDREN'S DEPARTMENT OF THE GERMAN POLYKLINIK.

THREE years ago it was my good fortune to study some typical cases of diarrhœa in a mild and aggravated form, occurring in several hundred children, in both hospital and private practice. The results of these examinations were embodied in a paper published in the *Post-Graduate Journal*, No. 10, 1892. It was found that two classes of cases presented themselves for treatment, usually during a sudden increase in temperature of the weather; so much so, that I was led to believe, with a great many others, that there is a probability that some specific micro-organism is latent until actively developed by the sudden rise of temperature. The morbid process consists in this class of cases, chiefly of 1, vomiting, and 2, diarrhœa—the vomit depending upon the nature and the frequency of the food and the general predisposition and vitality of the patient affected; the diarrhœa, consisting likewise, as in the case of the vomit, of either undigested particles of food, greenish stools, which give a distinct reaction with nitric acid, showing the presence of bile in the passage, other stools containing mucus, cylindrical epithelium and round cells, and coming chiefly from the small intestines. We note that normally there is no bile in the large intestines, consequently all green stools emanate from the small intestines. When the mucus is not thoroughly mixed with the fæces, when the fæces are wrapped up in it, or mucus covers the fæces after evacuation, we conclude that the mucus comes from the colon, and we have colitis. Blood, when found in a bright color in stools, comes from the lower end of the bowels, and the rule that Boas in Berlin lays down is, "The darker the blood in stools, the higher up the morbid process must be looked for, whereas the lighter the color of the blood, the lower the region of the morbid or pathological process, hence it is safe to examine the anus for erosions and fissures of the anus, when the blood is bright." Duodenal catarrh can be diagnosticated only when it is complicated with jaundice; it never gives rise to diarrhœa alone. Tenesmus is observed only when the lower portion of the rectum is involved in the morbid process.

Predisposition to Diarrhœa.—Healthy infants have a normal tendency to loose liquid and semi-liquid evacuations from the bowels: 1. Partly from the condition of the intestinal tract. 2. Partly from the nature of normal food, *i.e.*, breast-milk. Peristaltic movements in a healthy child are very active. Young blood and lympathic vessels are quite permeable, and the transformation of the surface cells are active and rapid. The peripheral nerves are superficial, more so than in adults, whose mucous membrane and submucous tissue have undergone thickening by both normal development and morbid processes. Besides, the action of the sphincter ani is not very powerful. Fæces are not retained in the colon and rectum, and little time is afforded for the reabsorption of the liquid or dissolved fæcal contents. The frequency of acids (sometimes normal) in the small intestine gives rise to the formation of alkaline salts with purgative properties. Free acids when found in the intestine show that, 1, the quantity of food is too large; 2, the quantity of the digestive fluid is too small, causing fermentation instead of normal digestion.

The diastatic effect of pancreatic juice is limited at an early age, and undigested material is carried off. Colostrum secreted after birth is apt to give diarrhœa. Milk containing too much fat or too many salts, as in anæmia, is liable to produce the same effect. Let us, then, consider the first etiology of these cases, and we find: 1. Food—improper quantity and quality. 2. Improper artificial feeding. Some authors, even Jacobi, say that mother's milk may cause this pathological condition. Mothers who are sick or convalescing, or subject to strong emotions, who nurse too often, who suffer from tuberculosis or syphilis, pregnant women, some who are menstruating, and all anæmic women secrete improper milk, hence they should not nurse for the time being, or until their milk is of normal quality. 3. Influence of weather on digestion, especially the excessive heat of the summer. 4. Improper disinfection of the nipples after nursing, and consequent decomposition or formation of micro organisms, which can infect the milk. 5. Improper disinfection of the nipples before nursing. 6. Naso-pharyngeal catarrh a distinct causative factor in gastric catarth, as was shown in a paper read by me in the Section of Pediatrics at the New York Academy of Medicine in June, 1891. Published in MEDICAL RECORD on June 13, 1891.

It is not my intention to elaborate on the anatomical changes during the course of this pathological condition nor to describe the well-known post-mortem changes, which are so much more completely described in our text-books and which cannot be demonstrated on paper, but rather confine myself to the treatment *intra vitam*.

Mechanical.—The treatment which has been most successful in my hands, and which is the result of personal experience, besides advice from such authorities as Professor Baginsky, of Berlin, Dr. Hugo Neumann, also of Berlin, and a great many others. If improper food is the cause of a disordered stomach, it stands to reason that the first point of the treatment should be to remove that offensive food. For that purpose we resort to mechanical treatment, consisting of washing the stomach with the ordinary normal saline solution. When a child is brought in with a history of vomiting I proceed in the following manner: I introduce a No. 10 flexible catheter, having more than one opening, by pushing it gently against the pharyngeal wall, continuing to push it down the pharynx into the œsophagus until we reach the stomach. The tube is never anointed with oil, because there is normally so much mucus present that we have nature's own lubrication. That a No. 10 tube is not too large for a child between six months and one year of age can be proven by the fact that after we attach a long rubber tube, ending in an ordinary glass irrigator, or ending in a long glass funnel, the child frequently has plenty of room to vomit the excess of water while the tube is *in situ*, so that the calibre of the tube allows ample room for nature's relief, if necessary. Having then introduced the tube, I usually allow water of the temperature of from 90° to 105° F. to gradually flow into the stomach until about one pint has entered. In using a funnel we can syphon off the contents of the stomach by lowering the funnel below the level of the stomach. Having emptied as much as we can, I raise the funnel above the child's head and again pour a pint of this normal saline solution into the stomach, and this process can be repeated until the syphoning proves the stomach fairly clean. So much for lavage.

The question, How often shall we irrigate the stomach? depends on the amount of fermentation present, on the condition of the child following this lavage, and also on the effect of the irrigation on the vomiting which existed prior to this mechanical treatment. It is, however, customary to repeat this washing either the next or two days following the first lavage. After cleansing the stomach of this offensive food, we prescribe rest, and insist on leaving the child at least two hours without giving food of any kind. I do, however, permit a small quantity of an alkaline water, either Seltzer or Vichy, Apollinaris water, or plain boiled

(sterilized) water to be given. Lime-water may also be given undiluted *ad libitum*. It has been found by a great many authors, and I perfectly agree with them, that alcoholic stimulants are decidedly harmful in some cases, whereas they are beneficial in others. I do not, however, prescribe alcohol in any form when a child is brought to me with a high temperature, in a very acute inflammatory state of the mucous membranes, and where an acute catarrhal gastric or enteric fever exists. Having then prescribed rest for the stomach, the next thing is to discontinue milk in any and every form. It is surprising to find that even in nursing babies we can frequently work wonderful changes by discontinuing the nursing for one-half a day or one day, while cleansing the alimentary tract. Where severe diarrhœa exists, I first try to locate the lesion in the intestine by examining the nature and frequency of the stools, and we invariably keep a record of the number of stools passed in twenty-four hours. Where there is a lientery, *i.e.*, stools containing indigestible particles of foods, we note that the lesion comes from the stomach. I have previously referred to the presence of blood, mucus, and bile in the stools, and it is very important to judge the nature of these stools before resorting to treatment. In all diarrhœas, however, it is advisable to irrigate the rectum and colon, by placing the child on its left side, introducing a flexible rubber tube, using plenty of oil or vaseline for lubrication, having passed the sphincter and gently pushed the tube beyond the rectum into the colon, as far up as we can. At times a little difficulty is encountered, owing to the spasmodic contraction of the muscles, of the internal and external sphincters, but if a little patience is used no difficulty will be encountered, and the tube will glide easily into the colon. The method of irrigation of the bowels is the same we use in irrigating the stomach, excepting that we do not seek to syphon off the contents of the bowel, but rather to allow a pint or a quart, sometimes even two quarts of warm normal saline solution to flush the bowel, and in this way wash away as much of the fæces and offending *débris* as exist at the time within the bowel. I have frequently resorted to flushing the bowel with cold water, but I found a much greater benefit from the use of the warm saline solution, of a temperature of about 100° F. I have also frequently washed the bowel with a solution of boracic acid, but have never seen any decided benefit caused by it. The same may be said of astringent irrigations, such as a very weak solution of nitrate of silver and also tannin. I have also injected a 1 to 10,000 solution of bichloride of mercury, and have never seen any benefit directly attributable to any of these remedies, so that I have come to use plain warm salt water and cleanse the bowel as perfectly as possible. The frequency of cleansing depends upon the improvement shown in a given case. While some cases required irrigation every day for one week, others would be so greatly improved after one rectal washing that it was not necessary to resort to it again. In all cases, however, a great deal of judgment and common-sense will do more than using every remedy or any remedy haphazard, without giving the stomach and bowel the proper rest, especially where there is a weakened state of digestion. In a great many cases I believe that my greatest benefit was derived by insisting on feeding my patients less often and with smaller quantities than heretofore.

Medication.—Having mentioned the cleansing of the stomach and bowels by nature's own remedies, using salt water, we try next to aid nature by administering internally some antiseptic that will aid in neutralizing fermentative and septic processes that we cannot reach either by mouth or rectum in the manner described. Of all the drugs that seem to exert a good effect in the course of treatment, I have tried calomel, and believe that a small dose of the same, properly administered, will act as an intestinal antiseptic. Whether it is the mercuric chloride or not, I am not prepared to say, but I do know and have seen very beneficial changes by the administration of one-half to one grain of calomel once or twice within three or four hours following the method of cleansing the stomach and bowel, as detailed. Castor-oil, in teaspoonful doses, I believe to be a very valuable remedy, especially so because it has a tendency to constipate after it has had its eliminative effect. Bismuth is the sovereign remedy. While I have used bismuth in the form of subnitrate, salicylate, and subcarbonate, I give great preference to the continued use of the bismuth-betanaphthol. Formerly I was in the habit of prescribing naphthol with bismuth, but since the introduction of the bismuth-betanaphthol, we have a substance which, in my opinion, is the most valuable remedy that can be given to children. This latter drug has been physiologically examined at the Imperial Institute for Experimental Medicine at St. Petersburg. According to Professor Von Nencki, betanaphthol-bismuth agreed well with patients even after long-continued use. This remedy is the outcome of a great many other non-toxic products from the laboratory of Dr. F. Von Heyden, and is indicated in all forms of bacillary diarrhœa, in choleraic diarrhœa, especially, however, in those forms of acute catarrhal gastro-enteritis, as we are in the habit of seeing them in our city to-day. The naphthol combined with bismuth not only has an antiseptic effect within the intestines, but also has the astringent property of the bismuth. Vomiting never followed the administration of the drug, nor was any other symptom directly attributable to the drug which would contra-indicate its use.

Only recently a child, nine years of age, suffering from a most severe form of typhoid fever with very offensive green stools, seemed to improve very much during the course of treatment with this drug. The betanaphthol-bismuth seems to exert some influence on the offensive smell usually to be found in these typhoid and bacillary diarrhœas.

While it is not proper for me to enter into the physiological action of betanaphthol-bismuth, I entirely agree with Professor Hueppe,[1] who lauds this new remedy as a most powerful intestinal antiseptic, and recommends it as a specific in cholera. Von Nencki claims that this drug was well borne by patients and continued for a long time. He further claims that the drug, when introduced into the stomach, is partly decomposed into naphthol and bismuth. A large part of it, however, passes into the intestine, where the acid reaction and the presence of the pancreatic juice complete the disassociation. Naphtol is but partly eliminated with the urine; the residue passes through the whole alimentary canal, and is finally excreted with the fæces. The bismuth in the human subject is entirely excreted as the sulphide with the fæces; in the dog a large part becomes the soluble chloride, on account of the relatively much greater formation of muriatic acid in that quadruped. In no single case were any toxic symptoms observed, though daily doses of from seventy-five to one hundred and fifty grains were given. In our country Wilcox, in a paper, "The Preparations of Bismuth," read before the New York Clinical Society, December 15, 1894, speaks very highly of the betanaphthol, especially so in all fermentative bowel complaints. Dr. Hugo Engel, of Philadelphia, in the *New York Medical Journal*, March 30, 1895, in a paper entitled "The Therapeutic Effects of Betanaphthol-bismuth," also speaks very highly of the value of this drug. He says, in speaking of the betanaphthol-bismuth: "I have found it so reliable and so superior in intestinal complaints to all the various bismuth salts previously known, that I have determined to publish my observations for the benefit of the profession and suffering humanity."

While the use of the phenols for internal medication seems to have been limited, it can only be explained

[1] Berliner klinische Wochenschrift, 1893, No. 7.

on the ground that they are very poisonous in their free state. Their causticity makes them injurious to the gastro-intestinal mucous membrane, besides they have a very disagreeable odor and are repugnant to the taste, but in combination with bismuth the noxious properties of the phenols appear to be neutralized. Then when these substances are introduced into the system they are decomposed, the phenols being liberated exert a characteristic antiseptic effect, while the bismuth oxide that is set free combines with and fixes the toxic albumins in the intestines.

A child, one year old, can be given five grains beta-naphthol-bismuth every two, three, or four hours, as required; a child half a year old one-half the dose. I always insist on giving these powders with a little boiled (sterilized) water, and preferably when the stomach is quite free from food. If there is a great tendency to vomiting and the child does vomit the first or second dose given, it is my custom to immediately follow the vomit by administering another dose of the same quantity. I believe the fear of giving opium is exaggerated. It is one of the most indispensable drugs in the treatment of diarrhœa with pain that we have to-day. Great care must be exercised, however, to give only the required dose. I have, therefore, frequently combined Dover's powder with the bismuth phenol, sometimes giving one-tenth to one-third of a grain of Dover's powder with each dose of the bismuth; also I have had very good results from the administration of nitrate of silver, one-fiftieth to one-thirtieth of a grain, or even more, every few hours, where bleedings from dysenteric stools have existed. I do not refer to bleeding caused by the small erosions or from the ordinary tenesmus caused by fissuræ ani, which can be controlled much easier by local treatment than by administering drugs per os. It is wise, therefore, to carefully examine the anus in all these cases, where children appear to suffer very much pain from these erosions. The painting of the anus with a six per cent. solution of cocaine or the watery solution of opium will give great relief.

The antipyretic treatment of these gastro-intestinal catarrhs is one that requires great judgment. For example, we frequently have, as in acute gastritis, a sudden elevation of temperature to 105°, 106°, or even 107° F., and this hyperpyrexia can be best controlled by the administration of a bath in the following manner: We place the child in a blanket and introduce the whole body up to the neck and shoulders into water, at a temperature of 90° F. I gradually add cold water to lower the temperature of the water until it reaches 70° F. In summer, where ice is handy, I place the child into warm water and add a large piece of ice to this warm water, and in this manner allow the temperature of the water to be gradually cooled, until the bath thermometer shows a temperature of about 70°. The duration of the bath should not be more than five minutes, otherwise it will be followed by a chill which is sometimes prolonged. The frequency of the administration of these antipyretic measures depends on the condition of the child. I have frequently found that the temperature of 105° or 106° F. can be reduced by one bath three and four degrees during the bath, and that the temperature of the body still sinks one and even more than one degree after the patient is taken out of the water. The antipyretic effect of these baths will last at times two and three hours, and if the temperature again rises we can administer a bath every few hours, as we see fit. It is hard to generalize the treatment of summer complaint, because we have to individualize in most of our cases, and find that certain active measures are very well borne by one class of cases which are not at all tolerated by others. One point is important, and that is to reduce the very high temperatures that occur in the course of summer complaint, owing to the great risk that we run from continued elevation of temperature in causing convulsions and possibly death. In the management of cholera infantum I am in the habit of placing the child with a very high temperature at once into the bath as above described to reduce the elevation of the temperature as much as possible. The next step is to cleanse the stomach and bowels by irrigation as above described, so as to free the stomach from all fermentative products and render it as completely sterile from poisonous bacteria as possible, and by all means to put an ice-bag on the top of the head. While we know that sun-stroke in the adult is usually most dangerous and fatal in alcoholic subjects, we do not know how much good or harm is done by the administration of alcohol in the course of a severe cholera infantum. A large experience of these severe cases as we see them in this city, where a child is brought in in a condition of collapse, with cold extremities, covered with large beads of cold perspiration; the eyes half open, the pupils dilated, the head very hot, the fontanelle widely open, usually depressed, with rapid pulsation; liquid, watery, sometimes greenish, sometimes brownish stools, more often accompanied by vomiting; a tongue that is brown or red, studded with white spots, dry, more often protruding from the mouth; the eyes sunken, surrounded by deep black rings; little or no urine voided; the abdomen at times very tympanitic, at other times retracted; a distinct typhoid appearance, while the body has a cadaverous smell—where we have a clinical picture of extreme exhaustion, as above described, the pulse feeble, at times intermitting, in some cases 180 per minute, in others possibly 60 pulsations, and where we are in the midst of an extremely hot summer's day with the temperature of the air between 95° and 100° F. in the shade, the first duty is to cool the surroundings as much as possible. It is in these cases that so much good can be accomplished by a sudden change of air from the city to the sea on excursions, such as, for example, are given with such wonderful benefit by the St. John's Guild and other sanitariums. The well-known constipating effect of the sea air on adults is here, I believe, beneficially shown and proven by the fact that at times two hundred or three hundred children that have suffered from a continuous diarrhœa lasting a few days or more will by one small sea-voyage, lasting one day in these trips, suddenly have the diarrhœa stopped, which will continue to remain so until the next sudden approach of hot weather.

Stimulation.—The strongest nerve stimulant is musk. In urgent cases I have given 1 to 2 grains within half an hour in a little mucilage of gum Arabic until 6 grains have been given. Camphor, ¼ to 2 grains, can be rubbed up with glycerine; or 10 to 15 drops of spirits of camphor in some cases seem to do good; in obstinate cases, however, hypodermic injections of spirits of camphor prove serviceable. While it is very rare to use alcohol in any or all forms of gastro-intestinal catarrh, I have, however, injected in collapse a teaspoonful of alcohol in a pint of hot water through a flexible catheter (No. 12) into the bowels, or given a few drops of whiskey in rice gruel or barley gruel. A word more about calomel. A great many children vomit after the administration of calomel, so that it is wise not to overlook this point, but it does augment the flow of bile by stimulating the bile-ducts and hence it is a very valuable remedy. The tannate of quinine, which has been so highly recommended, I have used in our dispensaries for the last six or seven years, and have invariably resorted to other drugs; it is therefore a very poor drug to be used in this condition.

Diet.—Our next step will be to nourish our patient. If our patient is a nursling we must carefully inquire into the quality and quantity of its mother's or wet-nurse's milk. The microscopic examination of the milk will be necessary, besides the creamometer, which is recommended by Holt, can be used to estimate the quantity of fat and cream in the milk. It is wise to in-

quire into the conditions previously mentioned in this paper—*e.g.*, tuberculosis, pregnancy—when the lactation is interfered with, and if we find such conditions existing, then we must resort to hand-feeding—properly sterilized milk, diluted according to the age of the child. If the child is hand-fed it is a cardinal rule in all cases of summer complaint with vomiting and diarrhœa to discontinue milk and to give the child barley-gruel, or what I have found equally good, rice-gruel. If the child does well it is a good plan to change the food from time to time, and to give one day corn-starch or rice and the next day barley. The white of an egg or the yolk of an egg beaten up with sterilized water can also be given advantageously during the course of a diarrhœa; so also have I found some good by the administration of beef blood, made by broiling fresh steak and expressing the juice with a lemon-squeezer, and administering twenty-five or thirty drops at a time to a child of six months or over, two or three times a day. If vomiting is very persistent and the stomach has been thoroughly cleansed and cannot be controlled by the measures resorted to above, I frequently discontinue all feeding per mouth for twenty-four hours, giving the stomach absolute rest, and then resort to

Rectal Alimentation.—For this purpose I use peptonized milk (thoroughly peptonized) or the yolk of egg with starch-water, or beef blood as described above, with starch-water, or barley-gruel, using between two and four ounces for one enema. This quantity I inject into the rectum very slowly every two, three, or four hours. It is always necessary in rectal alimentation to thoroughly wash the lower bowel by using an enema of soap-water or glycerin and water before each feeding.

Hygienic.—Having attended, then, to the mechanical treatment, medication, and looked after the proper diet of our case, we next try to give our patient as much cool air as possible. I have previously referred to the importance of taking a child away from atmospheric influences, which most likely cause this pathological condition, and where this is not possible, I remove the child into the largest and coolest room of the house. Where sea-air is not obtainable, it is wise to add some sea-salt to our water in administering the baths previously mentioned, as they have a very invigorating effect. Occasional sponging with equal parts of alcohol and water or a small quantity of Florida-water brightens the children and seems to check perspiration. Children in this condition should be bathed daily, and where extreme prostration exists, they can be bathed twice daily with salt water, followed by rest and placing a small rubber bag half filled with cracked ice over the top of the head or immediately over the pulsating fontanelle and left *in situ* for a number of hours. In other cases where there are symptoms of cyanosis with cold extremities and great perspiration, with pallor of the skin, a hot mustard bath is indicated—about a handful of pulvis sinapis nigræ wrapped in some linen and suspended in water of about 100° F. Immerse the child's body and gradually raise the temperature of the bath by adding boiling water until reaction sets in; then wrap the child in warm blankets. In extreme stupor I have sometimes given to advantage a few drops of the aromatic spirits of ammonia with a little boiled water, especially where the pulsations were very feeble.

To sum up, my plan of treatment for a given case of catarrh of the gastro-intestinal mucous membrane, resulting from the combined effects of extreme heat and improper feeding, would be: 1. To irrigate the stomach as previously detailed, to free the gastric mucous membrane as much as possible from offending decomposing food and consequent fermentation. 2. To free the bowel in the same manner from all offending fæces possible by irrigating with lukewarm water and flushing the colon and rectum till the contents flow away clear. 3. Never resort to antipyretics, as antipyrin and quinine or other similar drugs, in reducing the temperature, but invariably resort to hydropathic measures, relying on the warm bath, gradually cooled from 90° to 70°. Duration of bath in all five minutes, to be repeated every few hours if necessary. 4. Placing an ice-bag on the top of the head, following the bath, and placing the patient in the coolest possible room, if we cannot have the child immediately removed to cool sea-air. 5. Unless it be a nursling, I invariably proscribe milk; and if a nursling then discontinue the breast at least one-half day to give the stomach absolute rest. 6. I administer beta-naphtol-bismuth in doses of five to ten grains to a child of one year every two, three, or four hours, depending on the nature of the case. 7. If vomiting persists and cannot be controlled by medication, I resort to rectal feeding, and administer the bismuth in a small suppository, also per rectum, but invariably doubling the dose required per mouth. 8. I invariably warn against the danger of administering alcohol, and any wine or beer. I administer alcohol, if at all required, myself, per rectum, as detailed above. 9. Cold sponging to check the perspiration with equal parts of alcohol or water or using bay rum is very refreshing and grateful, besides doing service in cooling the body. 10. Where cyanosis and very cold extremities exist, we have to individualize our treatment and sometimes resort to hot mustard baths, in preference to previous hygienic measures detailed.

It is important to remark that the cause of all or nearly all gastro-intestinal disorders originates in the stomach by and through not only the food given, but an improper assimilation of the same, due no doubt to atmospheric surroundings, and hence a complete breaking off and stopping of feeding per mouth is very beneficial to a great many cases, and where, therefore, we have extreme vomiting, which cannot be controlled by other means, the importance of rectal feeding and absolute rest of the stomach cannot be overlooked.

187 Second Avenue.

A CASE OF EXOPHTHALMIC GOITRE, WITH MONOCULAR SYMPTOMS AND UNILATERAL THYROID HYPERTROPHY.[1]

By PERCY FRIDENBERG, M.D.,

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Since Graves's classical observations first drew attention to the symptomatic combination of thyroid hypertrophy, cardiac palpitation, and "Anæmic Protrusion of the Eyeballs," and Basedow, independently, and but a few years later, described similar symptoms as characteristic features of a distinct "Exophthalmic Disease" (Glotzaugen-Cachexie) no completely satisfactory theory has been advanced in explanation of the pathology and etiology of the interesting affection, which as Graves's or Basedow's disease, represents a very definite and not uncommon clinical entity.

In view of the present state of our knowledge on this subject the report of a case of exophthalmic goitre, with the unusual features of limitation of ocular symptoms to one side, and unilateral enlargement of the opposite lobe of the thyroid gland, may not be without interest.

The patient in whom this rare variation was observed applied for treatment on November 3, 1894, at the New York Eye and Ear Infirmary, and was referred to me for an examination of the refraction by Dr. Gruening, to whom I am indebted for permission to report the following notes: The patient, Mrs. A. J——, is twenty-four years of age. Her father and mother are living, and in perfect health, aged respectively fifty-four and forty-eight years of age. Six sisters and four brothers,

[1] Read before the Section on Ophthalmology of the New York Academy.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

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THE ENLARGEMENT OF THE MEDICAL RECORD.

WE are again called to do a pleasant duty to our readers and contributors. The MEDICAL RECORD has grown so steadily in the capacity and worth of its material that it has been deemed advisable to increase still further the number of its pages and to enlarge correspondingly its capacity for usefulness to its subscribers, contributors, and advertisers. With the commencement of the present volume there will be an increase of *four extra pages to each issue*, making an aggregate addition for the year of over four hundred double columns, an equivalent in their turn to an ordinary-sized octavo of nearly eight hundred pages, *with no increase of cost to its subscribers.*

In view of this fact the conviction must continue to force itself upon every one that such a course is warranted by a success unprecedented not only in American medical journalism, but, we believe, in the world. It must also be evident, judging from these tangible and uncontrovertible evidences of success, that the end has been gained by a wide-spread appreciation of our policy of independence, fairness, and enterprise.

It will be our aim, with the increased facilities at our command and the liberal and expansive purpose of compassing a still larger field, to make the MEDICAL RECORD more than ever a thoroughly cosmopolitan journal, in which not only the interests of the great medical centre are represented but those of the entire country are duly and impartially considered.

Numerous changes will be made in the course of the year to realize this policy, and no pains nor expense will be spared to make it still more representative of the practical needs of the profession of the entire country. We will thus strive to give a metropolitan journal a thoroughly cosmopolitan scope, being only systematized in its efforts by the convenience and necessity of an actively working focal centre. In following such a course there is no intention of interfering with or militating against the interests of local journalism in near or far-off districts; such periodicals have functions of their own, and their proper fulfilment is as necessary and as important as those that apply to the larger publications. The wide-awake practitioner must be informed of the doings of his local societies and of all matters within the direct touch of his individual work, and must necessarily leave the consideration of wider interests to the larger and more widely circulated metropolitan weeklies. Each journal has its place, and each, to do its work faithfully, supplements and amplifies that of the other. We believe in local journals as well as cosmopolitan ones. They have a common interest, only the lines of usefulness stretch in different directions.

Thus we can help each other on the broad principle of a generous rivalry in the common cause, and in the ultimately laudable aim of advancing the interests of the profession and promoting that active dissemination of scientific truths which makes medicine the most progressive of all the sciences.

THE PRESENT MEDICAL LAW OF NEW YORK.

ELSEWHERE we publish a full text of the medical law of the State. Some day, perhaps, the few familiar with the struggle involved in securing these legislative enactments, now compiled in one law, will relate the history of the conquest. In the near future we propose to call attention to some of the more important features of the law's requirements. Of course the general theory of the law is that the State should be the final adjudicator of the credentials presented by those who desire to practise medicine within its borders. The M.D. degree has thus ceased to be anything more than an honorary title conferred by a private corporation. Although it is true that no one without it can be admitted to the State licensing examination, the supreme test of ability to practise is now vested in the State, which in turn delegates its power to twenty-one examiners (seven from each of the incorporated State Medical Societies) who are sworn to do their duty as State officials.

Under paragraph 148 of the law licenses conferred by other State examining boards may be indorsed by our State regents, but the standards of these other State boards must not be "lower than those provided by this article." Because of these quoted lines no license from a sister State has yet been indorsed, as no other State meets the standard of our preliminary requirements. It would be manifestly unfair to our own State medical colleges, and would constitute an unjust discrimination against our own students, were we to enforce No. 5 of paragraph 145, and in turn permit licentiates of other boards, no matter how severe the medical tests, to register in our State without having submitted to the same or to similar preliminary academic tests. Our New York medical colleges may for a time lose students because of the prohibitive features of paragraph 145; but in the long run this advance of standard will redound to their financial status, as it now advertises their determination to build up medical colleges of which the citizens may be proud and their graduates boastful. The effect of the recent medical laws thus far has been to drive incompetent doctors from our doors, to prolong courses of medical study, to add new studies to the curriculum, and to elevate the tone of the profession as well as to improve its *personnel.* Thus it will be seen that much has been accomplished, but until the average longevity is increased, and the average mortality of the community is decreased, the

hysterical manifestations in chlorotic girls, and, in a number of cases, true endemic or sporadic goitre with pressure symptoms on one side,[1] were all thrown into the convenient category of morbus Gravesii. A large number of the cases compiled by Hirschberg[2] in his historical and critical essay are found on reference to the original articles to be ordinary bilateral cases;[3] in others there was a difference, more or less marked, in the degree of protrusion of the two eyes,[4] while in a third series there was only temporary limitation of symptoms to one side, the exophthalmos appearing somewhat later in one eye than in the other.[5] Excluding the doubtful cases, I find the following references to the condition under discussion:

Demours,[6] observed in a young girl, eleven years of age, a prominence of the left eye of one and a half lines, which had persisted for three years. The patient had had slight thyroid enlargement since birth. Her mother showed a disposition to thyroid enlargement since childhood, and after her first confinement developed a goitre, which steadily increased in size.

Desmarres,[7] reported, under the title "De l'Exophthalmie produit par l'hypertrophie du tissu celluloadipeux de l'orbite," several cases of Graves's disease, in one of which he observed unilateral exophthalmos of a slight degree in the right eye of a young woman, aged thirty, who suffered from nervousness, palpitation, and thyroid hypertrophy. There was retraction of the upper lid; the sight was perfect and motility normal. After treatment for three months with potassium iodide internally and unguentum iodi applied locally, the condition improved noticeably. In his general remarks on this subject Desmarres draws a graphic picture of the physiognomy in this affection, and in particular calls attention to a symptom which Stellwag is supposed to have discovered sixteen years after Desmarres described it in the following words:

"Lorsqu'on regarde attentivement un malade atteint de cette affection, on remarque, comme premier symptome, que la paupière supérieure ne s'abaisse plus comme dans l'état physiologique sur la partie supérieure de la cornée, lorsque l'œil regarde horizontalement; au contraire, la cornée reste découverte en totalité, ce qui donne à la physionomie quelque chose de hagard fort désagréable à voir. A un degré un peu plus avancé encore, le malade a les yeux d'un homme en fureur, et celà établit un contrast choquant avec la tranquillité du reste de la physionomie." The rest of this interesting monograph is devoted to the differential diagnosis of the exophthalmos in Graves's disease from that due to hydrophthalmos (bouphthalmos), orbital cellulitis or emphysema, distention of the sinuses, orbital tumors, and other causes.

Mackenzie[8] saw one case. His patient, a delicate, anæmic young woman, whose sister had been under treatment for years for Graves's disease, suffered from amenorrhœa with nervous symptoms, dyspepsia, and constipation. After several months of mental worry and severe physical exertion during the summer, the right eye began to protrude, and the thyroid became enlarged. The symptoms were much improved by the administration of the tincture of iodine (dose not stated), with local application of iodide of potassium ointment to the neck and temporal region.

Präel[9] noted the development of right exophthalmos with bilateral thyroid hypertrophy during convalescence from acute bronchitis of a man, aged fifty, who suffered from palpitation and other signs of cardiac disease since his twentieth year. After a long time the left eye also became prominent. The case terminated fatally, and the post-mortem examination revealed extensive atheromatous changes in the aorta, with evidence of mitral stenosis and insufficiency. In two other cases right exophthalmos was observed in young girls, nineteen and fifteen years old, respectively, who were chlorotic. In one case palpitation and hyperhidrosis appeared later and persisted for several years. In the other case a severe emotional disturbance was the determining cause. The exophthalmos suddenly became much more marked about five years later after a severe attack of hæmatemesis and brought about a condition of acute anæmia. Struma now appeared for the first time.

Chvostek[1] reports the case of a woman, aged fifty-five. Her mother had shown marked symptoms of nervous weakness since youth. Her father had had a valvular lesion, and a sister had been affected with Graves' disease for twenty-five years. The patient had passed through severe mental excitement eight years before, and soon after presented symptoms of exophthalmic goitre with striking unilateral symptoms. The right eye was noticeably prominent, the right lobe of the thyroid much enlarged. Hyperhidrosis, flushing, and emaciation, all limited to the right side, appeared later, and the general condition became very bad, although the patient eventually recovered completely.

A most remarkable case is reported by Burney Yeo.[2] The patient, a woman, aged thirty-five, had always enjoyed good health, although extremely nervous, until her fourth confinement. Symptoms of puerperal sepsis then set in which lasted for three weeks. When she got well the patient's friends would not let her look at herself in the glass because she "looked so wild." There was marked exophthalmos on the left side, but it was difficult to say whether the right eye was, or was not, at that time, more prominent than natural. The right lobe of the thyroid was considerably enlarged, but there was little increase, if any, in the size of the left lobe. At about the same time the eyelashes and the hair of the eyebrow on the left side began to fall out. The general symptoms of nervousness, flushing, hyperhidrosis, and palpitation, with a pulse of 136, were noted. Both the goitre and the exophthalmos were markedly unilateral, but on opposite sides. After nearly six months the right eye began to protrude, and the falling out of the eyelashes and of the hair of the eyebrow on the corresponding side was noticed. At the same time the opposite lobe of the thyroid, which had formerly appeared to be normal, began to enlarge, and soon equalled the right lobe in size. Yeo cites a second case of right unilateral exophthalmos which had persisted for one year in a robust and healthy young girl of twenty-three. Palpitation and nervous symptoms developed, the pulse ranging from 116 to 140, but there was no goitre.

Becker[3] reports the case of a lady, aged twenty-eight, who had been married seven years and was the mother of a strong, healthy boy. A second pregnancy had not occurred, as dysmenorrhœa with nervous symptoms had followed the first confinement, and had eventually developed into hysteria. Since one year occasional protrusion of the left eye had been noticed, while the right appeared perfectly normal. Palpitation was complained of at times, and there was slight enlargement of the thyroid. On examination the sight was found to be perfect. There was only slight exophthalmos with pulsation of the retinal arteries in the left eye. There was no prominence or other morbid symptom in the right eye.

Abadie[4] describes the following case: A young woman, aged twenty-eight, who had been troubled for

[1] Berger: Bull. de Soc. de Chir., 1884, p. 277.
[2] Die Basedow'sche Krankheit. Wiener Klinik, 1894.
[3] Rosenberg: Berl. klin. Wochenschr, 1865, ii, 277. Sichel: Bull. Générale de Thérapie, vol. xxx., 1853. Patchett: Lancet, 1872, p. 827.
[4] Emmert: Graefe's Archiv, xvii., 1, p 203.
[5] Jendrassik: Archiv f. Psychiatrie, u. Nervenheilk., 1886, xvii.
[6] Traité des Maladies de l'Œil, Paris, 1818.
[7] Gazette des Hôp, 1853, No. 1, p. 2.
[8] Treatise of Diseases of the Eye, 4th ed., 1854.
[9] Graefe's Archiv, iii., 2, 199.

[1] Wiener Med. Presse, 1872, p. 497.
[2] British Medical Journal, March 17, 1877.
[3] Klin. Monatsbl. f. Augenheilk., xviii., 1880.
[4] L'Union Médical, 1880, No. 157, p. 859.

the winter and spring of 1893 and 1894 he was under treatment by Dr. Bramwell with some improvement. In March, 1895, he was placed upon thyroid extract. After three weeks his attending physician stated that the improvement was something phenomenal, and five weeks later he writes that the case continued to improve in every way.

THE PLETHORA OF MEDICAL SOCIETIES.

Both Paris and London are suffering from a plethora of medical societies. This is the statement made by Dr. Morris in *The Practitioner*, and it is confirmed by the comments of Parisian and London contemporaries. The remedy suggested, of course, is that some of the societies amalgamate. We have no doubt that the advice is excellent. It has often been tendered to the medical men of New York, where societies are also extremely numerous, but the advice does not seem to be taken. Societies go on multiplying in New York and everywhere else; and we take it that it must be because there is some actual need for them. In this city the problem has been pretty well solved by the success of our Academy of Medicine. In this organization there are so many and such excellent opportunities for societies of specialists to organize under the fostering wing of the Academy that we do not recall any new organization since the sections of the Academy were fairly started. New societies continue to spring up, but they are general in character and have for their excuse social and local causes rather than scientific. They fulfil their purpose in enabling the medical men in certain parts of the town to get together and become acquainted with each other, and in this way they do very good work.

REFORM IN INTERNATIONAL CONGRESSES.

Now that the majority of the annual meetings of our State and International Medical Associations are over, a criticism upon these meetings by Dr. Pistor, in the *Quarterly Journal of Public Health*, may seem very timely. Dr. Pistor thinks that there are too many formal dinners, too many evening parties, and too many invitations to visit industrial establishments, hospitals, factories, orphan asylums, and so on. He asserts that all these interesting functions should be entirely done away with, and that visitors who desire to live sumptuously should do it at their own expense. Many cities in Europe, he says, are unwilling to receive international congresses on account of the heavy expense connected with them. This is not the case, we may say, parenthetically, in the United States, but then we have not the thrifty habits of the older countries. Another trouble with these congresses is that there are too many papers announced to be read, and the discussions, he thinks, are on this account usually very unsatisfactory. The number of sections also should be limited. In fact, Dr. Pistor enumerates all the well-known and well-worn criticisms upon the conduct of the medical congresses of the present day. The defect in Dr. Pistor's position is that he expects too much of this imperfect world. Medical congresses are not meant solely for the production, or even the exploitation of great scientific truths, but rather for the personal benefit that is produced by the contact of men from different parts of the world with each other. It is at dinners and at the various other reunions and festivities that visitors to congresses really learn the most. Dr. Pistor, when he gets older and has had more experience with congresses, will probably acknowledge the truth of this statement.

THE STATE AND LOCAL CHARITIES.

The State of Pennsylvania has always been peculiar in its relations to medical charities. Unlike most other States, it has often and generously appropriated the funds of the taxpayers from all over the State to the promotion of local medical interests. *The Medical and Surgical Reporter* furnishes a list of the appropriations as reported by the Appropriation Committee at the present session of the Pennsylvania State Legislature. These include sums of $150,000 to the Medico-Chirurgical Hospital, $200,000 to the University of Pennsylvania, $55,000 more to the hospital of that university, $112,000 to Jefferson Medical College, $8,000 to the Woman's Hospital, $3,000 to the Samaritan Hospital, $4,000 to the Children's Hospital, and $25,000 to the Gynecean Hospital. Of course, if the hospitals of Philadelphia get State appropriations the hospitals of the smaller cities must also have their share, and we find a list of forty different hospitals scattered throughout the State, to each of which an appropriation is given. If the general principle of State help to local institutions is considered by Pennsylvania economists to be a sound one, no objection can be raised against any such widely extended generosity as that which the Pennsylvania Legislature shows; but it seems to us that the State will find itself eventually in a very embarrassing situation if it continues the policy which it has adopted of helping along almost any private medical institution just because it has a medical charity annex.

News of the Week.

The Brain of Buchanan, the murderer, executed July 1st, is said to have weighed only thirty-one ounces. He was a small man.

The Heaviest Woman in America died at Millersburg, O., on July 1st. Her weight was 675 pounds.

The Woman's Medical College of Cincinnati, O., has united itself with the Laura Memorial Medical College. There did not seem to be room enough in Cincinnati for two medical colleges for women.

Doctors and Athletics.—The medical profession has its full share of athletic honors. Dr. Grace has proved himself the champion cricket-player of England, and therefore of the world, and Dr. Pym, of Ireland, having beaten all the tennis experts of Great Britain, has come over to this country and done the same to the American tennis-players. We have in this city Dr. Hammond, who is the champion at foils and broadswords of the United States, and doubtless there is rich material for a bicycle champion among the numerous medical men who have taken up that pastime.

sumption goes for the saying. It is safe to assert that a great majority of non-laryngeal, and a respectable minority of cases with laryngeal, complications should have the driest air comfortably attainable. This notwithstanding the fact that a few of these cases do well on the coast or at sea, or even in a damp valley. As for altitude, the writer is each year firmer in his convictions that it is the most powerful climatic (or other) therapeutic agent we have for the arrest and cure of this disease, but it is a two-edged sword. It is, in ignorant hands, a most dangerous remedy, and even the wisest do not always know just where or how much to give, but this we can as truly say of atropia or digitalis. Whether an altitude of three thousand or four thousand feet gives all the good results and has none of the evils of one of six thousand or eight thousand feet is a question for further observation; but I should be inclined to say "No" decidedly. The value of the climate of the Rocky Mountain region is beyond question, and one has but to look about in every town to see those who came there very ill leading active, efficient lives.

In Colorado, as in every other resort, a dreary picture may be drawn, if only the disagreeable features are spoken of, but they should be noticed and weighed or disappointment and harm may occur. If the climate-seeker expects to find a spot where he does not have to use vigilant wit against the vagaries of nature, he had better stay at home. Among the peculiarities, to use no harsher term, of Colorado climate, should be noted a great difference between day and night temperature, as exists, I believe, in all high altitudes, and also holds in Southern California.

Again, as elsewhere, dryness means dust, if there is any soil and air motion, and an exaggerated air motion seems to be inseparable from all health resorts worthy the name. A certain amount of wind is wholesome, no doubt, but Colorado may truly be said to have more than is necessary or pleasant. Dr. Fisk, of Denver, and Dr. Solly, of Colorado Springs, have made analyses of the cases of phthisis coming under their care during a term of years, and show improvement in sixty-six and two-thirds per cent. Their deductions are beyond question fair accurate, and true; still it would be safe to say that of the indiscriminate throng of consumptives who press out to that country, far more are injured or receive no benefit than are in any way helped. For this two comprehensive reasons may be given: 1, So many unsuitable cases are sent; 2, so many do not at once put themselves under competent local medical care.

We must all recognize the fact that the most skilful advice cannot be always right in its choice of a climate, and that in each instance there is a large amount of experiment. Again, we must remember that a large percentage of these cases sooner or later reach a fatal termination, go where they will and do what they will. It is not an infrequent thing in an altitude such as Colorado Springs (six thousand feet) to see developed a train of nervous disorders demanding a retreat to a lower level. It would seem to be true in a measure, though not to the extent formerly supposed, that a "cure" wrought in a high altitude puts the subject in prison, and that he does not have the wider range of choice of one who regains his health within a short distance of the sea-level. Practically the difference is not great, for good sense requires that anyone "recovering" from phthisis should strive to remain in a climate as nearly as possible identical with the one in which the cure is wrought.

The Asheville region is one of great beauty, and presents the advantages of a varying moderate altitude. In a climatic way it is a decided improvement on the Atlantic coast. Its proximity to the Eastern centres and the comfortable character of a great part of the year make it a desirable resort for those who do not need, or cannot reach, or should not attempt, the more decided change that begins only at the eastern edge of the Rocky Mountain plateau. I cannot speak of any of the other places in the South, for I have no direct acquaintance with them, but their name is legion.

Southern California.—It is difficult to give a fair impression of a climate from a written page. The feat has never been accomplished. It bears the same relation to the real thing that a cook-book does to a dinner. To me, all things considered, Southern California seems to present more of the essentials of health and comfort for a larger proportion of invalids than any other section I have visited. One finds that as a class those who have knocked about the most are the best satisfied here. No one who has not lived in the country the year round and leisurely visited the various places can have any just idea of it. It should always be remembered that it is a land of many and varied climates, of wide range of heat and cold, dryness and moisture, of mountain height, sea-level, and below the sea. Going a score of miles from its principal town, one is at the sea; an equal distance in another direction, six thousand feet above it. Journeying three or four hours from the ocean through ever increasing dryness brings one to the great dryness of the desert, at, above, or below the sea-level.

At first the great stretches of bleak treeless shorn desolation are a surprise, if not a shock, to those who are acquainted only with the lavish hand of nature through the Eastern summers. Here, through most of the year, nature wears colors not in vogue in the East, and it often takes a little time to get used to her strange gowns, but we soon learn that her taste is unerring. The winter rains make the land green for a short time, then it lapses into its normal browns and gray-greens for many months, save where a discouraged stream crawls, or where the hand of man leads water to orchard, garden, or lawn. If one may speak in general terms of a vast area in which there are varying conditions, there may be said to be throughout Southern California a warm midday and a cold night half the year, a hot midday and a cool night the other half. With the hot sun, a cool breeze from the sea, save in the early fall, when it dies down. The hot weather is the dry weather, and comfortable if one can order his employment. In most locations there are a dozen days a year of dry, parching, disagreeable wind from the desert. During the winter and early spring many rainy days and then dry skies for many months. Dry, warm weather means dust and flies, and they are here, but are to be conquered in the usual way. For three months in the late spring and early summer, and as an occasional thing at any time in the year, there is fog, which a buoyant optimism calls "dry" though dripping at every pore. This fog increases as you approach the sea and go up the coast. The country in the interior, away from the cooling influence of the sea, may be depressingly hot in summer and autumn. The immediate seashore is always cool, and the nights are relatively warmer than in inland places.

The only difficulty is in finding, for those who cannot stand the sea nor an altitude of at least five thousand feet, a convenient place to retreat from the heat of September and October, and perhaps that of August and November. There are some phases of consumption that do well on the shore, but it should be understood that to the vast majority of pulmonary invalids the Southern California ocean-side is not friendly. The islands, a score or more of miles out in the sea, offer a satisfactory refuge from the heat for some who cannot brave the air of the main coast. Perhaps the cultivation and irrigation of the soil is in certain locations a disadvantage to the sensitive throat. If it is, it certainly cuts very little figure and may be easily avoided. The most wholesome air the sick one breathes is no doubt amid absolute isolation and desolation, but those of us who have experimented are willing to compromise the matter and take a cook and some cultivation in "ours."

As far as I can learn, the high mountain resorts in

Southern California are crude, and if a permanent residence at five thousand feet or over is contemplated, the "resorts" in the Rocky Mountain region offer better advantages.

If our cases of phthisis are to seek relief by change of climate, where shall they go? Were one to make a round of visits in any one of our distant climatic resorts, he would be convinced that a large proportion of the invalids should have remained at home. Do not let me be understood as deprecating the climatic treatment of phthisis. It stands first of all curative and palliative agents, but taking for granted that the doctor knows something about the different locations, there are two great preliminaries to be studied before advice to go any distance is given.

1. The Patient's Environment in all Its Features.—His bank account, his habits, his friends are by no means the least important items. Frequently it is as essential to know the nerve and quality of a man's wife as to examine his sputum, if he is to fight for health in a strange land. To send anyone away from a good home to be grudgingly and with suspicion taken into a boarding-house, there to lie, ill and homesick, receiving in exchange for what he has resigned a little drier air and a little more sunshine, is to place a very considerable balance on the wrong side of the ledger. This what is every day happening in these places.

2. The Physical Condition of the Patient.—I have attempted to classify the common forms of phthisis pulmonalis and to make a choice of climate for each: *A*, Incipient cases; *B*, those with considerable consolidation but no fever, and those with pleuritic deposits; *C*, those very sick; *D*, emphysematous cases; *E*, laryngeal cases; *F*, cases in which the fibroid process is marked.

If an apology is due for the arbitrary and unscientific construction of these divisions, it may be said they thus group themselves in the doctor's office, if not in the laboratory.

A. Incipient cases at their earliest discovery, or those without physical signs, but where from heredity or evident depreciation we suspect or fear the advent of phthisis. We may also include here the cases of slight hæmoptysis without recognizable consolidation. Often the early diagnosis is very difficult, if not impossible, for the disease may exist before the chest signs appear, to say nothing of these signs being present before we discover them. No doubt some of us can bring to mind instances where the symptoms of fever pallor and emaciation were not understood until cough or even hæmoptysis supervened. Very rarely, however, does the disease come without more or less cough, and if there is sputum, careful, competent microscopic examination is a guide, though not an infallible one, to diagnosis. Still less is it an infallible guide to prognosis. An early diagnosis is often the most important factor of a favorable prognosis. No subsequent skill can atone for want of promptness in diagnosis. An early hæmorrhage is apt to be a fortunate thing, for it will stop a man and cause him to follow advice as nothing else will. These incipient cases frequently do well at home, if the regulation of food, ventilation, and exercise is looked after in all detail; but the greater number do best when they are sent to some very moderate altitude (not over two thousand five hundred feet), watched, their mode of life carefully controlled, then worked up to some decided altitude (five thousand to seven thousand feet). The commencement of this progressive climatic treatment may be in the Eastern mountain ranges, if the season of the year is suitable.

Southern California, in its varying degrees of dryness, elevation, and warmth, promises well for these cases. I believe many of this class of cases would do well to advance to the Rocky Mountain region after a few months passed in this region. One can experiment with altitude here and get out of it in an hour if it doesn't work. The cases of early hæmoptysis need no special separate consideration. The same management holds good for them. Altitude, even a high altitude, is not contra-indicated.

B. Those with considerable consolidation of recent formation, but with no marked disturbance of pulse and temperature, do well at a dry level of two thousand or three thousand feet, and then, when tolerance and quiescence are established, a higher location for a while. Again Southern California presents a favorable place for many of these cases at first and perhaps indefinitely. It appears unwise and will be found difficult to send one who is doing well to another place, but at the proper juncture a visit in the Colorado country is frequently of the greatest service. In a convalescent from pleuritis, where there is much deposit and where from family history or other causes we fear tubercular degeneration, most happy results are often obtained in an altitude of five thousand to eight thousand feet; in this and all other instances, providing the heart is healthy and the nervous system unimpaired.

C. Those very sick, either from advanced disease or active involvement of much lung tissue, had better remain at home, unless great wealth puts them outside the pale of ordinary mortality.

D. Emphysematous Cases.—The best climate for the emphysema of a phthisical lung is that which best suits the bronchitis which goes with it. There is wide space for experiment. These people do not often do well at any altitude, and should not be sent there until a low, warm, moderately dry location has been tried and has failed. Some points in Southern California answer well, and so should many places in the South Atlantic States.

E. Laryngeal Cases, i.e., those in which the symptoms and signs of tubercular ulceration of the laryngeal structures are prominent features. I do not refer to the early laryngeal irritation which often marks the inception of phthisis and which frequently disappears as the lung lesion advances. Any considerable elevation is disastrous to true laryngeal cases, though once in a while we see one do well in the mountains. A warm, even, not too dry climate suits best, though the parched desert at the sea-level meets the wants of a few. Often even where the dampness hurries on the destruction of lung, the relief from laryngeal pain makes it desirable to live at the sea. No place offers more than Southern California for this class.

F. Cases in which the Formation of Fibrous Tissue is Marked.—Thorough study, nice discrimination, and some experimenting are needed in adjusting these cases in their proper places. Do not send them to an altitude if they are beyond middle life or if there is much bronchial irritation or if their hearts are dilated or feeble. If none of the above conditions exist, they may try the Colorado or Rocky Mountain country, using great discretion and restraint in bodily exertion. The wide range of choice found in this country renders Southern California desirable for this class.

These six groups will include almost all who come into our hands.

Certain complications must modify our counsel. Elderly people, those with diseased or feeble hearts, cases of nephritis or of tubercular ulceration of intestine, are not apt to do well at any elevation over three thousand feet. In seeking health from climate, it must be ever remembered that it is all out of doors and must there be sought. If the open air in these "resorts" is good, the indoor air, from faulty construction and carelessness, is bad. This goes far to explain why men do better than women.

As to the treatment of phthisis by drugs, there is only space for a word. During a prolonged case, almost every drug may be reasonably called into use, and if used with discretion, do good. It is with drugs, as General Sherman is reported to have said about guns: "It isn't the kind of gun, so much as the kind of man who holds it." The stomach is to be treated

with the utmost consideration, and anything that for an hour interferes with its functions should be withheld, unless there is imperative need for the relief of some particular symptom. That "two bad lungs and a good stomach are better than one bad lung and a poor stomach" is a homely expression often heard where consumptives gather.

The proper management—I do not call it treatment—of phthisis pulmonalis is embraced in these words: To build up and maintain the integrity and restrictive power of each cell in the body. There is no one point more important or so commonly overlooked as the regulation and restriction of exercise. The treatment by rest, absolute rest, even rest in bed, in the early history of the febrile cases, far outshadows all others in importance. At first this seemed to me especially necessary in the Colorado altitude, but subsequent observation would indicate that it is equally important at all levels. If one cannot be sent to a distant climate, let every effort be made to get all the good out of the one to which the invalid is confined. I knew a man with decided lung disease, who unsuccessfully went the rounds of all the places and went back to end his days on a sunny porch in Boston—and got well there!

As to the Communicability of Phthisis.—Consumptives as a class like to tell where they "caught it." It is definite, positive, and in a way puts the blame on somebody else and so fills a long-felt want. How many physicians have seen an authentic case where a perfectly healthy person contracted the disease from an infected one? I know of just one where it was probably so acquired, and that is the only one of scores where the claims of infection had been set up where the evidence was at all conclusive. After severe strain, nervous or physical, we all see the disease, as it were, grafted on to the debilitated organization. Whether this happens oftener when a consumptive is in close attendance than when absent I do not know.

The following extract from a letter from one who has had ample field of observation, voices the opinion of those whose special knowledge led me to ask them: "As regards your question ('Have you observed consumption to be communicable?') I am most emphatic on this point. I have never seen a case where I have thought that there was a reasonable ground for assuming that phthisis pulmonalis had been communicated from an infected person to one previously healthy. I have seen but few cases where there could be a suspicion, and inquiry would usually develop the fact thas there had been excessive strain, nervous or physical, *e.g.*, from nursing, inducing a debility and low resistance and then exposure to cold or something of the sort. I have seen many a case where a consumptive husband or wife lived in the same room with and even slept with a healthy husband or wife and I never knew any bad results in the way of inoculation or infection to follow."

This does not go to disprove that the feeble are in danger from the tuberculous. No attempt in that direction is intended. It does not in the least remove the need of most vigilant cleanliness. Every atom of tubercular or suspected sputum should be destroyed by chemicals or fire, but it enables us to say that the nineteenth-century consumptive may be safely treated less like a leper than the clamor of lay science at present demands. Some of us are cultivating a broad receptivity of mind on the subject of the significance of the bacillus tuberculosis. We may be a little slack in our allegiance to his sovereignty, but we all pay tribute. Even the chief sceptic would prefer not to have the rods in his sputum. However much pulmonary tuberculosis at the bedside may differ from that in the laboratory, it is to those who are working along the trail that Koch blazed out, that our eyes are turned in hopeful expectation.

My apologies are due for the triteness of this subject, but triteness in matters medical is sometimes synonymous with importance. It is a great subject, and there were a dozen places as we came along, where we might have stopped and discussed some point barely noticed, but it cannot be done at one sitting. If you have had to listen to what you know as well already and could have said better, it may be a consolation to recollect that it is a risk everyone runs who goes to medical societies.

Progress of Medical Science.

Primary Carcinoma of the Duodenum.—Dr. Pic has made a comprehensive study of this subject, as a result of which he has formulated the following propositions: *A.* Primary cancer of the duodenum, in the great majority of cases, like primary cancer of the intestine in general, has an annular form. On this account it is very apt to produce stenosis of the digestive tract. *B.* The symptoms of this cancerous stenosis vary according to the height at which it is produced. A cancer above the ampulla of Vater has a symptomatology almost identical with that of cancer of the pylorus. A cancer below the ampulla presents, besides symptoms of malignant pyloric stenosis, signs indicating a permanent reflex of the bile and the pancreatic juice into the stomach. A cancer round the ampulla presents, according to the case, a symptomatology more or less resembling the one or the other of the first two forms; it is a composite form. *C.* Among the so-called cancers of the ampulla of Vater we may place: 1. Cancers of the duodenum in which the ampulla is invaded; nothing distinguishes these tumors clinically from ordinary duodenal cancers; they are included in our third form. 2. Cancers primary in the head of the pancreas. 3. There exist some cancers appearing to be developed at the expense of the ampulla, and presenting the clinical picture of icterus from retention—a picture comparable to that of cancer of the head of the pancreas. These cancers must be distinguished clinically and histologically from cancers of the duodenum strictly speaking, and must be classed with pancreatic cancer, of which they appear to constitute aberrant varieties. 4. *a.* In most of the cases there is a contraction at the site of the tumor and a dilatation toward the stomach tending to involve this organ, and frequently accompanied by pyloric insufficiency. *b.* The histological examination has revealed up to the present, among the primary tumors of the duodenum, cancers of the investing epithelium type (cylindrical epithelioma), of the glandular type (primary epithelioma of Brunner's gland), of the embryonic-tissue type (sarcoma), and of the lymphatic type (lymphadenoma). As a matter of fact, there are forms of cells entering into the constitution of the duodenum other than those found in these forms of cancer. 5. The difficulty of diagnosis in cancer of the duodenum varies according to the situation of the neoplasm; while the diagnosis of the form which occurs above the ampulla is ordinarily impossible, that of the two other forms is sometimes possible. Speaking in a general way, the chief differentiation is to be made between duodenal cancer and stenosis of the digestive tube of supra-duodenal or infra-duodenal origin, and between duodenal stenoses of extrinsic origin. 6 The topographical diagnosis is of greatest importance from an operative point of view, which will differ according to the situation of the neoplasm in the duodenum. When the diagnosis is impossible early exploratory laparotomy will be necessary, and in most cases will be only palliative.—*Revue de Médecine.*

Poison Labels.—In Ohio there is a law making it obligatory on dealers to affix the label "Poison" on all bottles of household ammonia sold.

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UNNECESSARY NOISES.

IN a recent issue of a daily paper there was a report to the effect that a sneak thief who successfully raided a boarding-house escaped detection by purposely making as much noise as possible in order that he might be mistaken for a belated lodger. The result proved that there was no better way to quiet the apprehension of anything unusual than the creation of an ordinary racket and the well-known receptive resignation to its usual disturbing tendencies. There is in the circumstances all the necessary proofs that not alone in lodging-houses but in every other environment of our so-called advanced civilization the denizen of a crowded city has become so inured to the discipline of noise that he submits to it as a necessary evil.

The interesting question comes up in this connection as to the distinction between necessary and unnecessary noises. The former can be made tolerable by reason of their inevitability, but the latter are always exasperating by their easy preventability and consequent uselessness. When we stop to consider what noises can be dispensed with without harming anyone but the maker of them we open up an astonishingly wide field of inquiry. From the snoring bed-fellow to the noisy neighbor there is all the difference between the awakening elbow-punch in the rib and the remote possibility of a floral gift for a waiting coffin. But the application of such or similar means are so seldom made in this cruel world of chance that practically the real remedies are very few. Still less is this the case with noises apparently beyond our reach. The clamor of traffic is in some respects a necessity of the struggle for living and gain. The useless accessories of such a situation are too numerous to mention. Take for instance the numerous street cries of pedlers, the roar of the elevated train, the clang of the cable car, the irritating factory whistle, the intrusive hand-organ, and even the reverentially suggestive church-bell.

Not long since a piano fiend in an adjoining house rendered miserable the dying hours of an honored judge in brazen defiance of frequent protests from his bereaved family. We wonder if it be true, as the Swedenborgians assert, that pianos will be allowed in heaven. If so, it may be possible to assume that they will be tuned to a harmony unknown and unrecognizable by earthly mortals. In any event the only hope will be that the practising miss with her dreary and exasperating finger drill may not die before she is well started with a tune. The piano, however, has done more to educate humanity into a forced toleration of disagreeable noises than any other known agent in the prodigal inventions of the nineteenth century. The discipline of forbearance that it has inculcated in the human breast has so overwhelmed the disposition to profanity toward all other comparatively trifling inflictions that there is a grim satisfaction in believing that this instrument has very indirectly and quite innocently helped to develop a high grade of self-sacrificing Christian charity. All of these, however, come under the heading of really unnecessary and apparently preventable noises. Much more pronounced ones that are evidently without remedy are resignedly and philosophically borne, and the very uselessness of prevention is in itself a solace of tolerance. The man who can sleep peacefully through a rattling thunder-storm loses all somnolent composure while his neighbor is filling a bath-tub, or noisily tumbling over bedroom furniture. The traveller who could composedly sleep in the berth of a limited express train would suffer the wicked suggestiveness of infant mortality while listening to the wakeful cry of a restless baby.

Strange to say, however, all these disturbers of the peace, with much show of injured innocence, are ever ready to act upon the defensive in what they consider their rights and privileges. The struggle of the brass band to maintain its boisterous hold on the street curb is still fresh in the mind of the long-suffering New Yorker. Luckily for the latter the stuttering voice of the brazen funnel is relegated to "innocuous desuetude." Many of the street cries have been abolished after similar struggles in the cause of quiet-loving persons. Let us hope that many more reforms will follow in their wake.

It is unnecessary to allude to the wide-spread evil effects of noise upon the public health. If the accumulated agony of irritability could find a common voice it would dangerously jar the equilibrium of the public peace. The only mercy is that it has so many different vents through the thousand channels of individual protests that a general explosion of wrath is thereby averted. Appeals are often made to the Health Board for the suppression of such noises as may be construed as prejudicial to health. Practically all unnecessary noises are such, although the police catalogue places many under the designation of disorderly ones. The difficulties in the way of deciding which is which are not few. The Health Department, with all its arbitrary power, cannot seemingly make a politic distinction. This was shown in the case of the cruel pianist and the dying judge. Perhaps some day a proper test case may be brought for adjudication, but hardly until some enterprising neurologist can locate the noise-centre and conclusively prove the direct causes of its premature exhaustion.

Suicide of a Medical Man.—A surgeon lately practising in Bristol, England, was called to the door by a ring, but instead of the expected patient, found a collector for over-due rent. This so discouraged him that he killed himself.

WHAT SHALL BE DONE WITH ADVERTISING QUACKS?

With the present restrictions upon the practice of legitimate medicine, backed by the stringent examinations of the State boards, it becomes us to inquire how much the real and harmful quackery is prevented. Judging from the blatant advertisements in the daily papers it would certainly appear that medical rogues are rather on the increase than the decrease. There is such an inconsistency in all this, such a disposition to curtail the privileges of the virtuous at one end, and such marked apathy in guarding the dangerous practices at the other, that it almost seems as if the good must be punished for the sake of the bad.

The Medical Society of our own county has striven with commendable zeal to bring punishment on the offenders in question, but as yet has been unable to succeed. By virtue of old diplomas these advertising scoundrels are apparently protected by law—at least the County Society, so watchful of small offenders, cannot reach them by any legal process known to the counsel of that body. It is no secret that most, if not all, of these advertisers are professed abortionists, and have from time to time been under arrest on such charges. They constantly escape a just punishment, and the very indictment is oftentimes used as a means of wider advertisement of their nefarious practices. No newspaper, however respectable, refuses their standing advertisements, and even the religious weeklies pander to them under the hypocritical guise of covert endorsement. These latter journals, particularly, trusted with the responsibility of guarding the physical and moral safety of the community, allow the quacks boldly to announce for sale quick cures for "gonorrhœa," vegetable tonics for "falling of the womb," infallible pills for "female irregularities," and patented belly-bands for "seminal weakness and the decline of manhood." Aside from the positive damage which such advertisements may occasion by false pretences and actual bodily harm, we are forced to contemplate the still greater injury to morals of the rising generation by a free, forced, and covert education along these dangerous lines. While all this is going on in the broad light of day, and under the very noses of our medico political reformers, we learn that a respectable well-educated physician cannot remove his practice from one county to another in this or other States without suitable legal license and registration. It is true that the New York quacks cannot practise anywhere else than in the county they reside, nor do they, for obvious reasons, care to do so. There is no better place in which to ply their abominable trade than in this city. Their only desire is to be left alone. It has always been a puzzle how professed abortionists can go on, apparently for all time, undisturbed, when any respectable practitioner dares not respond to a purely professional call in a case of emergency, the result of these criminal practices, without the protection of another professional man as a witness and without a preliminary notification of the fact to the Coroner. It would seem more just that the power of the law should be on the side of the righteous rather than on that of the evil-doer. The same law that imposes restrictions upon qualified men should protect them against the outrageously wicked machinations of the evil ones. There should be no stretch of power in the law in one direction more than in another. If any law can be so framed as to restrain the privileges of the well-qualified in certain directions there is no reason why similar means could not be used to prevent the quacks from openly defying every enactment that has thus far been made. We respectfully call the attention of our medical law-makers to this matter, and more especially would commend the latter to the consideration of the county societies, which have volunteered to guard the higher interests of medicine and to guarantee a riddance of reprehensible practices.

HOW TO BEGIN PRACTICE.

The all-important question how and where to begin practice is one that every young medical man must settle for himself. The considerations that should govern him are as much of a strictly personal as of a purely professional character. At best it is but an experiment, the success of which largely depends upon such conditions as only time and opportunity can properly develop. Of one thing he must convince himself at the outset, and that is, inasmuch as the profession is very much overcrowded, the community at large is not over eager to test his abilities, or anxious, in view of his supposed eminent fitness for his work, to find him an easy or safe living. He must necessarily create a place for himself and with a reasonable persistence of purpose develop his own plant. If he be content to commence in a small way and be satisfied with slow advancement he is likely to succeed in any neighborhood, whether in the country or city. The better chances are those in a young and growing locality, neither rich nor poor, but rather among people of the middle class. The latter are generally prompt in the payment of the smaller fees that must satisfy the younger professional man. The very poor patronize the dispensaries and the very rich are generally already well provided with specialists in every branch and a family physician besides. There is no greater mistake for a young medical man with limited means than to settle in an expensive and fashionable neighborhood in the expectation of gaining, thereby, a first-class practice in the beginning. As a rule, the rich will entirely ignore him and the poor will be afraid of his style and assumed superiority of living. The people who are likely to employ him at all will be satisfied with a moderate establishment and will be proportionately impressed with his earnest business spirit.

The choice of city or country depends largely on the personal habits and tastes of the individual. Country practice, strange as it may appear, demands a higher grade of general professional attainments at the start than those by which a young man makes an ordinary success in the city. In the country the young practitioner must from the very nature of his business be a good all-round man, prepared for any ordinary emergency in medicine, surgery, or obstetrics, while his city brother, surrounded by experts, can very readily divide extra responsibilities. The former is a marked man

from the beginning, is generally known by everyone in his town, and must necessarily at the very commencement of his career set the pace for the remainder of his life. On the other hand, the metropolitan youngster, as far as a general reputation is concerned, is pretty sure, in his earlier struggles at least, to be lost in a crowd. The returns for work in the country are generally more prompt than in the city, and sooner reach their absolute limit, while the rewards in the city are slower and in the end are proportionately expansive. It is quite uniformly agreed that general practice is the best surety for a good start anywhere, and in a large city the most thickly populated portions are to be preferred. There is something in the cosmopolitan character of such districts that takes a young and struggling practitioner on his merits, and is as ready to shift to the newcomer as stick to the old timer. It is excellent training ground until enough money is made to move into a better neighborhood. In any event, wherever, whenever, or however a young man begins it is well to bear these cardinal business points always in mind: stick, watch, wait, and work.

TOBACCO AND RELIGION.

It is somewhat startling to learn that peace has been in a measure declared between tobacco and religion, and the former, that has been so often declared to be the ally of the evil one, is about to join forces with Christianity in its laudable effort to evangelize the world. Not very long ago, at a ministerial conference, it was voted that no minister of the gospel could consistently preach with a so-called tobacco breath, as it was impossible under such circumstances to maintain that odor of sanctity and earnestness of persuasion necessary for successful spiritual ministrations. We believe one good brother rather forcibly alluded to the impossibility of drinking pure water from a foul cup or mug. Although no originality was claimed for the allusion, it had the telling effect of securing the passage of a resolution forbidding the parson from smoking or chewing the so-called noxious weed. It is fair to say that the cause of the smokers and chewers was not lost without a struggle. Many, however, knowing the impossibility of sincere and effectual repentance of the habit, sought relief in that usual mental reservation of possible wickedness in private as contrasted with plausible virtue in public. In fact one of the committee, in copying the resolutions in a side room, was charged with actually smoking while so engaged. It was maintained on that occasion that no man with a quid in his teeth could properly round his periods or decorously control labial reflexes with a mouthful of redundant saliva. Certainly no man caught in the act could pose as a shining example of ordinary Christian self-denial.

Now, however, it would appear that the tobacco aspect has entirely changed front. We notice a report to the effect that in one of the London churches there has been established what is called a smoking service, in which the habit is not only tolerated, but actually encouraged by an extra offer of free tobacco. This innovation will doubtless act as a powerful temptation to many outsiders, and may, we trust, tend to overcome any scruples as to waste of time in listening to prosy sermons, while at the same time the smokers themselves may become more benevolently receptive to those better influences that associate themselves so directly with the other forms of church service. The smoker, with his pipe well aglow, is generally prepared to look on the reasonable and happy side of any question. Many an after-dinner speaker is saved from well-merited condemnation for prosiness by the benevolent tolerance of a crowd of smokers. Tobacco, under the circumstances, tones down antagonism, paralyzes criticism, and invites conviction. Thus the tobacco service is likely to be a success in every way, provided the tobacco itself is of good quality and the smoking service of satisfactory length to the old stagers.

News of the Week.

The Late Professor Thomas Henry Huxley was a graduate in medicine, having received the degree of M.D. in 1845 from the University of London. He stood second in the list of honors for anatomy and physiology. He joined the medical service of the navy in 1846, and was surgeon to The Rattlesnake during its trip to Australia and New Guinea. Professor Huxley left the naval service after seven years, and during that time he studied natural history much more than he did medicine. His earliest ambition was to be a mechanical engineer, and he studied medicine rather against his will. In his autobiography he says: "I am now actually horrified to think how little I ever knew or cared about medicine as the art of healing. The only part of my professional course which really and deeply interested me was physiology, which is the mechanical engineering of living machines." Professor Huxley's only work having a special interest to medical men, as such, was his "Lessons in Elementary Physiology," which was a very good introductory manual when first published, now thirty years ago.

Dr. Edward R. Palmer died in Louisville on July 6th of injuries received while riding on a bicycle. He came in collision with another wheelman. Dr. Palmer was President of the Genito-urinary Section of the American Medical Association. He was born in Woodstock, Vt., and went to Louisville forty-four years ago.

Gratesetters' Neurosis.—Dr. E. C. Runge describes, in the New Albany *Herald*, the case of a man who suffered from a peculiar forward jerking of both legs, which was most apt to occur after he had been sitting for some time, but which also took place when he was occupied in reading or playing games, and even when he was asleep. For twenty-four years the man had followed the business of setting grates, and had worked in a kneeling posture, frequently for ten hours at a stretch. Dr. Runge suggests that this peculiar spasmodic disorder, which was associated also with some neurasthenic symptoms, should be classed among the occupation neuroses.

Examinations of the New Jersey State Board.—At the June examinations of this Board, over forty per cent. (eleven out of twenty-six) of the candidates examined for license to practise medicine in New Jersey

were rejected. One candidate was dropped before the examination was completed, for "cribbing."

American Orthopedic Association.—The ninth annual meeting of this Association will be held at Chicago September 17, 18, and 19, 1895, under the presidency of Dr. John Ridlon, of that city. An interesting programme is promised.

Prophylactic Measures Against Tuberculosis.—At a recent meeting of the Berlin Medical Society, Professor Cornet read a paper on the above subject (*The Lancet*). He had already suggested that the tubercle bacillus is not ubiquitous, as some observers suppose, and is present only where phthisical patients have expectorated and where the dried sputum has afterward become dispersed. This result he had arrived at by very extensive examinations of the wards in hospitals, and the rooms in barracks, prisons, and monasteries, where crowds of people live together in a limited space; the dust and mud of the street were also carefully examined by him. In rooms where spittoons containing some water were in use he very seldom found the bacillus, even if the phthisical patients lived there. According to him the prophylactic measures are very simple: a large number of spittoons partially filled with water should be provided in order to prevent people from spitting on the floors, and handkerchiefs should not be used for receiving expectoration; moreover, the floors of houses and the streets ought to be sprinkled with water as often as possible. Heredity had less influence on the origin of tuberculosis than was generally believed. In a great many cases where the children of phthisical parents were attacked with the disease, the communication might be due, not to heredity, but to mere contagion. The number of those suffering from phthisis is, in Professor Cornet's opinion, estimated to be higher than the results of necropsies warrant. It is an error to suppose that the atmosphere is filled with tubercle bacilli; they are dangerous only where the necessary precautions are neglected. In proof of the efficacy of hygiene in reducing the danger of tuberculosis, Professor Cornet mentioned that on his advice the Government had taken the above-described measures to prevent the general dispersion of sputum in prisons and lunatic asylums, and that since this time the mortality had fallen considerably.

A Systematic Study of the Therapeutics of Leprosy.—The Board of Health of the Hawaiian Islands has lately established a small hospital at Kalihi, in the outskirts of Honolulu, and has begun a work which has for its purpose the solution of the questions: "Is leprosy curable?" and "What are the best means for its relief and eradication from the human system?" Twelve patients selected from the leper colony at Kalawao, on the Island of Molokai, have been placed under treatment at the Kalihi Hospital, where they are provided with an abundance of wholesome, nutritious food, clean bedding in airy rooms, and the opportunity for outdoor exercise and recreation. There is also an abundant supply of pure water, and the use of hot and medicated baths will be an important feature of the treatment. The many several remedies which experience has pointed out as of use in combating this formidable disease will be tested in the treatment of the patients, and their efficiency carefully noted. Careful notes have been taken and photographs made of the patients, and the histories will be continued during the different stages of the treatment. The "Committee on the Treatment of Leprosy," which has undertaken this investigation is anxious to enlist in its aid the interest and intelligent co-operation of all members of the medical profession, and invites suggestions as to both means and methods from all who are interested in the study of leprosy. It is purposed to publish, when the proper time comes, a bulletin or report of progress regarding the work. In the meantime the Committee would be glad to enlarge its acquaintance with the bibliography of leprosy, and to be put in the way of becoming the owner of various monographs on the subject as they are published. The secretary of the Committee is Dr. N. B. Emerson, Honolulu, H. I.

The Chautauqua County Medical Society held its annual meeting for 1895 at the Thompson House, Mayville, N. Y., on Tuesday, July 9th. After the meeting the members adjourned to the Kent House, at Lakewood.

The Late Dr. Alexander I. Aronson.—At a meeting of the Eastern Medical Society of New York, held June 28th, the following resolutions were adopted:

Whereas, Our friend and beloved colleague, Dr. Alexander I. Aronson, who was so highly esteemed by all who knew him, as to his professional ability, reputation, and honesty, has been suddenly called away to his eternal rest; and

Whereas, The Society has lost a member and sincere friend, whose place will be difficult to fill, and his family loses a blessing father and loving husband;

Therefore, be it Resolved, That we all regret the sudden loss of our late colleague, and that we all mourn our loss, that we extend to the family our heartfelt sympathy and sincere regret in this sad hour of affliction; and it is further

Resolved, That a copy of these resolutions be spread on the minutes of our society, and a copy be sent to the bereaved family of our deceased colleague, and that they be published in the medical and local press

H. B. Adler, M.D., *President.*
E. K. Browd, M.D.,
M. Caspe, M.D.,
M. D'Avidoff, M.D.,
M. Burstein, M.D.,
S. Brothers, M.D.,
Committee on Resolutions.

Sero-therapy of Syphilis.—Those who have watched the various ingenious attempts to treat syphilis by the application of sero-therapy, have become aware that it is very manifest that nothing has been accomplished of any practical value.

Nocturnal Enuresis.—Dr. Stumpf has suggested a simple expedient for the treatment of nocturnal enuresis. It consists simply in raising the hips of the child, so that it sleeps with them elevated at an angle of 130° to 150° with the horizontal spine. This is accomplished by placing one or two ordinary pillows under the thighs. The theory is that the urine is kept from getting into the urethra, when the sphincter is relaxed during sleep.

Society Reports.

AMERICAN NEUROLOGICAL ASSOCIATION.

Twenty-first Annual Meeting, Held in Boston, June 5, 6, and 7, 1895.

DR. PHILIP COOMBS KNAPP, OF BOSTON, PRESIDENT, IN THE CHAIR.

FIRST DAY, WEDNESDAY, JUNE 5TH.

President's Address.—THE PRESIDENT thanked the Association for the honor conferred upon him, extended to them a welcome to Boston on the occasion of their first visit to the city, and offered them greetings from the various honorary members abroad.

The Association was organized twenty years ago, with a membership of thirty-five. At that time the idea of such a society was something of an experiment, as few similar societies existed in the world. The society, however, had been successful, had increased until there were now eighty-five members, and the meetings had always been profitable and interesting. It was not a society limited exclusively to specialists, as all who were interested in the diseases of the nervous system had been welcomed to its ranks.

The scientific work done by the members of the society was briefly reviewed. The chief work done in this country, with reference to diseases of the mind and nervous system, had been done by members of this Association. In regard to investigations in the anatomy and physiology of the nervous system, the work done in this country was still below that done abroad, and endowments for such research were considered desirable. The work done in the study of disease and its manifestations, and in the treatment of nervous diseases, had been much greater. American neurologists had done very much to advance our knowledge of the treatment of disease of the nervous system, and no discovery in the last twenty years had been of as much importance as that of the rest cure by one of the members of the society, Dr. Weir Mitchell, of Philadelphia.

Some of the needs for work in the future were then pointed out, among them being the need of a journal, under the control of the society, and greater recognition in our large hospitals, and a greater knowledge of nervous diseases by the physician in general practice. The greatest hope for the future in the treatment of nervous diseases lay in prevention. Many of the most serious affections were secondary to infectious diseases, and therefore, with the greater knowledge in the prevention and treatment of these diseases would come a diminution in the amount of nervous diseases due to them. In many cases where people acquire nervous diseases on account of a defective nervous organization, it was considered advisable to put such people under a definite prescribed existence. There were many conditions of life which did no harm to the healthy man, but against which such persons should be protected. These persons should also be protected from the mental contamination of neurotic and degenerate influences, whether in morals, religion, art, literature, or sociology.

There had been much claim of a vast increase in nervous diseases at the present time, but it did not seem probable that the conditions of life to-day were more exacting than those of life in the past, and, with better food, more rational standards of living, and greater security for life and property, it seemed not improbable that there was an actual diminution in the amount of nervous disease.

Hysterical Amblyopia and Amaurosis.—DR. J. ARTHUR BOOTH, of New York, reported four cases of this affection successfully treated by hypnotism.

DR. F. X. DERCUM, of Philadelphia, thought it of interest to note that perception of light was normal in these cases. In his experience, reversal of the color field is not common, and does not occur as often as supposed.

DR. MORTON PRINCE, of Boston, asked if the patient's vision was tested during the hypnotic state. In his opinion, the theory of a shutting off of consciousness during hypnosis is a correct one. In many of these cases, binocular vision is preserved, as proved by prism and stereoscope.

DR. G. L. WALTON, of Boston, said that experiments seem to point that these cases really do see. The tests, however, do not prove that these patients are not simulating.

DR. BOOTH, in closing the discussion, replied that all of his cases were tested for binocular vision, but it was found absent. There was no cause for simulation.

Complete Hysterical Anæsthesia in the Male.—DR. PRESTON, of Baltimore, read a paper with the above title. The case related was that of a man aged thirty-one. Family and personal history were unimportant. The man was a moderate drinker, and during a spree got into a fight, but received no injuries other than some slight bruises. A day or two after admission into the hospital he developed a small patch of anæsthesia of the scalp. A few days later, general anæsthesia appeared. There was complete loss of tactile and pain sense as well as temperature sense. Muscular sense was greatly impaired, but not entirely lost. Taste and smell were lost, and hearing impaired. There was great constriction of the visual fields, and the color fields were reversed. Reflexes, superficial and deep, were normal, as was the electrical reaction. The patient gradually improved and finally recovered under hypnotic suggestion. Total anæsthesia is a comparatively rare condition if the cases of transient loss of sensation be omitted. Stress was laid upon the importance and reliability of careful examination of the visual fields.

DR. GEORGE W. JACOBY, of New York, thought that cases of total hysterical anæsthesia are not rare. They are most frequently found in cases of insanity. He referred to the case of a young girl, in whom he endeavored to determine the presence of ataxia, but it was not demonstrable. In the patients that he had observed, there were also painful points on deep pressure.

DR. WALTON considered it unsafe to depend upon constancy of tests as establishing genuineness in cases of supposed hysteria. A clever simulant may pretend an anæsthetic boundary, sufficiently constant to fall within the limits of genuine variation.

DR. WILLIAM M. LESZYNSKY, of New York, said that with proper precautions during the examination, and with our present methods of investigation faithfully and persistently carried out, it was impossible for the cleverest patient, even an accomplished ophthalmologist, to successfully simulate defective visual fields.

DR. J. J. PUTNAM, of Boston, believed that persons in apparent health are hysterical to a certain degree. The diagnosis must be made from the general aspect of the case, and not from any single symptom.

DR. W. A. JONES, of Minneapolis, asked if there was any immobility of the eyeball in Dr. Preston's case.

DR. J. MADISON TAYLOR, of Philadelphia, asked if there was any difficulty in locomotion, more particularly under excitement.

DR. PRESTON replied that there was neither immobility of the eyeball nor difficulty in locomotion. The muscular sense was preserved and there was no ataxia. He had observed total anæsthesia in one case of insanity. He thought we were too likely to neglect a careful study of the central organism, while devoting so much time to the periphery.

Railway Spine.—This was the title of a paper by DR. F. X. DERCUM, of Philadelphia. He reported two cases with autopsy. In the first case there was excessive sprain of the muscles of the back and of the

trunk generally, with marked spasm of the muscles, and tremor, together with increased reflex excitability of the muscles and tendons. In addition, the symptoms so commonly observed in traumatic neurasthenia were typical; namely, disturbed sleep, startling dreams, sudden awakening with fright, excessive sweating, frequent micturition, occipital headache, tinnitus aurium, marked general weakness, etc. The patient died from some intercurrent disease. Careful examination of the nervous system showed no demonstrable lesion. In the second case there was severe traumatic left brachial neuritis and left brachial monoplegia, with atrophy of muscles about the left shoulder. Severe sprain of muscles of back; right hemi-analgesia extending from the foot up to the level of the nipple; right hemi-thermo-anæsthesia extending from the foot up to the level of the false ribs. The man was exceedingly weak physically, but mentally he seemed clear and accepted his situation in a philosophical spirit. He died suddenly from the rupture of an aortic aneurism. The post-mortem examination of the nervous system proved negative.

Dr. Joseph Collins, of New York, said that although the autopsy and subsequent histological investigation did not succeed in unravelling the mystery of the real basis of the traumatic neuroses, the cases are instructive because of the negative findings. He was in the fullest accord with Dr. Dercum, as to the futility of attempting to demonstrate the organic basis of these diseases by means of older methods of investigation, more particularly by any such as require hardening in Muller's fluid for their preparation. In the first place, this procedure allows no cellular stain except the carmine, and this is so inferior to the Nissl stain that there should be no reason for using it; and in the second place, even if it were a good one the changes that go on in the structures which it stains, from lying for several months in a watery fluid, are such as to negative any conclusions that might be drawn from possible findings.

In one of Dr. Dercum's cases, the ponto-bulbar symptoms were so pronounced—the facial twitchings, the hemi-atrophy, the sensory disturbance—that it was extremely likely that some anatomical change was at the bottom of it. It seemed to him, moreover, that the presence of the large aneurism, which in all probability was of traumatic origin, would indicate that the changes in these cases are primarily vascular.

Dr. Charles K. Mills, of Philadelphia, looked upon these negative results as being very valuable. The microscopical examination should, however, have included the dorsal spinal ganglia.

Dr. Prince said the paper contained a direct proof of the theory of the traumatic neuroses. These patients suffered from psychical shock and physical shock. He agreed with Dr. Collins as to the method of study of nerve-tissues.

Dr. Edward D. Fisher, of New York, reported two similar cases still under observation. He believed there must be some pathological changes to account for the symptoms in many of these cases.

Dr. Smith Baker, of Utica, expressed the opinion that at the time of the accident there is a psychical copy formed which perpetuates this as a series of mimicry. A fixation of attention results, and may bring about changes in the higher cortical centres.

Dr. L. C. Gray, of New York, thought that the nature of these cases is still very puzzling. The term hysteria is objectionable. These railway cases are, however, not hysterical.

Dr. F. F. Miles, of Baltimore, said we will cease to record diseases as functional. The protoplasm of the neuron is altered in its activities by shock. Protoplasm has a tenacious memory (as we see when we have once taught it to make antitoxins) and may repeat an abnormal process until it is fixed by material change. The mystery is why this takes place in some cases of shock and not in others, and why this memory is perpetuated in the cell.

Dr. Dercum, in closing the discussion, fully realized the imperfect method adopted in preparing the specimens, but this was due to unavoidable circumstances in connection with the autopsy, and not from lack of familiarity with the newer methods.

Dr. M. Allen Starr, of New York, then gave a lantern exhibition of photo-micrographs of nervous histology, Golgi stains. This was followed by a lantern exhibition of the medulla oblongata of a chimpanzee with other specimens, by Dr. Edward Wyllys Taylor, of Boston.

Exhibition of the Brain of a Chimpanzee, by Dr. Thomas Dwight, of Boston. He spoke of the brain of the chimpanzee "Jumbo," and discussed chiefly the anterior limb of the fissure of Sylvius. On the left this was distinct, ending in a bifurcation beneath a rudimentary *pars triangularis*. On the right it was represented by a minute depression not connected with the fissure.

Inhibition in the Physiology of Respiration.—Dr. William Townsend Porter, of Boston, said that it is known that transverse division of the spinal cord between the bulb and the phrenic nuclei causes fatal arrest of the respiratory movements of the trunk. If death be prevented for a time by artificial respiration, the reflex powers of the cord gradually increase, and in the course of a few hours they may become so great that pinching the paws, blowing on the skin, suspending the artificial respiration, etc., may cause extended muscular contractions, including contraction of the respiratory muscles.

It is claimed that these contractions of the respiratory muscles after the separation of the cord from the bulb are proof that the respiratory impulse for muscles of the trunk is not derived from respiratory cells in the bulb, but originates in the spinal cord. Against this hypothesis of spinal respiration is urged the fatal arrest of the respiration of the trunk caused by separating the bulb from the chord. It is replied that section of the chord stimulates inhibitory fibres in the chord, and thus suspends the action of the spinal respiratory cells.

The doctrine of prolonged inhibition of spinal respiration is easily overthrown by the following experiment: Hemi-section of the cord usually arrests the contractions of the diaphragm on the side of the hemi-section. This arrest is not an inhibition, for the diaphragm on the side of the hemi-section begins at once to contract when the opposite phrenic nerve is cut. It follows that two hemi-sections, completely separating the cord from the bulb, do not inhibit the diaphragmatic respiration on their respective sides. The phrenic cells often send out no respiratory impulses after such a section, because they receive none from the bulb. The phrenic cells cannot themselves originate respiratory impulses. Hence the respiratory impulse does not arise in the spinal cord.

The Pulse in Insanity.—Dr. Theo. H. Kellogg, of New York, read a paper with the above title. It was based on the study of 2,172 cases of insanity, and gave tables and diagrams. The sphygmograms taken from among his patients on enamel paper had been transferred by photographic process, and were mounted on photographic cards.

The general conclusions arrived at were: that there is, in established cases of insanity, considerable increase in the average frequency of the pulse, both among men and women. The average obtained from the 2,172 cases was 84.8 per minute in the women and 80.8 in the men, giving a general average of 82.8 in the total number of patients studied. There was irregularity of heart action in five per cent., intermittence in two per cent., heart murmurs and heart lesions in eight per cent.

The various forms of sphygmographic tracings found in the different forms of insanity were discussed at

some length. The general result of the sphygmographic studies was that abnormal tracings are to be found at some stage of the disease in the vast majority of cases of insanity. They are due to affections of the cortical and spinal motor and vaso-motor centres, to various lesions of the sympathetic, to disorders of the pneumogastric, to peripheral and central vascular changes, to degenerations of central organs, to toxic agents in the blood, to auto-intoxications, to cachectic and diathetic conditions, to cardiac lesions, and to a great variety of intercurrent causes. No one sphygmogram is pathognomonic of any particular form of insanity, but there are certain general types of tracing which are found in one form of mental disease and not in another.

Localization of Lesions in the Pons.—Dr. Charles K. Mills, of Philadelphia, read a paper upon this subject. He first presented a record of a case with autopsy and drawings of microscopical sections. This patient was a man, fifty-three years old, with a syphilitic history. His intra-cranial symptoms came on about eight months before his death, the first being paralysis of the left abducens nerve. He had attacks of weakness and dizziness. He showed on examination paresis of the left leg and arm, paralysis of the left external rectus, paresis of the right external rectus with some restriction of ocular movements to the left. The patient was extremely emotional, tending to break into laughing and crying without special incentive. No areas of anæsthesia were discovered. The knee-jerk was exaggerated on the left side.

Examination of the pons and preoblongata revealed a lesion beginning about fifteen millimetres caudad to the junction of the pons and crus. It was on the left side, close to the median line, and almost entirely in the dorsal half of the pons. Sections through the lesions showed softened and degenerated tissue on both sides of the median line, much more marked on the left. As shown by microscopical examination, the parts involved in the lesion were the right mesal fillet and pyramidal tracts to a slight degree, and the root-fibres of the abducens. In connection with this case, remarks were made on the method of localizing small gross lesions in the pons. This method was founded upon a number of cases, most of which have been published. He divided each half of the pons and preoblongata into nine segments, three ventral, three dorsal, and three intermediate between the ventral and dorsal. Drawings were shown which were based upon actual sections of specimens. The parts played by the cranial nerves, by the superficial and deep transverse fibres, by the pyramidal tract, the fillet, the systems of root-fibres, and the nuclei of the cranial nerves and the special pontile nuclei in this method of local diagnosis were shown.

Second Day, Wednesday, June 6th.

Hyperostosis Cranii.—Dr. James J. Putnam, of Boston, read a paper with this title. He reported four cases of this rare disease, showing two of the patients, besides photographs and specimens illustrative of the other cases and of the disease in question.

The first part of the paper was devoted to a general discussion of the pathological questions, and the statement of the views expressed by Virchow, Baumgarten, and Starr.

Hitherto these enlargements of the cranium have been considered as of an inflammatory origin, but the two writers last mentioned have brought forward some reason for thinking that the disease may be a species of trophic affection, distantly analogous to myxœdema and acromegaly. This is an interesting hypothesis, but cannot yet be accepted as proved. The symptoms of the disease are mainly due to pressure by bony masses on the cranial contents, especially the nerves and vessels which perforate the skull. There is often exophthalmus, due to partial obliteration of the orbit, and usually some signs of paralysis or irritation of cranial nerves. Epileptic attacks occasionally occur, and sometimes very early in the disease. Double optic neuritis and other signs of intra-cranial pressure may be present, and there is almost always headache, due to the interstitial bony changes. The head is sometimes enormously enlarged, and when, as frequently happens, the bones of the face are involved, peculiar deformities may be present, such as suggested to Virchow the name "leontiasis ossea." Photographs of a specimen in Washington, illustrating this form of the disease, were exhibited.

Baumgarten pointed out that the disease generally began in youth, and in one of the reporter's cases the first indications were noticed when the patient was five years old, in the form of two exostoses near the vortex, which afterward assumed a great size. The cranial bones usually become very dense, as from an inflammatory change, but sometimes the diploë is rarefied. The question of operation suggests itself as a means of reducing intra-cranial pressure or of cutting off the blood-supply to the bone. In this connection it may be noted that the channels of the meningeal vessels are sometimes strongly marked, sometimes nearly obliterated.

Dr. Starr, of New York, said that these cases were more advanced and more extreme than those he had reported. He tried thyroid extract in one of his cases without benefit. He was led to do this as he had seen some improvement after its administration in a patient with acromegaly.

Dr. Morton Prince narrated the history of a case under his observation in which this condition of the cranium followed a traumatism which occurred two years before. The enlargement was not general, but was mostly confined to the frontal bone. At the autopsy the orbital plates were found enormously enlarged, and the anterior portion of the brain had undergone extreme compression.

Dr. G. M. Hammond, of New York, asked if structural changes existed in other bones. His case was of syphilitic origin, and there were nodosities and other enlargements in the long bones.

Dr. Putnam concluded that when syphilis was present these cases should be placed in a different class. There is a tendency to bony enlargements in these cases.

Dr. F. T. Miles, of Baltimore, showed the brain of a child, three and a half years old. It was from an idiot with left hemiplegia. The right cerebral hemisphere was atrophied to a great degree in all of its lobes and convolutions, and the right crus was small. The left cerebellar hemisphere was one-third smaller than the right.

Dr. H. L. Worcester, of Danvers, had made autopsies in three cases where there was decided asymmetry of the cerebral hemisphere, but the cerebellum presented no abnormity.

Dr. Charles K. Mills had reported, some years ago, the case of a negro murderer where there was atrophy of one cerebellar hemisphere with opposite cerebral atrophy. It is rare to find coincident atrophy of opposite cerebellum.

Dr. Starr said that this condition is usually congenital and is often found in idiots.

Dr. Edward B. Angell, of Rochester, had seen a similar condition at autopsy in a patient, thirty-three years of age, in whom a cyst of the cerebrum had existed since childhood.

Cortical Localization in the Light of Recent Researches into the Minute Anatomy of the Cortex.—Dr. Charles K. Mills opened a discussion on this subject. He said that the different theories as to the separate cortical localization of movements and of cutaneous and muscular sensation, which had been the

subjects of so much controversy, have again become prominent in the light of the researches founded upon the methods of Golgi, and particularly those made by Raymon y Cajal, Van Gehuchten, Schafer, Andriezen, and others. Those who contend against the doctrine that the Rolandic cortex is a purely motor region believe that they have received additional support for their views. The varying hypotheses with reference to the functions of the cortex were reviewed. He held that, as shown by Forel and Nansen, we have been too long handicapped by prevailing ideas of cell action, and by theories of the parts played by the cell-bodies as originating centres. Impulses are transmitted and transferred by processes as well as by cell-bodies, and the function of the latter is chiefly trophic. The new researches and theories he believed did not compel abandonment of former views as to special localizations, although different stand-points had been taken. Disregarding theory entirely, he believed that the subdivision of the cerebrum into physiological lobes—higher psychical, motor, sensory (meaning for the representation of cutaneous and muscular sensations), visual, auditory, olfactory, gustatory, and naming—remained for the practical purposes of the physician and surgeon the best. While the whole of the cortex in some of its strata may be regarded as a sensory expanse, if Rolandic portions and particularly the convolutions cephalad of the central fissure constitute a region which is related to specialized movements of various parts of the body. One calls it motor, another kinesthetic, another sensorimotor, and another executive, but for the purposes of the physician and surgeon it is a motor sphere, the irritation of which causes specialized movements, while its destruction impairs or abolishes these movements. He did not believe with Andriezen that it was necessary to regard the ambiguous and great pyramidal cells of this region, whose apical processes received the terminals of the fillet radiations, as the first sensory cells of the cortex. Indeed he regarded it as important to rid ourselves entirely of the idea of sensory cells and motor cells. The cortex contains localized areas. To abandon separate sensory and motor localization would, he believed, necessitate the abandonment of visual, auditory, gustatory, and other subdivisions of the cortex. The cerebral sensory area—that is, the area of representation for skin and muscle sensations—both cortical and subcortical, would be, from his point of view, that part of the cerebrum where the fillet radiations in their most compact forms are nearest to the surface of the brain, and therefore this region might continue to be described as it had been by him, as in the postero-parietal, quadrate, and formicate convolutions. Destruction of this region, especially if bilateral, caused more or less impairment of sensation. He referred to cases reported by Savill, Sharkey, Starr, McCosh, and himself as confirming this view. In the cerebrum, as in the spinal cord, were fields of junction between so-called cortical areas, and lesions of these fields of conjunction, or at the terminations of the sensory projection fibres, might give rise to temporary sensory phenomena; but persistent sensory disturbances were found only when the lesions involved the convolutions included by him in the general sensory area.

Dr. Dana said the author had not referred to or tried to explain the facts which establish the proposition that he believes regarding this subject. He (Dana) had collected a number of other cases and added some of his own, and it is because he cannot explain the clinical facts or the pathological facts by any other hypothesis than by supposing that the motor and sensory functions are practically united that he still holds to that view. He asked Dr. Mills to explain why, when one cuts away a section of the mid-central, pre-central convolution, he finds tactile anæsthesia and muscular anæsthesia the next day, with paralysis, on any theory except that these two functions are united in that spot. These cases are extremely numerous in the literature of neurology. If one carefully shaves off the anterior pre-central convolution in the middle part, he will get sensory disturbances, anæsthesias.

Dr. Mills may not perhaps be aware that in the living subject the motor cortex has been directly irritated also in front of the fissure of Rolando and produced sensory and motor disturbances. If a man's sensory functions are localized and the cutaneous sensations and muscular sensations are located in the gyrus fornicatus, he did not understand how the passage of the electric current should cause sensations entirely analogous in the arm to those of the tactile impression made upon the skin; in fact, the whole weight of clinical evidence is in favor of that view; the surgical operations, the tumors, the softenings, all are facts which cannot be explained on any other hypothesis, so far as he knew, than that the two functions are essentially identical anatomically.

It is a plausible theory that the visual centres, centre for visual sensation, and auditory and gustatory sensations, are separate from the motor sensations, and they and cutanous and muscular sensations would naturally have separate centres, but it does not at all hold against any actual facts, and when we come to analyze it it is not so necessary or plausible after all. The visual sensations are not so closely related to motion as are the cutaneous and muscular sensations. For the performance of co-ordinated movement we must have a very close anatomical relationship between the muscular and cutaneous sensations. They cannot afford to have muscular sense impinge on the gyrus fornicatus and have associated bundles running up to the central convolution. They must be close together anatomically for the purposes of a perfect machine, otherwise we could not make rapid motions; and he believed it is for that reason that nature had gradually shifted the sensory receptive cells so that they are in approximately close relation with the motor cells.

He believed that perhaps if we were all agreed as to exactly what is meant by sensations, and exactly what tests we use for making sensations, and were agreed about the terminology of our discussions, we would not perhaps have so much discussion about this matter. He agreed with Dr. Mills that sensations are not closely localized, and he agreed that we should speak of sensory areas, but did not believe we have sensory areas separate from the motor ones back in the post-central and parietal lobes or in the gyrus fornicatus. He does not accept Dr. Starr's view that the sensory centres are back of the fissure of Rolando, for from the evidence he had been able to collect there is just as much proof that the pre-central convolution has sensory functions as that the post-central one has.

Dr. Putnam thought Dr. Dana's closing sentence must be accepted as absolutely certain that the convolution in advance of the fissure of Rolando, which we ordinarily associate with the localized movements, has as much to do with sensation as convolutions anywhere else. In support of that fact he mentioned one case among many where Dr. Warren excised a minute piece of the cortex of a young man with epilepsy beginning in one hand—a piece a few millimetres in diameter—with the result of producing paresis of the hand, paralysis in the beginning, and also a disturbance of the sensibility of the whole hand. It seemed to him that showed in some way the function of sensibility is closely related to the same centres with the function of motion. What that relationship is, is a matter still calling for a great deal of study. His own view of the difficulty is that we are still decidedly lacking in a sufficiently adequate physiological or psychological conception of what we mean by these various terms. The function of sensibility must be very widely distributed. When any part of the body is touched or any motion takes place there, it calls immediately on various other functions to come into action. The motion of the

eyes must follow very rapidly on a sensation, because the individual touched must immediately know from what cause the touch arises, and the like ; so that close relationships must be established, and, as a matter of fact, we have every reason to think they are established, with all sorts of cerebral functions of various kinds. When we apply sensory stimulus we are applying what may perhaps be a very gross molecular disturbance of a nerve to the part touched, and then it impinges on some part of the brain primarily, and from there it must spread just as we know in the spinal cord a sensation will make its way from a minute portion of the substance of the cord that is left ; so in the case of the brain, if one channel is cut off it will make its way into a dozen other channels. An enormous tumor was removed, almost as large as an orange, which lay directly in the motor tract, and in the course of the operation Dr. Richardson put his finger down and thought he felt the falx and various recognizable bodies at the base of the brain, if not of the skull at any rate of the brain ; in short, it must be that the whole of the motor area was removed with a good part of the internal capsule. Nevertheless that patient still has a very considerable degree of sensation left, of course modified ; but in the first place contact gives rise to a painful distressing feeling, contact with the paralyzed parts ; in the second place even a slight rubbing is felt, and the localization is still fairly good. Nevertheless he feels in a very high degree, so that although the removal of the motor convolution has affected the sensibility of the limb, it has not by any manner of means destroyed it. Nerves will stand a high degree of injury, sufficient to entirely destroy their motor functions, without interfering materially with their sensory functions. The same thing in the cord : a minute portion of it will convey centripetal impressions ; we have in our own power to make what may be tremendously powerful as compared with the little thrill corresponding to a motor impulse originating in a voluntary act ; so also in the brain, we know it takes a very extraordinary degree of mutilation of the brain to entirely destroy sensibility.

Although we must admit that the function of sensibility is closely related to the function of localized motion, we must admit that it is closely related to a great many other functions, and it remains to be seen whether, as in the case of the relation of the muscles of articulation to the function of speech, there is any centre which is highly specialized. He had in mind several cases where the sensory functions have been disturbed in connection with paresis of one hand, where he seemed to be able to detect a higher degree of loss of sensibility or impairment of sensibility on the side of the ulnar part of the hand than on the median portion.

Dr. Starr said we certainly have facts that Dr. Dana has stated that are indisputable, and those of us who are constantly seeing cases of cerebral surgery and exsecting cysts and portions of the cortex by clots that can be removed, are perfectly positive that a small limited area of the so-called motor zone does inevitably produce in almost every case more or less disturbance of sensation. He said he was completely mistaken in 1890, when he maintained that sensations were only to be referred behind the fissure of Rolando. He believed with Dr. Dana completely to-day, that there are sensations produced by small lesions anterior to the fissure of Rolando, and that the sensory area of the body corresponds exactly with its motor area, so far as we can determine clinically. He thought it would be a mistake to draw too broad a conclusion from these facts.

It is perfectly evident that the term diffusion of sensibility is a capital one, and our present anatomy shows why it is ; it is because these sensory fibres terminate in brush-like expansions, so that we must conceive of a sensory fibre as virtually terminating in a long region of the nervous system, in fact, almost throughout its entire length. Now, suppose that with the continued passage of sensations over these fibres diffusing themselves in general directions, habit opens the way in one direction rather than in another, that a sensation coming in might be diffused from the arm over the entire parietal arm-centre and also diffused over the motor-centre ; but inasmuch as we guide our movements by touch habitually, the result is that a greater passage is opened out over to the motor zone. Diffusion of the sensibility in various areas gives an explanation for the fact that a few cases are on record where we get sensations lost alone, and the vast majority of cases show that sensation and motion are lost together. We must abandon the idea of consciousness and conscious perception, and perhaps to some extent of conscious motion, being associated with particular cells. It is just as reasonable to believe it is associated with association fibre action, the combined activity of various areas of the brain, as it is with single cells, and he thought we will come down finally to the fact that a cell is to be regarded more as a trophic centre than as a motor or sensory.

Dr. Dercum said that the stand which had been taken enables us to explain certain other phenomena not alluded to here, namely, the fact that the cuneus atrophies in cases of blindness last for many years. Certain it is that we have no right to conclude from these facts that the cuneus only sees. It is probable it does other things. The various centres of the cortex, as we know them clinically and pathologically, are simply highways of ingress and egress to the general cortex. It gives us no right to say that this portion of the brain may do this special thing, and that portion that special thing. But general biological considerations also would negative the sharp differentiation of cells into special functions. Nerve protoplasm reacts to certain forces ; to say one cell would react to one mode of motion and another to another, is unphilosophical, and not borne out by general biological considerations.

Dr. Richardson said, in reference to the tumor Dr. Putnam spoke of, that so far as he knew there was no destruction of the motor areas except by pressure of the growth. The tumor was very large. It took up a very large portion of the left hemisphere. During the operation he touched the falx throughout a great deal of its extent, his finger passing through a very large opening through the crista galli to the tentorium. But, so far as he knew, there was no destruction of brain tissue by manipulation during the operation. The man is now doing very well.

Dr. Collins had recently had a case of cerebral surgery in which the development of sensory and motor defects were rather peculiar. The young man had his first attack of Jacksonian epilepsy in November, and the movements were contraction of the finger and thumb. When he saw him in March he had had three. In conjunction with Dr. Sachs, Dr. Gerster operated on the patient over the superficial cortical thumb-and-index-finger centre. As the patient bore the anæsthetic very badly, it was necessary to postpone the operation after the skull had been opened, that is, cutting into the cortex was deferred. That night he had an extremely severe attack, which had been preceded a short time by a very high temperature and loss of consciousness for a long time. The following morning he had paresis of the right upper extremity and loss of sensation, that is, loss of tactile sense, loss of sense of position, and loss of muscular sense in the right hand. Three or four days afterward the dressings were opened and a good deal of distention was found from effusion into the surrounding cellular tissue, but otherwise, where the operation had been done, it seemed very much like normal. Then a large part of the cortex was cut out. An old pachymeningitis was present, and the Nissl stain revealed degeneration of the cortical cell. He was put to bed and his hand tested for sensi-

bility that evening. The disturbances of sensation had all disappeared. These observations were made with extreme care.

Dr. Angell, of Rochester, corroborated Dr. Collins because he had a similar case. He made the prediction that there would be paralysis for five or six days at least, and to his surprise, when the boy recovered from ether two or three hours after operation, he tested him thoroughly and found sensory paralysis. Within twenty-four hours there was absolutely no sensory paralysis or sensory disturbance. He did not believe it possible to make an impression upon any centre of the brain closely related to another centre, without affecting temporarily that sensory centre. Whether this will explain the reason why we have a short paralysis of sensation when we remove the motor cortex or not is, of course, beyond our power yet to determine. It may be by cutting into the cortex that we affected the rootlets of the radicles from the sensory tract which we suppose reach over and produce this diffusion of sensation that has been referred to.

Dr. Prince, of Boston, said there is a third fact which Dr. Starr had left out of consideration, and that is the fact that, in many cases which have been referred to by other gentlemen, there has been no loss of sensation. These must be exceptional cases that must be taken into consideration in order to find a law. A great many could be mentioned. He referred to two which he thought were of great importance. Many will remember the case of Dr. Hall White, published in 1893, in which case he excised a certain portion of the cortex and with great care observed the effect on sensation, and although he had paralysis there was no loss of sensation. What seems to be a most crucial test was a case published a short time ago. In that case he first scooped out a piece of the brain equal in size to half an orange, leaving a hole two inches in depth, involving a very large portion of the upper part of the descending convolutions, caudate lobule, and some part of the parietal convolution. Before the operation there was hemi-anæsthesia with paralysis; after operation there was absolutely no loss of sensation whatsoever, tested in the most minute way. A case like that is a crucial case, and if the word centre has any meaning whatsoever it must mean a portion of brain the function of which is destroyed when taken away. These cases must be taken into consideration, and show that a large portion of the motor cortex can be destroyed without loss of sensation. Dr. Dana asks how to explain these other cases. That is another question. He did not know how to explain them. It is common to have injury of the corpus striatum with aphasia and sensory disturbances, and beginning with hemi-anopsia; hemi-anopsia is common with lesions of the corpus striatum, and yet no one localizes hemi-anopsia in the corpus striatum. Aphasia is common as a secondary disturbance with lesions in different parts, and yet we know where aphasia is located. We therefore must regard them in some way as secondary disturbances. In the case of the corpus striatum we can explain it by œdema, local congestion. It is possible it may be explained on some form of irritation of associated fibres, the effect of inhibition. Whatever the explanation, it seemed to him we must distinguish the facts and the logical deduction of those facts from any necessary explanation.

Dr. Putnam, of Boston, said no one would speak clinically or anatomically of the sense of hearing and comprehension of spoken words as located in the same part of the brain, but we know these two functions lean on each other internally so closely, that not only we get more or less aphasia from disturbance of the centre for hearing, but we also get to a less degree a great deal, as is also the case with sensory phenomena, of disturbance of centres, of comprehension in most forms of motor aphasia. In short, cerebral functions do not exist in themselves, they exist as related to other functions, and you cannot destroy one without more or less impairing others, although it may be only for a brief time.

The President added that the whole of our knowledge of the neuron goes to show the very pronounced dependence of the motor neuron upon the sensory neuron. In the primary neurons it has been clearly proven that the terminal processes of the axis cylinder of the sensory neuron are closely connected with the apical process of the motor neuron in the cord.

The development of the fibres in the cortex, in the brain itself, shows that the sensory tract passes distinctly upward toward the central convolution, the parietal region, rather than downward and inward toward the gyrus fornicatus where Ferrier some time ago located the sensory centres, and where Dr. Mills still has a leaning toward placing it. In other words, judging from all the analogies in the anatomy of the brain, the higher sensory neurons must either pass upward directly to connect by their axis cylinder processes with the cells of the body motor neuron, or there must be association tracts from these axis cylinders going up to the motor processes. We find no association tract passing up from the gyrus fornicatus to the central fissures, and furthermore, although Dr. Prince has just brought up the negative cases of lesion of the central convolution without injury to sensation, there have been in the past a very large number of so-called negative cases about the central convolution with absolutely no motor disturbances. Most of those with our increasing knowledge have been explained away, and ten negative cases do not afford as much evidence as one positive case. The positive cases of sensory disturbances following lesions behind and in front of the fissure of Rolando are increasing in number and become very conclusive. The positive cases of lesion in the neighborhood of the gyrus fornicatus are very few and far between.

Dr. Mills, in closing, claimed that this discussion confirmed the stand-points he had always taken. It seemed to him astounding that Dr. Dana and others here speak of the cases in which physiological or pathological lesion of the motor cortex as exceptionally producing alone motor symptoms. Everyone of us must admit the cases referred to by Dr. Starr and Dr. Dana, and by Dr. Putnam and Dr. Knapp's case, because we know they have been well studied and well recorded; that is, cases in which sensory phenomena of some sort have accompanied the motor phenomena in cases of destructive lesion of the pre-Rolandic cortex. We must admit, too, the two or three cases in which certain experiments upon the cortex in life have caused peculiar temporary disturbances of sensation at the time. The cases are as a hundred to one as the cases against the view that were collected by Brown-Séquard, as against the doctrine of crossed paralysis. These cases of sensory disturbance from strictly limited lesion of the motor cortex, cases in which the symptoms were motor alone instead of sensory, are as one hundred to one, and we do not think it longer worth while to collect these cases. He said positively that in a score of these cases with the greatest care the patients have been examined in life and the lesions located in death, and in cases of operation the greatest care had been taken in studying sensory phenomena, and those sensory phenomena had not been present. He mentioned two cases of his own, one in which Dr. Hearn cleanly excised a portion of the cortex and a portion right across and in front of the Rolandic fissure; another case in which Dr. Keene did the same thing, cleanly excising the cortex, and in which he studied with the greatest care, as soon as it was possible, the sensory phenomena, and in which these were not present, and in which the motor phenomena persisted day after day, and day after day changes were noted, until the patient was largely restored as regards motion and sensation not having disappeared at all. He did not think it worth while, therefore, to pit these cases which Dr. Dana had, with great skill and

labor, collected as an argument of great value against the very numerous cases which teach the other thing. However he must acknowledge the other cases. Have we no explanation for these cases? The explanations have been given here, some of them. He would suggest three or four explanations for these cases in which destructive lesions cephalad of the sensory area have given rise to sensory disturbance.

One explanation which may seem far fetched is that these cases are somewhat of the nature of the cases in which we have a sensory disturbance in hystero-traumatisms. Many times yesterday in the discussion they told us about hemi-anæsthesias and about segmental anæsthesia as result of a man being struck on the head, or leg, or trunk, and certainly the traumatism inflicted by the surgeon's knife, or by injury, or disease in acute cases, or by operation such as Dr. Dana refers to, is greater than that which we have in these other cases. Another explanation is that which he suggested in 1888, which grows out of these later researches on cortex anatomy. Undoubtedly every area of the cortex, visual, auditory, gustatory, sensory, etc., must be related and anatomically connected with the motor regions of the cortex. Now it is through the destruction of these terminals of the fillet radiations, whether they be continuous with the apical process of the pyramidal cells or simply constitute a field of conjunction, we have a separation between the motor and sensory areas, and at least temporary disturbances of sensation would very likely in many instances result. It is a great cortical sensory expanse in this sense, but there is one region in the brain in which these fillet radiations are placed between the cortex, and which for the surgeon's and physician's purpose should be regarded as the sensory region. It is next to the motor region, and between the motor and great sensory region. It has a separation, and one which I believe is practical for our purposes.

The remarks made by Dr. Starr he thought were on the whole confirmatory of what he had stated. It would seem, therefore, that the weight of argument and the weight of the evidence advanced here is still in favor of the localizations to which he had always clung, and which were believed in by Charcot, Ferrier, and others. He had never claimed the gyrus fornicatus was the sole region of common sensibility in the cortex of the brain. His own position always has been that the sensory cortex proper includes at least a portion of the gyrus fornicatus, quadrate lobule, posterior parietal convolutions, and the arguments he advances must stand for the motor region and not for a part of it.

Dr. Dana asked if Dr. Mills would tell us specifically whether he denies that the central convolutions have any sensory function, if he absolutely excludes sensory function from the central convolution.

Dr. Mills replied that for our purposes and for our practical idea of a centre or area, he believed the central convolution or convolution cephalad of the central fissure had no sensory function; he believed the posterior central convolution and the posterior parietal and the region he had named perhaps take part in sensory phenomena, that is, the sensory region posterior of the central fissure.

Tumor of Cerebellum with Autopsy.—This was the title of a paper by Dr. E. D. Fisher, of New York. The interesting feature of the case was the absence of any symptoms that could be directly referred to the cerebellum. There was no inco-ordination, nor any staggering in the gait. The pain was situated principally over the right orbit.

The only well-defined cranial lesion was that of the eighth nerve on the right side, there being absolute deafness. There was possibly a slight involvement of the seventh nerve on the right side, and the patient said she had complete loss of smell. The general symptoms of a cerebral tumor, *i.e.*, headache, convulsion, and optic neuritis, were present. A lesion at the base of the brain was suggested by the cranial nerve lesion, with involvement of the cerebellum; the absence, however, of cerebellar symptoms, and the localization of the pain so definitely over the right orbit, led to an exploratory operation in that situation. The tumor was not found at the time, but there was a complete relief from the pain and the convulsions until the time of death, eleven weeks later, which was caused by a septic basilar meningitis. Autopsy revealed a glioma involving the right cerebellar hemisphere. The operation was by the bone-flap method of procedure.

Cases of Brain Tumor.—Dr. Preston, of Baltimore, related three cases of tumor of the brain with autopsy. The first case was that of a boy aged thirteen. For a year he had what looked like ordinary epileptic attacks, which were very much lessened by the bromides. Then he suddenly developed diplopia with some neuroretinitis. Vision was greatly reduced, and there was at first left lateral achromatopsia, and afterward left hemi-anopsia. Gradually he lost entirely both sight and hearing. The reflexes, both superficial and deep, were lost. He complained of most intense headache, and there was gradual failure of mental power. The autopsy revealed a large tumor involving the entire right temporal lobe; the occipital lobe was softened and broken down, but the cortical portion of the occipital lobe was not involved. The tumor was a sarcoma. The second case was interesting from the fact that the tumor, a small papilloma not larger than a partridge egg, buried itself in the right superior occipital convolution, producing intense headache, with double optic neuritis. The third case showed a large sarcomatous tumor involving the temporal lobe all except the first convolution, the greater part of the occipital lobe, and the lateral lobe of the cerebellum. The symptoms were not very well marked except headache and mental disturbance. It was interesting to note that the first temporal convolution was not involved, though the rest of the lobe was virtually destroyed, and in accordance with our accepted views concerning the auditory centres, there was deafness.

Brain Tumor.—This was the presentation of a specimen by Dr. G. L. Walton, of Boston. The main interest was the question whether operation might have proved successful. The patient was fifty-three years of age, and complained of frontal headache only two months before his death. Attacks of vertigo, loss of speech, and several general convulsions preceded and followed. Aphasia, agraphia, right hemiplegia, and right hemi-anopsia were present. Double optic neuritis and loss of superficial reflexes on the right. The tumor occupied the angle between the Rolandic and Sylvian fissures. Extension forward under the healthy cortex reached beyond the transverse frontal sulcus. It was fairly well defined but with no distinct capsule. The centre was necrotic. The symptoms suggested so extensive infiltration that operation was considered to offer small hope, but the extension backward was not so great as the hemi-anopsia would indicate, a fact which, together with recently published cases of removal of large infiltrating gliomata, would lead, perhaps, to a somewhat more hopeful prognosis in another case of this nature.

The three preceding papers were discussed together.

Dr. Starr referred to a case of infiltrating glioma in the arm area of the motor zone. Symptoms developed in the course of a year. Headache, optic neuritis, spasm of right hand and arm. Later paresis and loss of sensation. Operation by curved bone-flap. Glioma very extensive and very vascular. It was impossible to remove it safely. Death within a few hours. He mentioned a case of suspected tumor of corpora quadrigemina. A flap of bone was removed from parietal region and attempt to puncture ventricles was unsuccessful. No relief of pain. He concluded that operation under such conditions was useless. He agreed with Dr. Fisher that the position of the pain is of no value in localization.

Dr. Dana said that the use of the chisel upon children and infants is a bad method of operation. He recommended the use of the improved revolving electrical saw, as used by Dr. Powell, of New York.

Dr. George W. Jacoby, of New York, had witnessed two operations upon adults in which the electrical saw was used. He considered the method objectionable, as there was more hemorrhage and a wedging of the saw interfered with the operation. He spoke favorably of Quincke's lumbar puncture for relief of intracranial pressure.

Dr. Dercum spoke in favor of a perpendicular burr worked by a dental engine.

Dr. Collins had seen a case where after each series of blows from the mallet and chisel the pulse fell from 60 or 70 to 35 or 40.

Dr. G. M. Hammond had witnessed one operation with the electrical saw upon an adult, and many upon children. The saw as now used has a greater electromotive force to operate it than formerly, and this obviates the earlier difficulties as mentioned by Dr. Jacoby.

Dr. Dercum had noticed the same symptoms following the use of the chisel as described by Dr. Collins.

Injury of the Angular Gyrus from Fracture of the Skull.—This was a report of a case by Dr. C. Eugene Riggs, of St. Paul.

Hereditary Chorea with Autopsy.—This was the title of a paper by Dr. Charles L. Dana, New York.

Dr. Mills looked upon the case as very important. It suggested the true explanation of a large class of cases (such as Friedreich's ataxia, hereditary chorea, spastic paralysis), that these are teratological.

Insanity and Phthisis, their Transmutation, Concurrence, and Coexistence.—Dr. H. A. Tomlinson, of St. Peter, read a paper with the above title. He considered that phthisis and insanity are equally potent factors in the production of brain instability.

The preponderance of degeneration among those having an heredity of phthisis is significant, as indicative of the influence of phthisis in one generation, in determining a defective nervous system in the next, and his tables also indicated that the more direct the heredity, the greater is the probability of transmutation.

Disease processes which are constitutional or diathetic attack primarily one or other form of tissue, with the result of progressive degeneration and disintegration if the tissue be epithelial. However, if the connective tissue is the seat of a disease process it either increases rapidly in amount, and remains permanently increased, or undergoes liquefaction.

The most common form of degeneration among the insane is the connective-tissue type, or the premature and excessive manifestation of the changes which ordinarily occur in senility.

The preponderance of imperfectly developed connective tissue in one generation implies the excessive development of functional tissue in the next, thus accounting for the transmutation of disease tendency. These changes are abundantly illustrated in the tuberculous and defective children of neurotic or syphilitic parents.

Third Day, Friday, June 7, 1895.

The Diagnosis of Pachymeningitis Interna Hemorrhagica.—Dr. William N. Bullard, of Boston, read this paper. He considered the pathology of this affection as yet unsettled, though he believed the weight of evidence to be in favor of a non-inflammatory origin. There are several forms of subdural hemorrhage, but what follows applies only to the apparently spontaneous, non-traumatic affection occurring in adults. The points of differential diagnosis between this condition and other forms of intra-cranial hemorrhage are: 1. The subdural hemorrhage is peculiarly common in paralytic dements and in the chronic insane, and not rare in chronic alcoholics. 2. The onset is often more gradual than in ordinary intra-cranial hemorrhage, and the irritative stage lasts unusually long. 3. The symptoms of irritation are prominent. General epileptiform convulsions and localized convulsive movements are apt to occur. 4. The peculiar rigidity occurring in one limb in connection with symptoms of hemorrhage, and where no affection like tubercular meningitis exists, is very significant. The treatment in this condition is removal of the clot. In all more serious cases this should be done as soon as the disease is recognized. The author reported a case in which operation was performed and the clot removed, although too late to save the life of the patient.

Dr. Tomlinson thought the term pachymeningitis was a misnomer. The primary condition was non-inflammatory. In syphilitic cases there are no signs of active inflammation, but changes in the blood-vessels.

Dr. Fisher believed that the blood comes from newly formed vessels which have resulted from inflammation, and asked what the special indications were for operative interference.

Dr. Bullard answered that operation was indicated where symptoms of pressure existed. The question as to the origin of the disease remains *sub judice*.

Tabes and Multiple Sclerosis.—Dr. E. W. Taylor, of Boston, showed a patient suffering with the unusual complication of tabes dorsalis and multiple sclerosis. Probable syphilitic infection twenty years ago. The patient first noticed a tumor of the hands fourteen years ago, followed by pain of a lancinating character in the legs, associated with general muscular weakness. Gradual increase of these symptoms, with occasional paræsthesia of the legs. Girdle sensation and difficulty in micturition. Loss of knee-jerk, Argyle Robertson pupil, lancinating pains, disturbances of sensibility, making the diagnosis of tabes dorsalis unquestioned. In addition, slight nystagmus, spasm of posterior thigh muscles, muscular weakness, hesitating speech, and absolutely characteristic intention tremor, which masks what little ataxia he has.

Dr. Prince then presented microscopical specimens from a case of cerebro-spinal syphilis.

Pathology and Morbid Anatomy of Amyotrophic Lateral Sclerosis.—This was the report of two cases with autopsy by Dr. Joseph Collins, of New York.

After referring to the moderately constant clinical picture of amyotrophic lateral sclerosis, and the variable pathological conditions on which they have been found to be dependent, he referred to the fact that the number of cases in the literature which were well substantiated by autopsy were fewer in number than one might be inclined to think. Reference was also made to the different views held by the followers of Charcot and Erb on one hand, the Gowers, Leyden, and others as to whether the disease is primarily of the pyramids with a secondary involvement of the anterior horns, or whether it is but a variation from the common form of progressive muscular atrophy. The first case was a male, thirty-three years of age. The autopsy showed atrophy of the ganglionic cells throughout the cord; in the cervical and dorsal regions, evidences of excessive vascularity, in the shape of large thickened blood-vessels, especially in the gray matter and spaces from which vessels have dropped. In the cervical cord, corresponding to the place of apparent softening in the recent state, was found great disorganization of the ground substance of the anterior horns. In the medulla, degeneration of the nucleus throughout the entire extent with the exception of the extreme caudad end. Slight degeneration in the tenth and common vago-accessorio-glosso-pharyngeal nucleus. No degeneration of the pyramids of the medulla. Root of the twelfth nerve small and delicate.

CASE II. was a male, forty-eight years of age. A piece of cord from the cervical region placed in alcohol and cultures made from it revealed the presence of the tubercle bacillus in considerable numbers. In cervical region, degeneration in the crossed and direct pyramidal tracts with almost complete destruction of the anterior horns could be made out. In the dorsal region there was sclerosis of crossed pyramidal tracts, slight sclerosis of ascending cerebellar tracts, diffusedly distributed dilated blood-vessels, some with very much thickened walls. Extensive atrophy of cells of anterior horns. Same degeneration in lumbar and sacral regions as in dorsal, but in lesser degree. In medulla atrophic changes in the nucleus of the twelfth nerve. Hemorrhage of ancient date in dorsal region.

The findings in these two cases were then analyzed and commented on in detail.

Peroneal Muscular Atrophy with Autopsy.—DR. WILLIAM C. KRAUSS, of Buffalo, read the history of a case of muscular atrophy in a man seventy-eight years of age, who at the age of eighteen began to notice a weakness of the leg muscles. This weakness was accompanied by atrophy in the peroneal and hamstring muscles of both legs, and extended to the muscles of the thigh, the left thigh being much more affected than the right. Double club-foot of the pes-varus variety resulted and also a double genu-valgum. The tendon reflexes were absent on the left side, also on the right with exception of the patellar tendon. Fibrillary contractions and sensory disturbances were entirely wanting. There was present a lordosis and scoliosis of the lumbo-sacral region. The muscles of the upper extremities were unaffected. The patient gave no history of any infantile disease, no poliomyelitis, and ascribes the affection as the result of an accident. Patient died of uræmia. Microscopic examination of the spinal cord revealed atrophy of the anterior horns, especially on the left side, extending from the caudal part of the thoracic region to the conus medullaris. The multipolar cells of the antero-lateral group are visibly affected, resulting in their disappearance, atrophy, or degeneration, while the median group is less affected; the left side is much more affected than the right. The white matter is somewhat sclerosed, particularly in the antero-lateral and posterior columns, but not more than the age of the patient would warrant.

DR. COLLINS remarked that unless Dr. Krauss establishes that this was not a case of chronic anterior poliomyelitis, then it should not be accepted as one of the peroneal type of muscular atrophy.

Writers' Cramp.—DR. J. W. PUTNAM, of Buffalo, reported a case of writers' cramp in a telegrapher. The man had previously had telegraphers' paralysis of wrist, later the symptoms increased to such an extent that the mere suggestion of writing or thought of writing would bring on the spasm. The spasm, in addition to the arm muscles, involved the trapezius and sterno-cleido-mastoid of the left side. The result was that when attempting to write the head would twist around to such an extent that he was unable to see the paper. The patient was treated by hypnotism and deep muscular injections of atropine. Result after two months was complete recovery.

DR. RIGGS had seen a similar case, but the trapezius was not involved. Much relief was obtained by the use of hyoscine hydrobromate.

DR. LESZYNSKY asked whether the favorable result was due to hypnotism or atropine.

DR. PUTNAM replied that he attributed the recovery to suggestion through hypnotism.

DR. SMITH BAKER said that he had come to consider the associated contractions (those of the shoulder, head, etc.) as natural outcomes of the habitual attitude assumed by everyone whenever they intend to do any particular thing whatever. They may be designated as associated intention contractions. The origin of these undoubtedly dates back to the time of either learning to write, or of some position incidentally assumed for comfort, or other favoring result. The cure of them may come about through any means whereby the associations are broken up. Possibly writers' cramp itself is most frequently of purely psychical origin, and so rest or hypnotism, or any other sufficient psychical impression kept up long enough, will result in recovery.

Auto-mimesis.—This was the title of a paper by DR. SMITH BAKER, of Utica.

He defined auto-mimesis as the process whereby impressions from the outside world, or conceptions arising in the mind, are first set as copy-models, and then automatically reproduced more or less indefinitely, until results detrimental or otherwise are attained. As usually considered, imitation means the reproduction of features found in other individuals. Auto-mimesis, or self-mimicry, means the serial reproduction of characteristics dominant at some particular time in one's own mind. How such a copy-model first comes to be set and subsequently followed is often a mystery. But a pain, or shock, or word, or muscular tension, or unusual idea, or any incidental experience, undoubtedly affords the requisite suggestion—imitative impulse. This is often seen in the development of hysteria, neurasthenia, melancholia, insistent ideation, and allied states and tendencies, while evidence is accumulating to show that the succeeding auto-mimesis series is a quite natural outcome of such an imitative impression. Cases illustrating auto-mimetic development of disease were given, and the conclusion reached that possibly in this way there have been opened up points of view, both as to etiology and therapy, which are of value to neurologists.

DR. RALPH L. PARSONS, of Sing Sing, presented drawings and photographs illustrative of a new system of baths inaugurated at his institution.

Obstetrical Paralysis.—This was a paper by DR. G. L. WALTON, of Boston. He said Carter assumes a stretching of the brachial plexus at a spot above the origin of the supra-scapular nerve. This does not account for the escape of the branch to the pectoralis major, which passes off immediately below. The same difficulty presents itself in Oppenheim's theory of pressure against the clavicle. The reader suggested that the supra-scapular is probably bruised independently against the supra-scapular notch or spine of the scapula, while the plexus below is bruised against the clavicle. The branch to the pectoralis major escapes through having no bony point of fixation. Probably rotation of the face away from the shoulder, which is caught at the brim of the pelvis, aids the stretching, as well as the drawing away of the head already described in this connection.

Discussed by Drs. Starr, Leszynsky, and the President.

The following papers were read by title:

"Home Treatment of Insanity," by H. M. Bannister, M.D., of Chicago; "The Dual Action of the Brain," by Samuel B. Lyon, M.D., of Bloomingdale; "An Operative Procedure for the Relief of Basilar Meningitis Limited to the Posterior Fossa," by J. T. Eskridge, of Denver; "Fissural Studies of the Brain of Two Philosophers," by Professor Burt G. Wilder, M.D., of Ithaca; "The Association of Tabes and Paretic Dementia," by Theodore M. Diller, M.D., of Pittsburg; "Must Acute Paranoia be Admitted into our Nomenclature," by William Noyes, M.D., of Foxboro'; "The Conservative Value of the Play Impulse," by Irving C. Rosse, M.D., of Washington; "Telegraphers' Paralysis," by James Hendrie Lloyd, of Philadelphia; "Case of Multiple Neuritis in an Infant," by Graeme M. Hammond, M.D., of New York; "Pseudo-neurasthenia," by Morton Prince, M.D., of Boston.

Election of Members.—The following named gentlemen were elected to active membership: Dr. Hugh F. Patrick, of Chicago; Dr. Edward Wyllys Taylor,

of Boston; Dr. Leopold Stieglitz, of New York; Dr. John Jenks Thomas, of Boston; Dr. H. L. Worcester, of Danvers; Dr. B. Onuf, of Brooklyn, N. Y.

Honorary Members.—Dr. S. Weir Mitchell, of Philadelphia; Dr. Camillo Golgi; Dr. L. Edinger, of Frankfort; Dr. Ramon y Cajal, of Barcelona; Dr. Dejerino, of Paris.

Election of Officers.—The officers elected for the ensuing year were: *President*, Dr. F. X. Dercum, of Philadelphia: *Vice-Presidents*, Dr. George J. Preston, of Baltimore, and Dr. C. E. Riggs, of St. Paul; *Secretary and Treasurer*, Dr. G. M. Hammond, of New York.

Clinical Department.

PERMANGANATE OF POTASSIUM IN THE TREATMENT OF PULMONARY TUBERCULOSIS.

By LOUIS BARKAN, M.D.,

BROOKLYN, N. Y.

In 1885 I employed this drug with most gratifying success in two cases of "butcher poisoning." In both cases a quite slight cut on the hand had produced several great swellings along the hand, fore and upper arm, and there was a copious discharge of pus. Washing the wounds with a solution of permanganate of potassium and covering them freely with iodoform produced little effect. On the eighth day in one patient, and the tenth day in the other, chills occurred. I then began the use of potassium permanganate, giving a drinking-glass of a light red solution three times a day. The next day there was a very considerable change for the better, shivering had ceased, appetite and sleep had come back, and I was justified in considering both patients out of danger. This convinced me that permanganate of potassium is not only good for snake but for "butcher poisoning" too. I hope it is equally good for poisoning derived from dissections.

In March, 1893, I took I. B——, a phthisical boy of sixteen years, to Lakewood. I had treated him for two years. The boy had cavities on both sides and was so reduced in health and strength that in order to come to the ferry he only could use the horse-cars, being unable to climb the stairs of the elevated railroad or to stand the shaking of a carriage. In Lakewood we stayed at a farm-house, standing by itself on a hill, with well-ventilated rooms. In the first five days no improvement could be observed. The patient continued feverish, coughing, weak, rather sleepless, and perspiring at night, the usual means having failed to help; creosote was given, but after being used for several days was refused by the patient. I gave him then a drinking-glass of a light red solution of permanganate of potassium half an hour before breakfast, and a solution of ten grains of salicylic acid before going to bed on eight succeeding days. I consider the latter far superior to quinine in tuberculosis, as it not only does not interfere with digestion, but rather promotes it.

A couple of days later the patient felt much better and could go out into the open air without feeling chilly. Eight days after commencing this treatment the patient enjoyed his meals—ate three eggs for breakfast, slept well, did not sweat any more, and was in excellent spirits. On the fourteenth day of his stay in Lakewood he was able to escort me to the depot and to walk back without discomfort—a distance of a mile and a half. The pulmonary cavities were then almost healed, his appearance and face looked surprisingly well.

In two other cases of less grave tuberculosis I experienced the same good effect with the same treatment. The fourth case was a combination of influenza with symptoms of tuberculosis. An hour and a half after breakfast the patient, C. B——, took a small drinking-glass of a dark red solution of permanganate of potassium, five times a week, and a solution of ten grains of salicylic acid before going to bed. The patient recovered quickly, but on account of relapses produced by her mode of living, I had to repeat this treatment several times, which always was beneficial to her.

NEW TREATMENT FOR FRACTURE OF THE PATELLA.

By T. E. SCHUMPERT, M.D.,

SURGEON TO THE CHARITY HOSPITAL, SHREVEPORT, LA.

I THINK I cannot better demonstrate the treatment which I am about to recommend than to cite my first case.

Mary B——, aged twenty-five, negro, farm-hand. Admitted December 27, 1895. Diagnosis: Fracture of both patellæ. This patient was brought into the hospital supported by a man under each arm, unable to walk or stand without assistance. About the first of May, 1894, while walking with a child in her arms, she stumbled and fell backward, and was unable to again resume the erect posture until aided. The physician who was called in dressed a fracture of the left patella, by what method I am not aware, but the patient was permitted to walk after the first week, with one crutch and no dressing save a dry roller bandage applied about the knee. This crutch she continued to use until December 24th, when, while stepping from the door to the ground, a distance of about eighteen inches, with the sound limb in advance, the knee gave way and she had a second fall. Three days later I saw her at the hospital, with a recent fracture of the right knee and a fracture with ligamentous union of the left. The fragments of the old fracture were separated three inches. Having procured from a hardware-store two slender ordinary screws, one-half inch in length, we were ready to proceed with the operation. I first boiled the screws a half-hour, and then placed them in pure carbolic acid for another half hour, then in a carbolized solution with the instruments, to remain until used.

After the usual preparation on the previous day, with an antiseptic dressing applied about the leg, on the day of the operation, taking every antiseptic precaution, I selected the limb with the old fracture to employ the treatment which I am about to detail, deeming this the most unfavorable for a good result. The leg having been flexed on the thigh to a little less than right angles, I made a transverse incision through the skin between the fragments, extending from the outer to the inner condyle. I then dissected back the integument, laying bare the fragment both above and below, as well as the intervening ligament. The ligament was next removed, and the edges of the bone well denuded. Then with a drill I slightly punctured each fragment about its middle, and with an ordinary screw-driver inserted a screw in each fragment until within one turn of its full length. The leg was now extended, and after having my assistants press the quadriceps extensor from above downward I was able to bring the fragments of bone into apposition, and with a silver wire applied around the screws by the figure-of-eight method, to keep them in contact. The integument was next brought over and sutured, and the leg dressed by full extension with a suitable splint beneath and a dry roller bandage applied about the thigh from above downward, also one applied about the leg, with a third figure-of-eight bandage applied tightly about the knee, the latter bandage having been disturbed but once during eight weeks. I prefer the figure-of-eight to the all-round method of applying the wire, because it prevents to any very great extent the ducking of the heads of the screws, which could be distinctly felt beneath the skin. The figure-of-eight bandage depresses the ligamentum patella and quadriceps extensor tendon and brings the fragments together through-

out its entire depth. My idea was to inject cocaine over the head of each screw after the fracture had healed, and by unscrewing to withdraw them, but on attempting this I found that they were encysted and it could not be done. I think in my next case I shall not insert them so deeply. The result secured was perfect, with no impairment in motion of the joint. The fracture of the right leg, though a much more favorable case, was treated by another method, and the result was not nearly so good.

ACCIDENTS TO THE EYE WHILE CHOPPING WITH A HOE.

By W. L. BULLARD, M.D.,

COLUMBUS, GA.

In the South, at this season of the year, when the farmers are chopping cotton, and especially so in sections of country where rocks or stone are found, the ophthalmologist is frequently consulted by patients who come, exclaiming, "Doctor, I wish that you would examine my eye; I think that I have a chip of stone in it." The experienced eye surgeon knows at once that the foreign body is a piece of steel from the hoe, and its sequel depends largely upon the force with which the eye is struck and the length of time intervening between the accident and the time of the consultation. A *résumé* of the following cases, described as succinctly as possible, will designate such to be true.

Case I.—Miss A——, aged fourteen, near Griffin, Ga., was referred to me in May, 1886. She came with the idea that "a piece of rock had struck her in the eye while chopping cotton." Macroscopically, a piece of steel from the hoe could be seen piercing the iris, midway between the pupillary zone and the periphery. Its track could be seen where it perforated the cornea. Accident happened two days before. Eye very sensitive to light, and showed evidence of no little inflammatory action. Advised an operation, which was consented to. Cornea, after cocainization, incised, and with iris forceps the foreign body grasped, including the iris, drawn out, and removed as in simple iridectomy, and the wound treated in the same way, with perfect results.

Case II.—Mr. E——, aged thirty, Howards, Ga. Consulted me in May, 1890, complaining as above. The steel, which was about the size of a pin-head, could be seen resting on the iris, and an incision was made in the cornea and the piece removed with forceps, after which wound treated in the usual way, with perfect results.

Case III.—Mr. G——, aged thirty-five, Hamilton, Ga. Consulted me in May, 1892, with the same tale of woe as Cases I. and II. The chip of steel could be seen embedded in the iris. An iridectomy was performed, together with the extraction of the foreign body. Wound treated as that after simple iridectomy, with perfect result.

Case IV.—Mrs. S——, Dadeville, Ala. Referred to me in May, 1894, by Dr. B——. The bit of steel could be seen embedded in the iris; iridectomy performed, and a piece of steel removed; wound dressed as usual, and patient sent directly home. Wound did not heal as advised, and Dr. B——, the family physician, was consulted, and another piece of steel extracted from the corneal wound (this information furnished by the patient's husband), which healed without any further trouble.

Case V.—Mr. S——, aged fifty, Talbotton, Ga. Was referred to me in June, 1894, by his family physician, a few days after the accident. Patient thought "that a piece of rock had hit him in the eye, but felt sure that he had gotten it out." A glance at the eye convinced me that irido-cyclitis had set in, and I advised enucleation, after which the ball was cut open, and the piece of steel found in the vitreous.

Case VI.—Mr. I——, aged nineteen, Lee County, Ala. Was brought by his father to my office six days ago, telling me that "his boy had a rock in his eye." The accident occurred three days previously, and the pain was most excruciating, with constant vomiting. Panophthalmitis had made considerable headway, and enucleation was advised, and at once performed, which gave immediate relief. The chip of steel was found in the vitreous.

Case VII.—Mrs. D——, aged forty-five, Mountain Hill, Ga. Brought to my office three days ago by her husband, who informed me that "his wife while chopping with a hoe struck a rock, and a piece of it struck her in the eye." Directly after the accident Mrs. D—— was seen by the family physician, who advised that I should see the case, which was done in nine hours after the accident. The piece of steel could be seen lying on the lens, between it and the iris. An incision was made in the cornea, as in iridectomy, and with a pair of iris forceps the offending member was extracted, to my delight and the patient's joy, on the first attempt. The iris prolapsed but was replaced, a solution of pilocarpine used, and at this writing—three days afterward—the indications are good for a perfect recovery.

I could add other cases, but these are enough to convince us that when we see in the press—as we oftentimes do—"That Mr. A—— or Master B—— has lost an eye by a chip of stone," it is a fragment of steel from the hoe that should be held responsible for the damage.

1408 Third Avenue, May 14, 1895.

OPERATION FOR GUNSHOT WOUND OF THE ABDOMEN.

By JOSEPH N. STUDY, M.D.,

CAMBRIDGE CITY, IND.

On the morning of October 25, 1894, J. W——, aged sixty-five, American, after shooting his infant child shot himself, the weapon used being a 22-calibre repeating pistol. The bullet penetrated his abdomen one inch above, and one and one-half inch to the left of, the umbilicus. Within a few minutes after the injury, his symptoms became bad, and to all appearances severe internal hemorrhage had occurred. After three hours it was thought his symptoms had slightly improved. Twenty-five hours after the injury permission was given to open the abdomen. The skin over the abdomen was well cleansed, and the man being etherized I proceeded to do abdominal section, assisted by Dr. Boyd, of this place. An effort was made to do an aseptic operation. A median incision was made, at first four inches, increased to six inches, the upper point of the incision being two inches above the entrance of the bullet.

The abdominal cavity was well filled with blood and traces of fæces were observed. It was found that the bullet, after penetrating the walls of the abdomen, had pursued a course downward and backward, and had done little injury until coming in contact with the inferior mesenteric vein, wounding this vessel causing the hemorrhage. The bullet next penetrated the descending colon immediately above the sigmoid flexure, passing through the intestine antero-posteriorly, making two openings from which some fæces were seen to pass.

The ball was not found, but was supposed to have embedded itself in the deep muscles. The bleeding vessel was ligated with catgut, the two openings in the intestine closed by Lembert sutures, the abdominal cavity cleansed carefully, the abdominal incision sutured, and drainage-tube inserted at lower end of incision.

The operation lasted forty minutes. The man was placed in bed with warm water bottles to his body and extremities. Hypodermic injections of ether were given, and strychnine, one-sixtieth grain, every half hour till four doses were given, then every one to two hours. Death occurred seven hours after the operation.

Two points were well shown in this case. One, the man would most certainly have died without the operation. The other, operations for such injuries should be done soon after their occurrence.

A PEANUT IMPACTED IN THE LEFT BRONCHUS.

By W. MOSER, M.D.,

BROOKLYN, N. Y.,

PATHOLOGIST TO ST. CATHARINE'S AND THE BROOKLYN THROAT HOSPITAL.

THE pod of the arachis hypogæa contains a seed which, as we all know, is so designed by nature as to be readily divided into two halves.

I recently performed an autopsy at St. Catharine's Hospital on a child about two years of age, in which one-half of the nut was found impacted in the left bronchus, completely occluding the opening from the trachea at the point of bifurcation. The nut was firmly impacted at this site, and excited ulceration of the surrounding tissue.

The common result of foreign bodies which enter the trachea is that they are arrested, not in the left bronchus as in this case, but in the right. The right bronchus being wider and more horizontal than the left probably explains this tendency. Goodall states that the septum is a little to the left of the median line where the trachea divides, and this, too, might explain why the right bronchus is more frequently the seat of foreign bodies than the left (Bryant). When a foreign body becomes impacted in the larynx death is caused by spasm of the glottis or by œdema. But when either bronchus becomes obstructed by some foreign body the danger lies in broncho-pneumonia. This may come on rapidly or slowly and may affect only one lung, or, as in the case in question, both lower lobes were consolidated within two weeks. Tracheotomy must be performed early in these cases, as the secondary pneumonia renders the prognosis bad.

The moral to be drawn from this case is that infants should not be fed on the *pistache de terre*, which is light, smooth, and slippery, and may easily, when the glottis is open, pass into either bronchus. Parents feeding their children on peanuts at the circus should not let the child laugh too heartily, lest the accident occur.

158 ROSS STREET.

Disinfection of Localities.—MM. Laveran and Vaillard announce that from their experiments they believe the best method of disinfecting the walls of habitations consists of first washing the walls with soapsuds, then with a five per cent. carbolic-acid solution or to two to one thousand of sublimate, acidulated. In all localities which are exposed to frequent soiling—hospitals, barracks, schools, hotel-rooms, etc., the walls should be of impermeable material, easy to clean and disinfect. If sprays are used the liquid should be made to stream along the walls, but in this way the disinfection is often imperfect. The carbolic solution is preferable to the sublimate, it seems.—*Journal of the American Medical Association.*

Bismarck's Head has recently been measured by a sculptor. It is 212 mm. in length and 170 mm. in breadth, or 8⅓ by 6⅔ inches.

New Instruments.

A CHLOROFORM-DROPPER.

By C. HOLTZCLAW, M.D.,

CHATTANOOGA, TENN.

APPRECIATING the efficacy of the drop method in the administration of chloroform, and the impracticability of all other chloroform droppers now in use, I have adopted the old chemical drop-bottle for this purpose. It is a ground-glass stoppered bottle, on the rim or flange of which a lip is blown. From this lip there extends downward a small groove on the inside, about half the length of the neck. On the opposite side, about the middle of the neck, there is a small hole for the admission of air.

In the ground-glass stopper there are, on opposite sides, two grooves extending about half the length of the stopper. When wanted for use, the stopper is turned so that its grooves come in apposition with the air-hole on one side, and with the grooves in the neck on the other. This adjustment can be so regulated as to permit a stream to flow, or only every two or three seconds. When not in stopper is turned half-way around, remo grooves from the air-hole and groove in the n completely closing these apertures. The bc can be carried in pocket or satchel, without leakage or evaporation. It is, at once, a sup and dropper combined.

I suggest its general adoption for the pu being compact, practical, easily manipulated liable to get out of order. The bottle can b any size, and the danger of breaking can be by enclosing in a corrugated, drawn-metal ca

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LIGATURE-CARRIER FOR THE PED ABDOMINAL TUMORS.

By AUGUSTIN H GOELET, M.D.,

NEW YORK.

THE accompanying illustration represents carrier for the pedicle of abdominal tumors shown at a meeting of the New York Obst ciety, May 15, 1894. It possesses some advar similar instruments now in use, which can better explained by comparison with the w ligature-carrier of Dr. Cleveland. That othe admirable instrument does not hold the ligat consequently the latter frequently slips out o necessitating reinsertion. The instrument sh

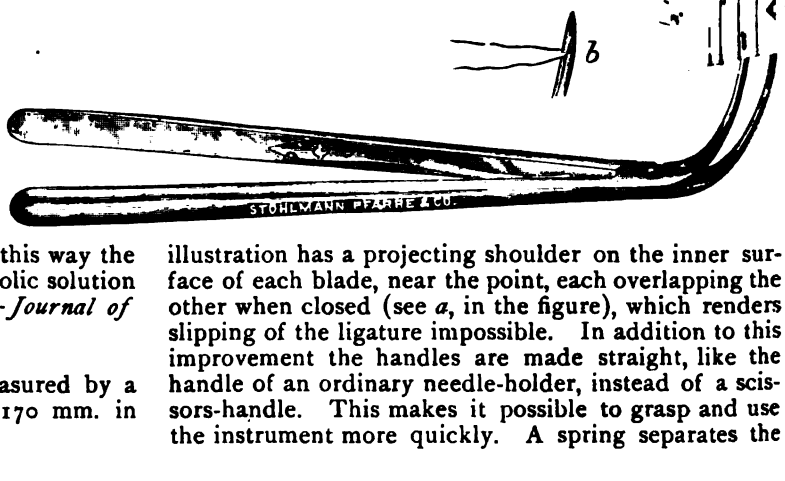


illustration has a projecting shoulder on the inner surface of each blade, near the point, each overlapping the other when closed (see *a*, in the figure), which renders slipping of the ligature impossible. In addition to this improvement the handles are made straight, like the handle of an ordinary needle-holder, instead of a scissors-handle. This makes it possible to grasp and use the instrument more quickly. A spring separates the

two arms and at the same time the blades, when the grasp of the hand upon the handle is relaxed. The blades are joined by a new lock, which permits them to be readily separated for cleansing, and the instrument can be made perfectly aseptic.

In using the instrument grasp it firmly in the right hand, thus closing the blades, transfix the pedicle, then relax the hand-pressure, thus separating the blades, insert the ligature between them, compress the handle and withdraw the instrument and ligature through the pedicle.

A NEW NEEDLE.

By JAMES SPENCER BROWN, M.D.,

ATTENDING SURGEON TO MOUNTAINSIDE HOSPITAL, MONTCLAIR, N. J.

While not desiring to add to the now too numerous instruments used by the surgeon, the cut below represents a needle which has been used by the author and found to combine many desirable features, when rapidity of work and thorough asepsis are demanded. I am therefore tempted to present it to the profession.

The method of its use is as follows: The needle is sterilized with the other instruments about to be used. The surgeon then takes a spool of either sterilized catgut or silk, as desired, removes the steel guy from the handle, and runs the spool over the needle down to the handle, replaces the guy, threads the needle and places it in alcohol with the other needles, etc.

The operator uses it as any Peasley needle, but instead of being compelled to thread the needle each time he needs but to take hold of the free end of the suture material with a pair of catch-forceps and draw the needle back. The spool unrolls and a suture is left in position. The suture is then cut the desired length and the needle is again ready for the next suture.

The desirable features of this over the ordinary Peasley needle are that all handling of the suture material is done away with. No time is lost in threading numerous needles—consequently rapidity of work.

The author has found the needle of especial advantage in plastic work and in placing in position the many skin sutures after cœliotomy.

I desire to extend my thanks to Messrs. George Tiemann & Co., of New York, for carrying out my ideas.

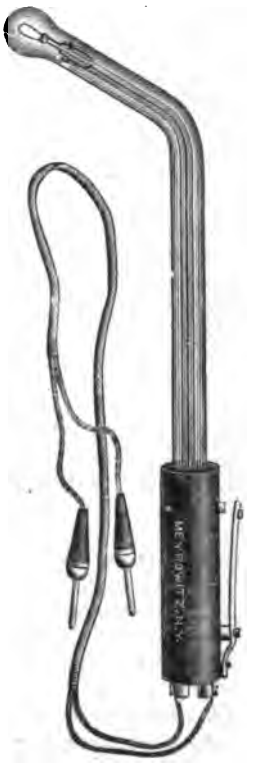
DIAGNOSTIC TRANS-ILLUMINATION OF THE SEPTUM NASI.

By J. H. MARTINDALE, M.D.,

MINNEAPOLIS, MINN.

A few months ago, having stumbled upon the use of the incandescent lamp as a means of septo-nasal trans-illumination, I would present the same to the readers of the Medical Record.

As all nasal specialists know, the presence of an enchondroma or exostosis of the septum is very frequently associated with deflection of the septum, the point of concavity on the one side being often exactly opposite the point of growth upon the other; hence the possibility, when removing by saw or trephine, of perforating through the septum into the opposite nasal space. To avoid this, septometers, devised upon the principle of the ordinary calliper, have been used, the operator relying usually, however, upon his own good judgment. By the use of the little nasal lamp, an illustration of which is herewith presented, a very graphic picture of the gross thickness at the point upon which he would operate is afforded. Briefly speaking, the lamp is contained in a piece of heavy barometer tube, properly electrically connected, and so constructed as to be easily kept aseptic in the true surgical sense of the term. The one Messrs. Meyrowitz have constructed for me has a brilliancy of two-candle power, and is easily illuminated by a four-volt storage or primary cell-battery. Its method of use is as follows: Having thoroughly cleaned and anæsthetized the nares, the operating-room is darkened (or an opaque cloth thrown over the head of both operator and patient). The trans-illuminating lamp is now introduced as far as possible into the nasal fossa opposite the side of operation, and the electricity switched through the lamp. Upon examining the side of operation with the nasal speculum, the light will be easily projected through the normal tissues, and intercepted at the points of abnormal thickening, the result being that the mind grasps through the eye a vivid and sufficiently lasting impression of the points where dense opacity indicates that removal may be boldly and freely attempted without fear of perforation.



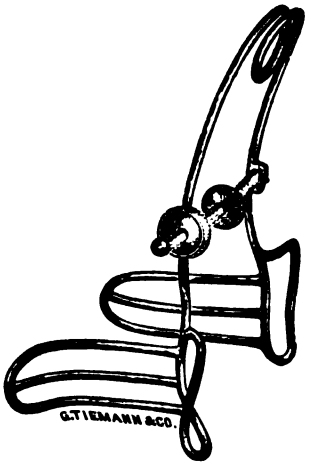
Only use of this little instrument will fully convince the operator of its value.

LABIAL RETRACTOR.

By D. A. CURRIE, M.D.,

ENGLEWOOD, N. J.

During operations for mending the perineum, I have been so much inconvenienced and delayed by assistants allowing the speculum and retractors to constantly slip and become misplaced, that the above instrument suggested itself to my mind. It is self-retaining and of three different sizes and two different lengths. My experience with it has been that the work of preparation goes on more rapidly with its use than with that of two unskilled assistants.



Some one may have discovered the device prior to this, but neither Messrs. Tiemann & Co. nor myself have seen or heard of it.

Those wishing to try one will find the narrow, short blade the more generally useful for perineal operations.

NEW CILIA FORCEPS.

By FRANK ALLPORT, M.D.,

MINNEAPOLIS, MINN.,

PROFESSOR OF CLINICAL OPHTHALMOLOGY AND OTOLOGY IN THE UNIVERSITY OF MINNESOTA, ETC.

I WISH to call attention to a pair of cilia forceps, devised in 1880 by myself. I have endeavored to use other forceps, but have always returned to the instrument referred to, of which a cut is here given, much

reduced in size. They are strongly made, easy to handle, and the points are of such size and shape as to enable the operative to grasp firmly and tenaciously the smallest hair. They are manufactured by E. B. Meyrowitz.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

HOSPITAL SUNDAY—COLLEGE OF SURGEONS—NEW BY-LAW—ELECTION—MEDICAL REPORT TO COUNTY COUNCIL—PROGRESS OF BIOLOGY—PROFESSOR HUXLEY—THE LATE SIR G. PORTER—DR. CASE—SURGEON-MAJOR CARTER.

LONDON, June 21, 1895.

THIS week opened with Hospital Sunday, when collections were made at almost all the Metropolitan churches of all denominations. The returns are necessarily incomplete, but nearly £15,000 is already reported as the result, and this amount is about £1,000 above that received in the same time last year. Perhaps, therefore, the total contributions may be an advance over last year. Certainly, the hospitals need more than ever, and it is high time London roused itself to its duties in this matter. It is to be hoped, too, that the distribution of the fund will this year excite fewer heart-burnings and that the dead set of a few prejudiced men against specialism will not repeat the injustice that has more than once been done.

The College of Surgeons has obtained the necessary sanction for a by-law which will enable the Council to remove from its roll the name of any Fellow or member adjudged, after due inquiry, to have been guilty of disgraceful conduct in any professional respect. This will give the college the power of maintaining a control over erring individuals which it has never shown much desire to exercise.

There are five vacant seats on the Council to be filled up on July 5th. All the candidates are prominent surgeons, and the election excites a good deal of interest among the Fellows who elect. The members have no part nor lot in this as in other college matters.

Mr. Shirley Murphy's second annual report to the London County Council has appeared, and will interest all sanitarians. It differs considerably from the Registrar-General's Report, applying, as it does, only to the County of London, and giving an account of the sanitary work of the Council, as well as the vital statistics of the population. Among other statistics is a London life table compared with tables prepared by other health offices, and "it is interesting to note that at each age and for each sex the expectation of life in London exceeds that in Manchester and Glasgow, but is less than that of Brighton." Some very important points are raised in reference to diphtheria and scarlet fever, especially one as to the influence of schools, for a considerable fall in the number of cases coincides with the summer holiday.

Professor Ray Lankester, in lecturing at the Royal Institution, lately, on the "Progress of Biological Science," gave some account of the rapid development of bacteriology. He did not accept the influenza bacillus; but among diseases undoubtedly caused by bacteria he named anthrax, phthisis, leprosy, and glanders. He held that Koch has proved that cholera is due to a spirillum which breaks up into comma-shaped segments, the comma-bacillus. Typhoid, tetanus, diphtheria, and erysipelas were also microbial diseases. He made some observations as to water which have been misinterpreted by the public press. Typhoid and cholera microbes he found would live in very pure water. Typhoid microbes would survive and multiply in distilled water for three or four weeks, but in ordinary river-water it soon perished from the poison of ordinary putrefactive bacteria. So far, river-water might be less dangerous than very pure lake-water in certain circumstances. Thames water of course teems with organisms which destroy typhoid bacilli, but that is not a reason for drinking Thames water, though it may give hope that typhoid pollution need not be permanent. The mention of filtration was then considered. The growth of those bacteria which are arrested in the sand of the great filter beds forms a sort of jelly which not only prevents the passage of solid particles through the sand but kills the germs of typhoid. The filter beds of well-conducted water-works are therefore a great protection. Not so, however, with the domestic filter, which Professor Lankester pronounced more dangerous than otherwise, for he had found bacteria-free water after passing through such a filter had taken up 200,000 to the cubic centimetre. Any domestic filter to be of use would have, he said, to be sterilized every twenty-four hours. This would certainly be a pleasant occupation for the ordinary domestic servant, and I fancy paterfamilias will neither undertake to look after his filter himself nor yet trust his cook to carry out the necessary proceeding. The lesson, therefore, would seem to be to get rid of our filters until something more efficient than the packings hitherto in use shall be discovered.

The action of different bacteria in presence of each other was also illustrated by the lecturer.

Professor Huxley's illness has for some weeks given great anxiety to his friends and admirers. Influenza was followed by serious pulmonary mischief, and now, just when he was said to have rallied from this and it was hoped he would enter on convalescence, I hear that nephritis has appeared and his condition is very grave.

The death of Sir George Porter on Sunday last removes a conspicuous name from the roll of Dublin surgeons. He was the son of W. H. Porter, the eminent professor of surgery, whose writings on "Aneurism" and other subjects will be well known to your readers, and well has he sustained his father's reputation. He has been loaded with all the dignities open to the highest professional rank—has been president of his college, professor in the University of Dublin, senior surgeon to his hospital, and admittedly at the head of the Dublin school. Besides the baronetcy he was Deputy-Lieutenant of Wexford and served as high sheriff in 1887. Through all his honorable career he has had the esteem and confidence of his brethren.

Dr. W. P. Case, medical officer of Croydon Union and member of the Town Council, died on the 11th instant.

Surgeon-Major Henry John Carter, F.R.S., whose work on the "Geology of India" and other writings were of the highest standard, died last month at his birthplace, Budleigh Salterton, to which he retired in 1862 after a brilliant Indian career. At that time the Royal Asiatic Society voted him £100 and later he received the Royal Medal of the Royal Society. Other honors from various societies had previously been showered upon him. He was in his eighty-second year.

THE CATHOLIC CHURCH AND ABORTION.

To the Editor of the Medical Record.

Sir: In the cause of legitimate medical science I wish to present the following in answer to the article in Medical Record of February 2, 1895, entitled "The Catholic Church and Obstetrical Science." I will first briefly set forth the teachings of the church's recognized moralists, supplemented by authoritative decrees.

Abortion is the ejection from the maternal womb of the immature fœtus, and may result from either natural or artificial causes. Now, the earliest period when the immature fœtus can live outside the mother's womb varies from the twenty-eighth to the thirtieth week of gestation. A fœtus delivered at this age would, it is true, be weaker than the mature one, but if the mother's health demands it, the church hinders not this acceleration of labor, since nothing is done directly against the child's life.

The second principle on which theologians are agreed is that it is *licet* to employ remedies which have their direct effect to remove the disease of the mother, although it is foreseen that the ejection of the immature fœtus will follow. For instance, if blood-letting were required to relieve the mother from some malady, it could be performed, even though it were foreseen to be fatal to the fœtus. The reasons here are evident, for the death is not a *per se* effect, but an accidental consequence, which the mother is not bound to obviate. A still more difficult phase presents itself when it is seen that the fœtus will cause the death of the mother before it arrives at a period when a hope might be entertained of its life if delivered. Here opinions differ, and some condemn what others allow. As I am unwilling to restrict the liberty of the medical profession within any narrower limits than those absolutely required, I will follow the opinions of the most liberal exponents of the faculties allowed by the church. I find that the Jesuit Lehmkuhl is most liberal on this point. In the first place he denies that any mother is rigorously bound to undergo the Cæsarean operation, especially where conscientious physicians judge that it is far more dangerous than accelerated labor. If, however, the danger to life is no greater from the Cæsarean operation than from the abortion, the mother would then lose her right to select the latter instead of the former, as there would be no motive in so doing. But if, all things considered, a moral certainty points to abortion as the only means of saving the mother's life, Lehmkuhl allowed the induction of artificial labor, at that time when the fœtus has so far progressed that it actually menaces the mother's life, even though it has not evolved to that extent that it could live in the medium outside the mother's womb. Von Olfers also allows such practice, although Dr. Capellman condemns it without reserve. I have never seen any theologian that allowed it save only Lehmkuhl, but, as his book has the imprimatur of Rome, no one will do wrong in following such opinion in practice. Of course, Lehmkuhl forbids in such case any direct act tending to take the life of the fœtus, such as diminution of the fœtus, perforation of the cranium, etc. That which he would permit would be, for instance, the effusion of the liquor amnii, which would render the expulsion of the fœtus a necessary consequence, though it would not *per se* invade the life of the fœtus. This again cannot be done to prevent an anticipated danger to the mother, but can only be done in the actual existence of the danger. I believe this then to be a probable opinion, and a physician can act upon it; but it certainly is the most liberal faculty given to the medical profession by theologians.

In relation to the operation known as craniotomia or cephalotripsia, all the theologians of the church are as a unit that it is never allowed, under any conditions, while the fœtus is alive. The ethical reasons for this prohibition are founded in the canon of the Almighty against murder of the innocent. From the moment of the conception of that fœtus it is a human person, having rights the same as every other human individual. To take its life by any direct invasion is murder, and no good results can ever justify a thing intrinsically wrong. That it is in a helpless condition and can neither plead for nor defend its right to live aggravates the crime. No plea that the infant is an invader of the mother's right to life can avail here, as the mother herself in her malformation is the aggressor, preventing the infant's right to be born. Let us illustrate this by an example. Two men are on a desolate island with no food. Will any man defend that one has a right to kill the other to save his own life? Or, perhaps, we may find a more apposite example. Two men are enclosed in a room with a limited amount of oxygen. If both go on respiring, they will both die before help comes; if one only were there the supply would last till liberation. One of them is asleep, and the other slays him while he sleeps. No man who advocates craniotomia can reprobate the killing of the sleeper. All doubt is removed by the authoritative declarations of the Congregation of the Holy Office, and also by the Council of Baltimore, which was approved by Rome. The Congregation, after having examined the book in defence of craniotomia written by Pennacchi, professor of history in the Propaganda, decided that the doctrine could not be taught. The Baltimore Council says: "Neither is it allowable to any mother, whatever thing may befall, even to the saving of her life, to permit the death of the child in her womb." It is true that Catholic writers have defended craniotomia, but they have always been condemned, and their authority is thus neutralized by the church's condemnation.

What Lehmkuhl says about leaving the physician in good faith, he distinctly affirms does not render the operation *licet*, but he counsels it to be at times expedient when it is foreseen that a prohibitory injunction from the priest would do no good. If I foresee that an eminent physician is set upon performing the diminution of the fœtus, it is left to my prudence to try to stop him or not, and Lehmkuhl counsels them to leave him in good faith when a prohibition is foreseen to be futile. But this is far from approving such act in itself. Again I am surprised to see the writer of the aforesaid article confuse the issue set forth by the cardinals at Rome and an issue dealt with antecedently by the Grand Pœnitentiary of Rome. The decision of the congregation of cardinals is the decision of the Holy Office before mentioned, and was that the defence of craniotomia could not be taught. This decree is the latest on the subject from Rome, and was given in 1884. The other decree was given by a special officer at Rome, delegated to confer upon cases *in moral* and answer them, and was in 1872. The said Grand Pœnitentiary was asked whether craniotomia could ever be allowed by a priest, and he made answer: "Consult the approved authors, and act prudently." Now, in the first place, here the authors are not, as the writer quoted by the Medical Record states, authors of medical works, but of moral treatises, as the word author in ecclesiastical language standing alone always implies a theologian. Again, the response simply declined to define the issue then, which was finally settled in 1884, and allowed the priest only the safe opinions which were then found in good theologians. The clause, "act prudently," simply warned him that, at times, it were better to allow a physician to go on in good faith in the execution of an illicit act than to interpose a futile prohibition. If then the end cannot justify the means, which is a basic principle of morality, I see not how physicians can approve a practice which is a stigma on their high profession. Craniotomia is especially reprehensible to-day since by the employment of the aseptic mode of operation eighty per cent. of mothers live through the Cæsarean operation, a percentage not equalled by those saved by abortion.

The number of infants safely delivered by the section is about in the same proportion, hence one may easily see the motives in favor of the Cæsarean sectiom, and yet in America craniotomia is the order of the day, while the section is rarely operated, unless when the physician is forced to it by the principle of the mother. Physicians, who are the defenders of life, should cultivate ambition for their high profession which the common feelings of humanity could approve.

A. E. BREEN, D.D.,
Professor of Holy Scripture in St. Bernard's Seminary, Rochester, N. Y.

ON THE PHYSIOLOGICAL ACTION OF PERIODIC INDUCED CURRENTS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: If Dr. Rockwell did not intend to criticise my claims, it is by no means clear why he wrote his first letter; but we will accept his assertion to this effect.

In my presentation of what I deemed to be self-evident facts I may have failed, in my previous communication, to convey precisely what I desired. This seems to have led Dr. Rockwell into some misapprehension, but when more fully explained I think he will agree with me that further discussion is unnecessary.

I maintain that the manufacturer referred to did ask my consent to wind upon one secondary helix all of the various sizes and lengths of wire originally suggested only by me, and that it was perfectly proper for him to have done so, since I had a right to say what should be put upon the market under the name of "The Goelet Induction Apparatus." It was distinctly understood that I should test the apparatus after it was so constructed, and that I would give it my indorsement only if it was found to be as satisfactory as when the different sizes of wire are wound upon different helices. The apparatus was sent to me for approval and after testing it carefully I gave it my indorsement. For more than a year previous to this time two other manufacturers had been making the apparatus with four interchangeable coils. In a letter I received from one of these manufacturers shortly after my paper appeared suggesting this combination of coils and giving the different sizes and lengths of wire required, the statement was made that it was the only practical suggestion which had been published up to that time, regarding the construction of faradic apparatus and the needs of the profession.

Dr. Rockwell is mistaken in supposing that the manufacturer referred to above constructed for him previously a continuous coil of nearly two thousand yards, made up of the same sizes and lengths of wire mentioned by me. In fact no such apparatus with these sizes and lengths of wire or anything like it had ever been manufactured or described at the time I made the suggestion at the first meeting of the American Electro-Therapeutic Association in 1891. If Dr. Rockwell thinks he described such coils in his article in the MEDICAL RECORD on February 14, 1891, he is mistaken, and anyone interested can see his mistake by carefully perusing that article. The coils there described were continuous with the primary, and no sizes nor lengths of the wire were mentioned.

It is neither my disposition nor desire to point out any marked inconsistency in a colleague's communication. Dr. Rockwell's may have been written in haste. But I feel obliged to call his attention to the fact that he begins by disputing my rights and ends by suggesting that he and I have had quite different things in mind.

A. H. GOELET, M.D.

June 18, 1895.

A Chinese Maxim says that when doctors go afoot and men of letters drive in their own carriages, the empire is well governed.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending July 6, 1895.

	Cases.	Deaths.
Tuberculosis	129	74
Typhoid fever	9	1
Scarlet fever	38	6
Cerebro-spinal meningitis	0	7
Measles	198	24
Diphtheria	185	42

Fencing from a Hygienic Stand-point.—According to Lecomte fencing is a hygienic exercise of the first rank and even a curative means for certain deformities. This exercise should be practised in a well-ventilated room, under the direction of a *maître d'armes*, who insists on the correct execution of the movements and unrestrained postures. It is indispensable to use the left hand also, in order to develop the two sides of the body equally. Under the influence of this exercise the muscles develop, the joints and spinal column are suppled, the respiratory, circulatory, and digestive functions are rendered active; nutrition and the nutritive changes are stimulated at the same time as the cutaneous functions. Fencing has given excellent results in hysteria, chorea, migraine, hypochondria, insomnia, obesity, gout, rheumatism, constipation, and chlorosis. It assures recovery from scoliosis and from stiff joints following immobilization, and corrects certain cachectic deviations of the lower limbs.—*Journal of the American Medical Association.*

The Use and Abuse of Antipyretics.—At a recent meeting of the West London Medico-chirurgical Society, a report of which appears in the *Lancet* for May 11th, Dr. William Hunter read a paper in which he pointed out that the extent to which antipyretic agents were used and their manner of employment were greatly influenced by our views of fever. After considering the analgetic properties of the more recently introduced antipyretics derived from coal-tar products, such as antipyrine, phenacetine, and acetanilide, he said that the control of the nervous system was one of the principal points in the treatment of fever. The proper object of using such drugs was not to abolish fever by a summary process, but rather to bring the febrile process within reasonable limits. The administration of these remedies, he said, should always be cautious, more particularly in the case of acetanilide, the usual dose of which, as given in books (from three to ten grains), was much too large; it should be from one to three grains. Dr. Banning remarked that no antipyretic equalled the use of cold sponging and wet packs, either in efficiency or in safety. Dr. Eccles believed that the direct action of antipyrine could be attributed to its reducing qualities, removing oxygen from the protoplasm of the nerve-cells, and thus diminishing activity and producing analgesia. Dr. Atkinson said that he had not found any benefit follow the use of antipyretics, and thought that, as the temperature always fell before death, high temperature by itself would not kill a patient. Mr. McAdam Eccles referred to surgical cases where high temperature was due to nerve-influence, especially in cases of head injury followed by high fever without sepsis, and to the so-called catheter fever. He said that after injuries of the head the temperature was often different on the two sides.—*New York Medical Journal.*

Epidemics of Typhoid Fever have lately been traced in Calcutta and Bombay to the use of watercress which grew in soil polluted by sewerage.

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Original Articles.

COMPARATIVELY PAINLESS MASTOID DISEASE.[1]

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OF all the symptoms which characterize both the acute and the chronic forms of disease of the mastoid process, that of pain is, I believe, the most constant. Hyperæmia and œdema of the skin behind the ear, and tenderness on pressure over this region, are often lacking. Elevation of the body temperature is as often absent as it is present, and that, too, even in the cases which are characterized by the presence of pus in the mastoid cells. The existence of a perforation in the membrana tympani, and the escape of a more or less purulent discharge from the middle ear through this perforation, may also exceptionally be absent from the list of symptoms belonging to a case of mastoid disease. And, finally, we may even fail to find that prolapsed condition of the upper cutaneous wall of the inner half of the external auditory canal which furnishes so trustworthy an indication of the inflammation going on in the adjacent bone. But in the vast majority of cases pain has not only been an unfailing symptom throughout a period of at least several days, but has usually constituted the most striking feature of the disease. In this statement I believe that I correctly reflect the experience of all those who have had much to do with the various forms of mastoid disease. During the early months of the present year, however, I have encountered a few cases in which the symptom of pain has occupied such a markedly subordinate position that I have thought it might serve a useful purpose if I should report them.

There are four of these cases, all of them of an acute character and all of them characterized by pain at the onset—that is, at the time when, presumably, the inflammation was still comfined more or less strictly to the tympanic cavity. After this initial period, which lasted from a few hours to two or three days, there was either no pain at all (as in Cases II. and III.), or the pain was of such a migratory character and so little pronounced (Case I.), as scarcely to attract the attending physician's attention to the ear as its starting-point; or, finally (Case IV.), this symptom only developed when some special exciting cause—like violent physical exercise—was brought into play as a means of calling it forth.

I have endeavored to formulate some sort of an hypothesis which might explain with some degree of plausibility this coexistence of serious inflammatory disease in the substance of the greater part of the mastoid process with little or no pain in the affected region, but I have not succeeded in finding an entirely satisfactory explanation. There are doubtless several varieties of micro-organisms which are competent to cause, and actually do cause, such mastoid disturbances as were found to exist in these four cases; and it is a permissible inference that the toxins produced by these different varieties of organisms differ in their composition and in the effects which they produce upon the tissues that come in contact with these juices. I would therefore venture to suggest the possibility that among the various living organisms which, in suitably constructed mastoid processes, produce serious inflammation and ultimately destruction of the tissues involved, there may be one or more species which create toxins possessing a decidedly anæsthetizing power over sentient nerve fibrils. As a proof of the reasonableness of such a belief, I need only to point to the painlessness of tubercular inflammations of the middle ear.

But the etiological aspects of these cases are, it seems to me, of far less importance than their practical bearings, which may be briefly summed up as follows: First, serious disease of the mastoid process may coexist with an insignificant amount of pain in the affected region; and, second, of all the physical evidences of disease in this part of the temporal bone the one that is most rarely lacking is a prolapsed condition of the skin lining the upper and posterior wall of the external auditory canal in close proximity to the membrana tympani. (At a more advanced stage of the disease, or under more favorable anatomical relations, this prolapse may extend throughout the entire length of the canal.)

CASE I.—Female, fifteen years of age, and apparently in robust health. About January 4, 1895, she, along with several members of the family, was taken ill with what seemed to be the grippe. Very soon afterward she complained of pain in the ear and at various points on the right side of her head. These pains were supposed to be of a purely neuralgic character, as they finally centred themselves in the region of the right cheek. Her temperature at this time was found to be 104° F. In the course of a day or two she seemed to have recovered her usual health and was permitted to return to school.

On January 10th the pains in the ear and on the right side of the head returned, but were not specially severe and soon passed away entirely. She felt considerable general malaise, however, and her temperature was found to be decidedly above the normal (104° to 105° F.). As the pain was referred sometimes to one side of the head and sometimes to the other, and as other members of the family were ill at the same time with what seemed to be the grippe, it was believed that the elevation of the temperature was attributable wholly to the action of the grippe poison, and that the pain was of a simple neuralgic character and not dependent upon any local inflammatory action. Nevertheless, the attending physician examined the ears and found a little congestion of the right membrana tympani; but it did not seem to him that it was sufficient to explain either the elevation of temperature or the pains occasionally experienced by the patient. *At no time after January 10th did she experience any pain in the right ear.*

On the morning of the 13th she had a decided chill and the temperature rose to 105° F. It was then thought that the ear trouble might be more serious than was at first supposed, and I was accordingly asked to see the patient. On examination I found the posterior superior quadrant of the right membrana tympani and the immediately adjacent soft parts red,

[1] Paper read before the American Otological Society at its annual meeting July 16, 1895.

swollen, and tensely convex. On expressing my surprise that she was not in suffering on account of this localized inflammation, the patient reiterated the statement that she had no pain in the ear, but simply felt the beating of her pulse in that locality. A free incision was made (without the aid of an anæsthetic) and a drop of pinkish pus (quite thick) was evacuated. For several hours afterward the ear was frequently douched with hot water, and hot flaxseed meal poultices were kept applied the greater part of the time. Calomel was also administered every hour in one-tenth-grain doses.

On the 14th I found that she had vomited twice during the night and that her temperature had not gone below 104.5° F. No perceptible discharge from the ear had yet shown itself.

On the 15th I found that she had again vomited during the night, that her temperature remained high, that she had experienced no pain in the ear, and that despite the douching and frequent poulticing no discharge whatever had made its appearance. An examination revealed the fact that my incision had completely healed, and that the posterior and upper part of the drum membrane still formed with the adjacent soft parts a protruding red mass of skin of a somewhat parched aspect. Slight tenderness on pressure over the central part of the mastoid process was also found to have developed since the previous visit. I accordingly advised that the mastoid process be opened without further delay, and this operation was performed on the same day. The conditions found were the following: The antrum filled with pus and granulation tissue; the bone in the immediate vicinity of this cavity perceptibly softened; everywhere else throughout the mastoid process a high degree of hyperæmia and abundant granulation tissue in the pneumatic cells.

On the morning of January 16th, the day after the operation, her temperature was found to be normal and it remained so from that time forward. Her pulse-rate also fell to 90, and in the course of another day or two it fell to 72, and remained at about that rate afterward. Before the operation the pulse-rate had varied from 104 to 108.

The external wound closed on January 28th.

Case II.—Child, six years old, in good general health. I was called to see the case, for the first time, on May 17, 1895. The parents stated that six days previously their daughter had complained of pain in the left ear, and that soon afterward a discharge from this ear was noticed, but that it had lasted only about one day; and that from that time to the day on which I saw her, there had been no further complaint of pain in the ear. The temperature, however, had varied from 102° to 105.2° F. On examination, I found the left membrana tympani red and markedly bulging. There was no redness or tenderness of the skin behind the auricle of the affected ear. An anæsthetic was administered, and I made a long crescent-shaped incision in the left drum membrane, giving vent to a little pinkish pus. Frequent douching with hot boric-acid solution was prescribed. A rather scanty discharge continued during the next twenty-four hours and then ceased entirely.

May 23d.—There has been no further discharge from the left ear since the 18th, but on the afternoon of the 21st I found a drop or two of yellowish pus at the inner end of the external auditory canal. From day to day, however, I have noted a slowly increasing prolapse, downward and forward, of the skin lining the upper and posterior portion of the osseous external auditory canal; this condition being first noticeable in the vicinity of the membrana tympani. The child has made no complaint, at any time, of pain in the ear, and she has acted as if she were entirely free from any such distress. Furthermore, the membrana tympani has steadily grown paler and more natural in appearance, and every attempt to elicit any sign of distress, when I pressed firmly upon different parts of the left mastoid process, has failed. Day after day, however, and despite the fact that she has taken daily, for three or four days in succession, from twelve to fifteen grains of quinine, the body temperature has risen every afternoon to 104° and even 105° F.

May 24th.—Still no complaint of pain, and no evidence of any distress. But the temperature continues to rise to 104° or 105° F., and early this morning the child vomited. There is also now a little tenderness over the central part of the mastoid process, and the prolapsed condition of the cutaneous wall of the canal continues, although it is perhaps less marked than it has been. Operation advised and performed during the afternoon of the same day. When the outer surface of the mastoid bone was laid bare, the peculiar shaven-beard appearance commonly observed in the stage just preceding that of actual necrosis was recognized over a central area about as large as a three-cent silver bit. This corresponded to the only spot where tenderness on pressure had been elicited at the last moment. A high degree of venous hyperæmia (the blood was unusually dark) and the filling up of many of the pneumatic cells and the antrum with granulation tissue were the only lesions noted. Pus was not found at any point; but if any of the cells had contained pus the copiousness of the bleeding would not have permitted us to recognize its presence.

The subsequent progress of the wound was every way satisfactory. Healing took place without the formation of more than a few drops of pus. The skin behind the wound remained perfectly normal in appearance. The child made no complaint of pain in the ear, and ate and slept quite well. But every afternoon her temperature rose to a high level—rarely under 104°, and on one occasion as high as 107° F. The administration of quinine was again resorted to, and it was found to exert a limited influence upon the temperature. The doses were increased until the child finally took twenty-seven grains in the course of twenty-four hours. This brought on vomiting, and it was then decided (June 10th) to remove the child from her residence, in the upper part of the city, to the country. Since that time I have heard no further news of the child's condition.

Case III.—Child, about six years old. General health always good. Mild attack of scarlet fever early in April, while absent from home. Child complained of pain in the right ear for two or three days, a discharge then made its appearance, and from that time onward she made no further complaint of pain. She ate and slept well, and played with her toys as if she felt perfectly free from pain. The discharge was at no time abundant, but it gradually diminished in quantity until, at the time when the preceding statement of the case was made to me by the child's father (May 7, 1895), it had very nearly ceased. As the family expected to sail for Europe on May 22d, and as the child could not conveniently be brought from the country before the 20th, the father wished to know whether he might safely postpone bringing her to see me until that date. I replied that I believed, from his account of the case, that he might safely allow the child to remain in the country until the time mentioned.

On May 20th the child was brought to New York, and I examined the affected ear. The external auditory canal was of normal size and appearance and contained a little stringy mucus which escaped through a very small perforation in the centre of the membrana tympani, which was entirely free from hyperæmia, but showed a little fulness in the vicinity of Shrapnell's membrane, chiefly posteriorly. Usually I attach great importance to this condition, but as the child had experienced no pain in the ear for several weeks past, as there was neither redness nor tenderness of the mastoid integuments, and as the discharge appeared to be of a

purely mucoid character and very scanty, I made up my mind that no serious significance should, in this particular case, be attached to the slight prolapse of the skin at that part of the external auditory canal which corresponds to the floor of the mastoid antrum. I therefore dismissed the case as one which needed no further active treatment until the family should reach London and could obtain the services of some physician competent to thoroughly remove a fairly large mass of hypertrophied adenoid tissue which I had discovered in the vault of the pharynx.

The following morning (May 21st) the child complained of pain in the right ear, and soon afterward the nurse discovered that the skin behind the ear was red and swollen. Her temperature was taken and was found to have reached 103° F.

On the following day—that on which she was to have sailed for Europe—I operated and found that pus was escaping outward through a very fine opening in the cortical portion of the mastoid process. The bone substance in the immediate vicinity of this small opening appeared to be dead. Pus, abundant granulation tissue, and softened bone structure were found throughout the greater part of the mastoid process. The activity of the bleeding and the abundance of granulation tissue found at this depth made it impossible for us to determine whether the antrum contained any pus or not. A considerable area of softened bone was removed from the region situated directly above and behind this cavity.

On the eighth day following the operation the outside wound had entirely healed. A slight mucoid discharge, however, still continued from the external auditory canal; but this ceased entirely on the fourth or fifth day after the removal (by my associate, Dr. Robert Lewis, on June 3d) of quite a large adenoid growth from the vault of the pharynx. A decided improvement in the hearing also became noticeable at the same time.

Case IV.—Male, sixteen years old, in good general health. About April 15, 1895, he experienced a sharp pain in the right ear. Dry heat was applied and he obtained relief in the course of a few hours. During the following four weeks he occasionally, for brief periods of an hour or two, experienced a little pain behind the same ear. There was no discharge at any time from the external auditory canal, and his general health seemed to be comparatively little affected by the condition of the ear. He made the impression upon his parents of being more nervous and irritable than usual, and his general appearance and manner led them to believe that he was perhaps overworked. Nevertheless, all through this period, he indulged freely in athletic sports.

On May 14th he had a second brief attack of severe pain which he referred to the region behind the right ear. Movements of the head aggravated the pain.

On May 15th I saw the patient for the first time. The hearing power of the right ear was then noticeably diminished. There was some drooping of the upper and posterior cutaneous wall of the external auditory canal throughout its entire length. The soft part behind Shrapnell's membrane was also somewhat more prominent than natural, and the membrana tympani itself presented a dull and soaked appearance, but without any bulging of the membrane outward. There was no redness or swelling of the mastoid integuments, but there was some tenderness when I pressed firmly upon these parts.

Systematic poulticing and rest in bed were advised. On May 22d I saw the patient again. The parents reported that under the treatment suggested the pain and tenderness on pressure had rapidly disappeared, the temperature had returned to the normal height, and the boy had seemingly obtained complete relief from his ear trouble. On examination I found that the drooping of the upper wall of the inner half of the canal had greatly diminished, but had not entirely disappeared, nor had the slightly prolapsed portion of skin near Shrapnell's membrane, posteriorly, returned to its normal situation. Aside from these two points there was absolutely nothing to indicate that the mastoid process was not in a condition of perfect health. Here again I felt disposed to look upon these slight departures from the normal condition as simply indications that the mastoid process had not entirely recovered from its recent inflammation, but that the remaining osteitis was insignificant in degree and extent. I accordingly advised the patient to go about again as usual, but to avoid athletic sports until he felt sure, by actual experiment, that his ear was once more able to bear the unusual strain.

On May 23d, still feeling quite well, he indulged during the forenoon in a single game of tennis, and walked a short distance. Early in the afternoon the pain in the mastoid region had returned, his temperature rose to over 102° F., and the skin behind the ear once more became red, swollen, and tender. Prompt and continued poulticing, with rest in bed, soon relieved the pain, swelling, and tenderness behind the ear, and restored the body temperature to a little over 98° F.

On the 25th I found him free from all pain, with a normal temperature, with no redness or swelling of the mastoid integuments, and with only a little tenderness on firm pressure over the central and lower part of the mastoid process. The history of the case, however, showed so plainly that a focus of disease must still be lingering on within this portion of the temporal bone that I urged the advisability of an immediate operation. My advice was accepted and the operation was performed during the afternoon of the same day.

After the surface of the bone had been laid bare, and the mastoid hook guide had been put in position, I applied the chisel at the usual spot, just behind and a little above the knob of the hook—that is, just behind and a little above the curving posterior and upper margin of the entrance to the osseous external auditory canal—and removed a single chip of bone substance about one millimetre in thickness. Immediately underneath this thin piece of bone lay what seemed to me to be slightly bluish granulation tissue. Exploration with the probe, however, revealed the fact that it was the outer wall of the lateral sinus, which in this case occupied a position not only unusually far forward, but also much nearer the surface of the skull than I remember ever to have seen it before. On further removal of the bone in a downward direction it was found that the central and lower part of the mastoid process was converted into quite a large abscess cavity, into which the curving portion of the lateral sinus projected to the extent of two-thirds or more of its circumference. All this exposed surface of the vein was covered with small elevations of granulation tissue, but the vessel was thoroughly elastic, and it was evident that the blood was still flowing through it in a natural manner. By cautious chiselling and spooning with a Volkmann's spoon directly behind the vertical portion of the lateral sinus, I succeeded in reaching the antrum. No recognizable pus was found here, but abundant granulation tissue was removed both from this cavity and from the adjacent pneumatic spaces.

The further history of the case presents no features of special interest. The wound healed naturally and promptly and no drawbacks of any kind occurred during the patient's convalescence.[1]

[1] It seems to me that no case could illustrate more forcibly than this does the danger which attends the employment of the drill as a means of establishing a drainage channel between the mastoid antrum and the outer world. Having been in former years a strong advocate of the use of this instrument, I feel as if now it were peculiarly incumbent upon me to lose no good opportunity of warning against its employment.

A NEW METHOD OF TREATING ADHERENT RETROPOSED UTERI.

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SURGICAL procedures, and mechanical as well, which seek to correct retropositions of the uterus, may be classed under two divisions: they correct the displacement either by maintaining the cervix high up or by drawing the corpus uteri forward. This classification applies to the adherent as well as movable forms of retrodisplacement, only in the former the adhesions must first be broken up. The organ may be released either by working from the vagina, as by Sims's and Schultze's methods, or by abdominal section. Those who have performed cœliotomy for adherent retroposition find, as a rule, lesions of the uterus and adnexa greater than were revealed by the most careful examination, and have generally abandoned the forcible blind separation of the adherent organ by the vagina. So then, to-day, most cases are subjected to abdominal section and hysterorrhaphy. The possibilities and limitations of this operation are now well defined.

Suffice it to say that the operation is an eminently successful one, and there are but two objections to it: it converts a pelvic organ into an abdominal one, with fixation of the corpus uteri, and necessitates section of the abdominal wall.

In the effort to find some substitute for this too severe procedure, I made a careful study of my operations upon the adnexa through the posterior cul-de-sac, and became convinced that the proper method of treating these cases of adherent retroposed uteri was to be applied through the vagina.

Preparation of the Patient.—For two days before the operation the patient's vagina should be kept packed with iodoform gauze, soaked in $\frac{1}{5000}$ $HgCl_2$, for the purpose of loosening the superficial epithelium and straightening the rugæ of the vagina. Three days before the operation a calomel purge is given, and the night before two or three compound rhubarb pills. No enemata are given, as on the eve of the operation the patient is nervous, and much of the enema is retained to be rejected during the operation over the field of work. The abdomen and genitals are covered by a wet lysol dressing, one-half to one per cent., for twelve hours. The patient is shaved on the operating-table. Where there is marked intestinal torpor, strychnia may be given in small doses, grain $\frac{1}{60}$, t.i.d., for three days before the operation.

Operation.—The patient having been shaved and the vagina scrubbed, she is placed in the lithotomy posture. The instruments used are Péan's retractors and traction forceps, and Luer's forceps, in addition to those used for curettage. Strong scissors, curved on the flat, are also needed. The uterus is thoroughly curetted. If there be hypertrophy of the cervix, Schroeder's amputation is also done. Péan's traction forceps grasp the cervix and pull it down. When this is done, the point at which to enter the cul-de-sac is not easy of selection; but when the cervix is pushed up, a crescentic fold will appear behind it, as an index of where the vagina is reflected from the cervix. Just in front of this fold the mucous membrane is incised with the scissors in the form of a crescent, the ends of the curved incision stopping short of the lateral median line. Still making firm traction with the forceps, the fingers of the left hand peel back the vagina, the operator keeping his finger-tips pressed firmly against the posterior wall of the cervix. The anatomical fact must be here borne in mind that in some women the cul-de-sac is behind the entire vagina, while in others the peritoneum is reflected to the bowel from the uterus at the level of the internal os. Having separated the vagina as far up as the internal os, if the fingers have not already entered the peritoneal cavity, they are withdrawn and the opening wiped dry. A pouching will be noticed above, and is formed by the peritoneum. We open the cavity with one snip of the scissors, applied not against this pouch, but where it is attached to the uterus. One finger is inserted for exploration, and to break up adhesions. Should there not be sufficient room for this, the two index-fingers are introduced and laterally separated. This will open the peritoneum as wide as the lateral incision in the mucosa. Plenty of room is now obtained for working with two fingers. When all adhesions are broken up, a large iodoformized pad, to which is attached a string, is introduced into the pelvis, and the patient thrown into Trendelenburg's position. She is still on the back with legs flexed on abdomen. While she is in Trendelenburg's position, the intestines are made to enter the abdominal cavity, and another large pad, similar to the first one, is introduced. The table is now lowered to the horizontal. The Péan retractor is inserted into the pelvis with its upper end against the gauze, and the uterus is pushed up behind the symphysis by using the Péan trowel. In this way we look directly into the pelvis. The adnexa can be inspected and drawn into the vagina. If they require attention, it may be given them, or one may be removed. In other words, a part of that work which we apply to the adnexa through the abdomen can be applied through the vagina, provided we employ the Trendelenburg position, so that we can see what we are doing, and not have the intestines prolapsing into the vagina. Satisfied that the uterus is free, I now pack the organ with iodoform gauze. A wad of iodoform gauze with string and large enough to fill the opening in the peritoneum is now prepared and held in readiness. The posterior retractor is drawn down, so that the edge of the vaginal incision may be seen and grasped with forceps. The two or more pads in the pelvis are now withdrawn and the wad of gauze inserted into the opening just within the cut edges. The uterus and gauze are anteverted *en masse* by Brandt's method, great care being exercised lest we displace the wad of gauze. If the gauze be not in the incision, the cul-de-sac will not be drained, and no lymph will form posterior to the cervix. If the gauze be pushed up too far behind the cervix, it will reach the tubal ends, and they will become implicated in the lymph effusion. A good deal of manual dexterity is required to replace the uterus and leave the gauze wad in just the proper position behind the cervix. Gauze is now packed in the vagina in such a way as to keep the cervix forced high in the pelvis. To accomplish this the space occupied by the bladder must be encroached upon, so as to have one pillar of gauze from the cervix to the symphysis. This necessitates filling the vagina pretty snugly.

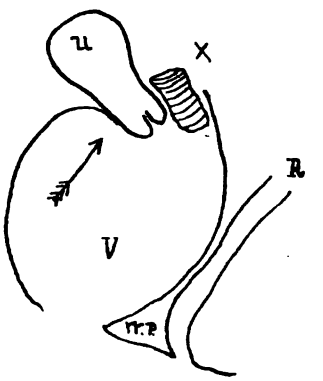

FIG. 1.—*u*, Uterus; *V*, vagina; *R*, rectum; *X*, wad of gauze. The cul-de-sac has been opened, the uterus replaced, and the wad of gauze placed in the incision. The vagina is distended with gauze which is not shown, but the direction of effort of the vaginal gauze is indicated by the arrow.

After-treatment.—Catheter every three hours for a day, after which the patient can take care of the bladder herself, usually. After the first day the catheter may be used every four to six hours, not more than four ounces of urine being allowed to accumulate at one time, unless the patient can empty the bladder when that quantity of urine accumulates. The bowels are to be moved in forty-eight hours, earlier if there has been pus in the uterus or pelvis. I use half an ounce of Rubinat water, with an equal quantity of the seltzer, until ten doses are taken or the bowels move. Enemata are not allowed. After the bowels have

moved, the patient may be permitted any light diet—toast, eggs, gruel, scraped beef, etc. The lower pieces of gauze in the vagina may be changed on the third day, as they are probably soiled by urine. If there has been much pus in the uterus, the uterine packing is withdrawn at this time. At any rate, it is to come out when the vaginal gauze is removed, and is not to be renewed. But care must be taken that the vaginal gauze be renewed as carefully and as snugly as the first was applied. The wad of gauze in the cul-de-sac is not disturbed for from seven to ten days. This is possible with one kind of gauze only.[1] In removing this wad of gauze Sims's position is preferable. The wad should be removed with great gentleness, and the cervix should be supported and not allowed to descend. A wad, smaller but similar to the first, is introduced into the opening and the vagina again filled with gauze. The patient is allowed out of bed on the tenth day. A week after the first dressing another is made, and five days later this is changed. Two, or at most three, dressings to the cul-de-sac are made, but the vagina is kept packed to support the uterus for a month. I usually select two days after the menstruation to operate, thus gaining abundance of time for after-treatment. After the cul-de-sac has closed, vaginal dressings of tampons soaked in ichthyol, ten per cent., and boroglyceride, ninety per cent., are used if the uterus be enlarged.

What the Operation Accomplishes.—The adhesions are severed and the possibly occluded tubes opened. The organ is lightened by curettage and cervix operation, one or both. At the same time, the cervix is maintained in such an elevated position that the intra-abdominal pressure must be behind the corpus, thus throwing the organ well forward. By a slender band of false membrane, produced by hysterorrhaphy, we correct retroversion. My operation does the same thing by a dense mass of lymph about the utero-sacral ligaments. My operation leaves the corpus uteri free, does not invade the bladder space, and merely corrects errors in the relations between the pelvic viscera. All other operations substitute some other, perhaps less serious, malposition for the adherent retroversion or flexion.

I first applied this operation six months ago, and have used it seven times. All cases had one or both adnexa occluded. One had a small cystoma associated, measuring two inches in diameter, and but one (the last) presented pus in one tube. All operations were made in multipara except one. The exception was a case of gonorrhœic infection.

Two have been examined by Dr. Jacobs, of Brussels, and Dr. Etheridge, of Chicago. Two have been repeatedly seen and examined by the gentlemen of the Polyclinic. The last operation is too recent to report the result, except that she has nicely recovered.[2] In every case the uterus maintains an anteverted position. The operation is offered as a substitute for all other procedures applied to these cases. It is not a blind piece of work, but every step is under the eyes' guidance. It but retraces the steps along which the deformity occurred—descent, retroposition, infection—and corrects each. Plastic work upon perineum and vagina is not to be overlooked, but must be applied as in all other conditions demanding it.

Artificial Fever for Insanity.—An alienist in Vienna has been treating insanity by inducing fever through the injection of tuberculin. With each rise of temperature there is an improvement in the mental condition, and this improvement gradually, through constant repetition, becomes permanent.

[1] New York Medical Journal, May 18, 1895.

[2] This lady has been seen and examined by her physician since the operation. It is now five weeks since the operation, and she is up, without vaginal support, and the uterus in perfect position.

THE TREATMENT OF FIBRO-MYOMATOUS UTERI REQUIRING HYSTERECTOMY BY A COMBINED VAGINO-ABDOMINAL METHOD OF ENUCLEATION WITH INDIVIDUAL LIGATION OF BLEEDING VESSELS ONLY.

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Technique of the Operation.—The patient is prepared as for any vagino-abdominal operation. After anæsthesia is complete, the patient is placed in the lithotomy position, and the perineum is retracted by Edebohl's retractor; lateral retractors are frequently also of great assistance. The first step consists in an exploratory incision into Douglas's sac to establish or confirm the diagnosis; next is circumcision of the cervix, made as near as practicable to the lower end of the cervix; hemorrhage from the vaginal arteries is thus reduced to the minimum; posteriorly the incision is continuous with that into Douglas's sac. The incision is carried through mucous into submucous tissue; now the cervix is seized with vulsella and drawn down well into the vagina and then separated from its surroundings by blunt dissection, aided at times by snips with the scissors. The forceps drag down the cervix, drawing the tissues adjacent to this organ taut, while the scissors divide them as close as possible to it. Now dissect off the bladder by keeping close to the anterior surface of the uterus—if it is possible to go high enough, open the anterior peritoneal pouch, or it may be opened from above later. By keeping close to the uterus with blunt dissection aided at times by snips from the scissors, you separate the broad ligaments on each side as high as you can. In carrying on the above dissection, if any vessel should spurt seize it at once with the forceps and ligate with a transfixion catgut ligature. The object in freeing the cervix and lower portion of the uterus from below is to simplify the further steps of the operation from above.

Next the abdominal incision is made to expose the fundus, tubes, ovaries, and fibro-myomatous masses. By blunt dissection, aided at times by snips with the scissors, you ablate the tubes and ovaries by carrying your dissection as close as possible to these structures. Bleeding vessels are ligated with fine catgut. Next continue the dissection close to the uterus, till the broad ligaments are separated on both sides down to the line of separation from below. Now, if the bladder has not been separated from below, you may partly distend this organ with a weak boracic solution; then, about one-half an inch above its attachment to the uterus, an incision is made and the remainder of the bladder separated.

Two principles are involved in the satisfactory performance of the combined vagino-abdominal enucleation of a fibro-myomatous uterus. The first is to dissect as close as possible to the uterus, tubes, and ovaries. Bleeding is thus reduced to the minimum. By this means you divide only arterioles or capillaries, the oozing from which stops almost at once. The second is to keep your immediate dissection well in view, and if any artery be divided to catch it at once with forceps and ligate with a transfixion catgut ligature. Enucleation with simple ligation of the bleeding vessel was, as a routine practice, first done by Pratt, of Chicago, to whom great credit is due, and the method justly bears his name.

After separation of the bladder from the anterior surface of the uterus with a few snips of the scissors, uterus, the fibro-myomata, tubes, and ovaries are lifted out of the pelvis. Now the peritoneum of the pelvic floor is closed with a running catgut suture, but if there are indications for drainage, then the floor is partially closed and the deep pelvis is lightly packed with gauze, the ends of which are brought down into the vagina.

Next the abdominal wall is closed in separate layers with chromatized catgut or tendon suture, and the dressing is applied. Strips of gauze are placed in the raw space between the vagina and closed or partly closed peritoneum, and finally more of the same gauze is placed in the vagina. A gauze pad is placed over the vulva. The after-treatment is simple. Twelve hours after operation the patient is given sips of milk and Vichy if there is no vomiting, and in a few days is placed on regular diet. The urine is drawn till the fourth day, when the gauze is removed from the vagina. After that the patient empties her bladder, and receives a vaginal douche of sterilized water or 1 to 3,000 sublimate solution after each urination. After the removal of the gauze a small strip is introduced; this is changed in three days. Twenty-four hours after the operation the patient receives an enema of Rochelle salts, ℥ iv.; olive oil, ℥ ij.; glycerine, ℥ jss.; enema, Ojss. If this does not thoroughly empty the bowels of flatus and produce a free movement, then salines are administered by the mouth. Usually, however, the enema is sufficient.

The abdominal wound is usually dressed on the seventh day, unless there is some reason for interference. By the end of three weeks the patient is, as a rule, able to leave her bed. The vagino-abdominal method of enucleation is commended in all cases where hysterectomy is necessary for the removal of fibro-myomata, except in those cases where the tumors do not crowd into the pelvis but pull the cervix and vagina toward the upper pelvic cavity, so that the portio vaginalis can hardly be reached by the examining finger; here the whole work of enucleation must be done through the abdominal incision. The vagino-abdominal method of enucleation is to be preferred to all other methods of hysterectomy—as it is the safest and simplest; there is no danger from hemorrhage nor from sloughing, as there is no constricting of tissues by ligatures or clamps. There is no offensive septic vaginal discharge due to sloughing of the stumps in the vagina. There is no danger of tying the ureters, and the chances of injury to the bladder are very slight; shock is not so often noted, and the danger of sepsis is reduced to the minimum.

148 James Street.

ANTIPHTHISIN.[1]

By CHARLES DENISON, A.M., M.D.,

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What I know about antiphthisin I have learned since the middle of last December; and I have to thank Dr. Edwin Klebs, the author of it, and Dr. Karl von Ruck, of Asheville, N. C., for many courtesies received which enable me to make a pretty fair showing for the remedy. Yet I cannot consider the remedy as absolutely perfect, nor the technique of its administration as unquestionably determined. One ought to have a longer time of observation, and a larger series of cases from which to draw conclusions, before presenting a conclusive report. Therefore please consider this as preliminary to a finished report.

Antiphthisin is very much like tuberculocidin (Klebs), though differently prepared. Instead of being made from tuberculin, it is made directly from the ten-times-concentrated culture fluid of tubercle bacilli, the toxic principles which tuberculin contains being supposedly excluded. It is thus claimed to represent the soz-albumin—the probable germicidal property in tuberculin—as much as exists in an equal quantity of tuberculin; and its special value depends upon the fact that a larger dosage is allowable without the injurious toxic effects to be expected from large doses of tuberculin.

According to Professor Klebs "the separation of tuberculin (representing the tubercle bacillus, culture fluids, and ripe cultures) into its distinct constituents gives:

"*A. A tox-albumin*, precipitated by sodic iodide of bismuth.

"*Physiological effects*—fever, malaise, headache, general aching, nausea, diarrhœa, lung congestion, cough.

"*Therapeutic effects* in small doses—stimulant to tubercular tissue.

"*B. Alkaloids*, soluble in alcohol.

"*Physiological effects*—depression of heart and circulation, diminished arterial pressure, capillary thrombosis, hemorrhagic effusions in parenchymatous organs.

"*C. A soz-albumin* (antiphthisin).

"*Physiological effects*—none in doses up to 10 c.c.; destroys tubercle bacilli in the test-glasses.

"*Therapeutic effects* in animal experiments—confers a slight degree of immunity to tubercular infection. Causes resorption of tubercular tissue and conversion of such to the form of tissue from which it proliferated. Obtains the complete cure of 'guinea-pig tuberculosis' in the human subject. Tubercle bacilli degenerate and disappear, tubercular infiltrations are resorbed, and the consolidations clear up. Fever is diminished or disappears owing to destruction of bacilli and resorption of tubercular tissue. Secondary fever may occur, however, from its effects upon tubercular lesions.

"*D. An albuminoid substance*, obtained from the bodies of the tubercle bacilli.

"*Physiological effects* in animals—confers immunity to a much greater degree than does raw tuberculin.

"*Therapeutic effects*—not fully determined and now the subject of experiment. In the healthy human being, harmless in doses up to 3 c.c. Not yet tried in tuberculosis."

This, to my mind, is the most lucid description yet given of the ingredients of tuberculin or the combined substances from which it is made. And the separation of the "soz-albumin," if accomplished as Professor Klebs claims, entitles him to great credit; for many of my own cases seem to furnish a verification of his statement that the major part of the germicidal influence of tuberculin resides in this soz-albumin or antiphthisin.

When, last December, I was asked to give the remedy a thorough trial, I was requested by Professor Klebs "that you will not try the remedy except in cases of pure tuberculosis, and exclude from the treatment, for the present, cases of mixed infection, and septic cases, and of course all such as have amyloid or are so far reduced physically that they necessarily must die of the complications or exhaustion already present."

In regard to such exclusion I must explain that it is very hard to make it work. For instance, there are very few cases which come to a health resort like Colorado in whom there is not some "mixed infection." Therefore, as my object has been to help my patients more than to prove the uniform efficacy of the remedy, I have followed my natural inclination to give some almost hopeless invalids a chance. I conceive that the best test of a remedy is not that it will work well (as is claimed for all so-called cures, climatic or otherwise) in incipient non-febrile cases, or as usually erroneously stated, "in the first stages;" but the proper test is that it has some specific effect upon the disease as we most often find it; and that is after there has been more or less breaking down of lung tissue. Climate, with right living, can take care of those other cases, but we need a remedy which without injury to a far-gone consumptive will give him, on the lines of more or less permanent immunity to tuberculosis, the benefit of his ten to thirty per cent. chance of arresting his disease, if in fact that slim chance is his. I believe that somewhere, within the range of the remedies here discussed, that boon resides, if we can only get at it; and antiphthisin seems to be the nearest approach to it yet proposed.

[1] Report on Professor Klebs's New Tuberculin Derivative and Some of the Cases Treated.

It may here be asked, How about "the anti-tubercle serum" treatment lately introduced by Dr. Paul Paquin, of St. Louis? I have not investigated that method sufficiently to indorse it as proven, but I was present at the late meeting of the American Medical Association when Dr. Paquin presented three patients treated with his horse serum, and after the reading of his paper I invited him, as well as Dr. von Ruck, to my hotel, where for about two hours we examined these cases and their histories. Dr. von Ruck was inclined to believe the good effects noted were due to a transmitted "tuberculin effect," but I could make nothing satisfactory out of them because there was nothing corresponding with my own usual examination with which to make comparison. The original examinations and histories had been made by different interns in the hospital, and essential points were not noted and classified. For instance, there had been no attempt even to determine the daily fever range and its change under treatment. However, admitting a favorable condition of arrest, perhaps, there was no positive cure in any of these cases, for both Dr. von Ruck and I found infiltrations in all, and the evidence of softening (in progress or recent) in one. How much of the good effect was to be attributed to the horse serum alone, and how much to the supposed immunizing of it, was impossible to tell.

Last year I experimented myself somewhat with dog serum, the healthy puppy having been thoroughly treated previously with tuberculin, but I could get no certain good effect in addition to that of the tuberculin thus transmitted through the dog's blood. Afterward I inferred from evidence in Sternberg's "Bacteriology" that such an experiment as I had tried must give an uncertain result, for toxic germs sent through the circulation of an animal are variously affected according to that animal's resistance or other conditions. In fact we learn from the same authority that attenuated cultures of some germs may be re-established as to virulency by this procedure. Probably the immunity effect is an antitoxin influence created in the blood of the living subject operated upon.

As to the use of the serum from dogs previously treated with tuberculin or the culture fluids of tubercle bacilli, I have lately learned that these experiments have also been tried in Germany and no decided results were obtained. This is one of the interesting phases of this important subject which we have to acknowledge is still in a formative, undetermined stage.

To return to the consideration of antiphthisin, let us discuss its action in connection with the study of two or three cases selected from the twenty-three I have thus far had under treatment.

Case I., November 12, 1894.—C. R——, college student, aged twenty-two, from Terre Haute, Ind.; height, 6 feet; no inherited predisposition to tuberculosis, though not of strong constitution; was in college the years 1890 and 1891, but had to leave because of poor health. A year ago was treated for catarrh. Last summer and spring had a cough and yellow expectoration. Six weeks ago had pains in left chest, though not sick in bed. Yellow expectoration for a month; less now. Tubercle bacilli were found in his sputum a month ago. Arrived in Colorado three days ago, and felt some slight chest pains at this altitude. Weight in health, 165 pounds; now 155 pounds. General condition fair; pulse, 96; respiration, 20; temperature, normal; spirometrical record, 150 cubic inches, three-fourths of what it ought to be; manometer record, 65 mm.; chest expansion, 33 and 34¾ inches; right side about three-fourths and left one-fourth inch, measured separately.

Physical Examination.—Dulness at both apices, front and rear, chiefly left, with a dilatation of left main bronchus and broncho-vesicular respiration around this; also some of same sound and exaggerated whisper inner part of right mammary region. Dulness decided and pleuritic friction base of left, especially rear.

Diagnosis.—Broncho-fibro-tuberculosis with pleurisy.

Treatment.—A blood alterative (syrup of hydriodic acid), the "inhaler and exhaler," and he will go to McCoy's, over in the mountains.

April 3, 1895.—Been at McCoy's. Caught cold and was ill for two weeks last of February, with pleurisy, etc. Then picked up; weight now, 166 pounds. Looks better; coughs and raises very little. Dyspnœa less. Spirometrical record, 155 cubic inches, and manometer, 85 mm. Pulse, 92; respiration, 22, and temperature, 99¼° F., 3 P.M. Expansion, 33 and 36½ inches, a decided gain on both sides. But there is a shrunken spot below the left clavicle and almost "cracked metal" there; the broncho-vesicular respiration before noted remains. The lower left lobe has opened up somewhat, but there are mucous râles in infra-scapular region, increased on coughing, and twenty bacilli to the field are found. He has been climbing hills and taking good care of himself, yet the lung is simply opened up and tuberculosis is not eliminated. Recommend additional treatment by antiphthisin. This was commenced in about a week, and the following is the record:

April 23d.—Reached nearly three cubic centimetres antiphthisin to-day by the rectal method; no great reactions. Physical signs are better. Bacilli only four to field after treatment of nine days.

May 3d.—Reached over four cubic centimetres antiphthisin; no bacilli to field now. Semblance of cavity under left clavicle much less, lung is clearer, and the mucous râles on coughing are heard lower down in the rear of left lung. Weight, 162 pounds; looks well; can play tennis two hours a day.

May 24th.—At longer intervals worked up to over five cubic centimetres antiphthisin for the last dose to-day. Has continued to improve, and now there is no expectoration whatever. Looks and feels better. Pulse, 72; respiration, 18, and temperature normal. Spirometrical record, 160 cubic inches; manometer, 85 mm. Physical examination shows decided improvement. Positively no "cracked metal" left apex, front. Lung has cleared up nicely, and the mucous râles on coughing at base of left are not so marked, and the patient is here to verify by his good appearance his improved condition.

If we had wished for a test case for the trial of antiphthisin, we could not have done better, I judge, than to have chosen this gentleman, who if he had any "mixed infections" had eliminated the same in the mountains, and who evidently had no concealed tubercular degenerations in out-of-the-way lung spaces, undoubtedly the bane of many doubtful or poorly understood cases. The specific could only reach the source of tuberculosis in living tissues, and that, we must remember, is as far as it should be expected to reach. There being nothing further to be eliminated, and an excellent vital resistance to aid this process, the good result is easily explained, especially to one who has other evidences of the germicidal influence of antiphthisin. We do not now know how much of immunity accompanies this germicidal effect, or how it is associated with it, but it is reasonable to believe that there is something of this nature in antiphthisin, which, according to my experience, is a decided property in crude tuberculin.

I have chosen the foregoing case to show how nicely the new remedy works in pure tuberculosis, even admitting the great aid of the climate and exercise.

I choose the next case to show that a like, though not as great, care is needed in the administration of this soz-albumin as in giving the crude tuberculin considered as a tox-albumin; in other words, to show not only that every patient should be individualized, but that the effects of these remedial agents vary in different individuals, and that the amount of organic matter, even though it is weighed and definite, admitted to be in antiphthisin, is enough to give decided systemic and febrile reactions in certain cases. This is contrary to

the announcement of the new remedy, but this only militates against its use in treatment to the extent that it is not yet a means to be universally given out to everyone who takes a notion to try it. Without the precautions the inventor of it is taking in this regard there is danger enough that, through ignorant and ill-advised use, much of the odium which befell tuberculin would attach itself to antiphthisin also.

CASE II., February 21, 1895.—Mr. A. C. G——, aged forty; from Palmyra, N. Y. In the commission business; married; height, 5 feet 11½ inches; no inheritance. Previous to present sickness health good, though he is of a very nervous temperament and has been much worried about business. Have never seen anyone so alarmed and discouraged because bacilli were found in his sputum, as has been done by Dr. Lobinger in this case before he consulted me.

The history is that in June, 1894, he received some hurt in his chest, followed by a cough during July, which became worse in August, and by the end of August he was expectorating yellow matter and having some night-sweats. In November he caught cold, and this was followed by profuse expectoration, though he was not at any time sick in bed. Took considerable whiskey and milk and did not lose weight. Weight now 155 pounds. Arrived in Colorado, January 7, 1895, not much appreciating the altitude. Sputum straw-colored, less than a drachm a day. Pulse, 88; respiration, 16; temperature, normal (A.M.); spirometrical record, 220 cubic inches; manometer, 50 mm.; expansion, 32½ and 35½ inches; left ½ inch less than right side.

Physical Examination.—Dulness at both apices, especially in left infra-clavicular region, below which and in left mammary region there is a broncho-vesicular respiration and some "cog-wheel" breathing. This place under left clavicle proved to be a concealed tubercular infiltration spot, which cleared out and became a small dry cavity under the treatment which followed.

February 26, 1895.—Commenced the treatment by antiphthisin hypodermically. By the time I had increased to 1 c.c. there was the distinct reaction sound, similar to the healing sound from tuberculin, in the left infra-clavicular region, following less marked reaction sounds in response to smaller doses below and to the right of this spot, also in the axillary and interscapular regions. There were also temperature rises and general reaction results in response to 1¼, 1½, and to the 2 c.c. doses, till finally his extreme susceptibility was overcome by the tolerance created to the remedy. This was, during the last of the treatment, much aided by recourse to the rectal method of administration. The record of this case goes on to state:

May 3d.—The left lung has much cleared up. The small cavity is clear and seems to have moved up underneath the clavicle and the cog-wheel respiration below has disappeared. Have had to progress very cautiously with the treatment.

May 18th.—Has reached 3 c.c. antiphthisin. Weight now 155 pounds and he looks and *is* much better. The breath sounds are good and dry—a few bronchial (?) râles in left interspinatus region on coughing; not constant, however. The cavity in top of lung has shrunken to a smaller spot underneath the centre of the clavicle, and the breathing is nearly normal over the rest of this lung.

After this the improved condition continued till the last of May, when the patient was (temporarily) discharged to go East and bring his family out to Colorado to reside. The bacilli, which had been one to four to the field in March, became "involuted," as is usual under this treatment, in April and not easily found; and in four microscopical examinations made after April 25th up to May 25th none were found.

I believe this case is in a much better condition than that of mere "arrest." There is certainly an assurance of health in the cleared-up condition of his lung, the improved state of his feelings and general health, which bespeak a degree of immunity which it is hoped will last him for some time.

The unusual local febrile and systemic reactions to antiphthisin shown in this case are to be attributed to the fact, perhaps, that the concealed condition of the tubercular spot in the top of the left lung kept up a toxic state of his blood which, in one of his extreme nervous state, made him specially susceptible to the antitoxin effect produced by the organic substance the antiphthisin undoubtedly contained. The same effects, though much less in degree, have been variously met with in other cases, when the treatment was pushed too rapidly, yet no bad effects have resulted therefrom.[1] It only goes to show that when this remedy is made perfect, and the technique of its administration determined, we will have a specific well calculated to combat tuberculosis pure and simple. The basis for this belief rests upon conclusions stated by Dr. von Ruck as follows:

"The etiological treatment of diseases caused by pathogenic micro-organisms has for its foundation the fact that specific disease germs produce substances within the infected living organisms, and also in their own culture fluids, which are inimical to their own life conditions, and that infectious diseases thus become self-limited and cultures die out before the nutrient substances are exhausted, on account of the poisoning and destruction of the disease germs themselves by their own secretions or vegetation products." It is claimed that this specific is present in antiphthisin, and that this is proved by the self-limitation of the living cultures and by "the destruction of the virulency of the tubercle bacillus by treating it with antiphthisin outside of the living organism."

Experimentally the germicidal and healing effect of antiphthisin seems to have been shown in most of the cases I have had under its influence; *i.e.*, in the lessening of the number of germs to the field found and their degenerative or incomplete forms thrown off when good-sized doses were reached, as well as in the clearing up of consolidated or infiltrated tubercular lung tissue.

Therefore, while I cannot support the claim that antiphthisin is wholly without reaction effects, and we do not yet feel quite sure of its exact constituents and their constancy; while I must differ with Dr. von Ruck in my impression that some toxins rather than "no toxins" remain, and while I think Professor Klebs is in error in placing the dose the same per rectum as when given hypodermically, when it should be much less by the latter method, yet I am glad to recognize this great advance in specific medication. This work is certainly in the right direction, and a possibility is thereby afforded us of hastening recovery through the proper method—the increase of natural resistance to tuberculosis, and thus hope is possible for some otherwise incurable cases.

As to this question of toxins, it has seemed to me that nature may have some selective power in absorbing some and not other ingredients of the remedy when given by the rectal method, and hence that method is to be preferred in very susceptible persons highly charged with the tubercular virus. In this belief Professor Klebs seems to agree, for he writes me, "We know through the labors of Brieger that the resorption of toxins is much slower than of the other albumoses."

It has seemed to me that there is a stimulating effect due to antiphthisin, and that produces an increased leucocytosis. It has lately occurred to me that a limit to the good which antiphthisin may accomplish in a given case might perhaps be assumed to have been temporarily reached when that wonderful process is

[1] Professor Klebs wishes me to add that "the fever results from the liberation of toxins within the organism, by the degeneration of the tubercle bacilli, and the resorption of the tubercular tissue."

found to be overtaxed or to have been arrested, as shown by the paucity of leucocytes, and those swollen or granular, when demonstrated by microscopic examination with high-power lenses. If this supposition is correct, it may be a greater success still is in store for us by combining or alternating with the use of antiphthisin or a similar tubercular product something else to be found which will foster or increase this fascinating leucocytosis. A case lately investigated has impressed this expectation upon my own mind.

I would have liked to have shown the helpful and encouraging results of antiphthisin used in some of the advanced third or excavation cases I have been working with, but the time limits for this paper have already been reached, and I must content myself with the general statement that under this new treatment a certain degree of immunity and prolongation of life is possible, to be added to that which this climate here offers to a properly selected proportion of even these fated invalids.

June 20, 1895.

THE PSYCHOLOGY OF NEURASTHENIA.

By W. A. McCLAIN, M.D.,

ATHENS, O.

If we look into a medical lexicon we find this term defined as "an exhaustion or deficiency of nervous force." But this very illy defines that mysterious group of symptoms and physical manifestations which go to make up the sum total of all we know of that hydra-headed monster, neurasthenia.

It is evident to all neurologists who have given this subject any careful thought that the etiology and pathology of this disease must remain to a great extent shrouded in mystery, and very little has been added to our knowledge in this direction during the past few years.

The utmost extent of our investigations in this direction can only lead us at last to that misty borderland of mind and matter. For when we speak of the exhaustion of nervous force we are at once carried back to the fountain-head of all animal life, the nerve-cells.

What is meant by nervous force? What must be diseased to produce an exhaustion of this force?

Is it possible that a degeneration of cell life in nerve or ganglion is the cause of this exhaustion? If this were true, then this force must be generated in these structures. But science has failed to show that it is produced here.

There is evidently something out and beyond these tangible structures—an unseen shadowy hand that starts this force on its journey down the highway of the nerves. And so we find that the study of the phenomena of this disease leads us into the realm of mind, and it has therefore a psychological side vastly more interesting to us than the physiological.

Neurasthenia must be studied along the same lines as other diseased conditions of the mind.

However, I am not prepared to say that in all phases of this disease the mind as a whole is diseased, but that the same agencies which produce the one are also active in producing the other.

The differentiation between this neurosis and certain conditions of the nervous system found to exist in hysteria is at times a difficult task. The literature of the subject so far has not drawn a distinct line of demarcation. And the two diseases, or conditions, are very frequently taken the one for the other.

There is no disease, however, which paralyzes so much utility, and which imposes upon the sufferer such an amount of aches and pains, real or imaginary, as is experienced by the neurasthenic. He has the discomfort of knowing also that his best friends have no sympathy for his condition, and often speak lightly of his manifold complainings.

This necessarily operates against the condition, and often the patient is led to suppress his feelings and brood over them till at last the mind—which is never stronger than its weakest part—becomes unbalanced and the patient sinks into a condition of melancholia, and suicide often closes the scene.

Dr. Brinton, in his article on nervous diseases in the lower races of mankind, observes that neurasthenia is more prevalent among those of lower stages of culture. But this position is hardly tenable and cannot be sustained by facts gained by careful observation, and I am compelled, after a thorough survey of the field of literature on this subject, coupled with an extensive observation among the uneducated in our own country, to accept the opposite theory, and the one advanced by Dr. A. D. Rockwell in his article on this subject in the *New York Medical Journal* of 1893. In fact, among all the cases of this disease which I have observed and noted during the past seven years in hospital and dispensary, and among the lower classes in general, but few typical cases of neurasthenia were ever found. But to the contrary, among the rich and well-to-do, and especially among professional men and those who belong to the higher walks of life, this disease is more often found in its most typical form.

Dr. Brinton, as quoted by Dr. Rockwell, states that civilization, so far from increasing this malady, is one of the most efficient agents in reducing it in frequency and severity, especially when freed from "competitive anxieties."

It seems well that he added this latter phrase, for it certainly follows, from what we do know of the pathology of this disease, that these very "competitive anxieties" which are so intensified in this country—this worry of business and professional life—civilization only fosters and deepens. Perhaps no other country on the face of the globe to-day is in such a state of business ebullition—such push and excitement bordering on frenzy to outstrip all competition—as is observed in the United States. And to this state of excitement and brain fag and nervous strain, more than to all other conditions combined, is due the prevalence of neurasthenia in this country. The younger generations in most of the older countries—Germany, for instance—are content to follow in the footsteps of their fathers, and their work has a tendency to partake something of the quietude of their old hills and streams.

We seldom or never hear of English or German nervousness as the same term is applied to this country, for in this connection it carries with it a meaning of peculiar significance. It has also been observed that this condition is not found among the inhabitants of the colder latitudes. Neither is it so prevalent in the torrid zone, but only in that region known as the temperate zone, where the climate is ever changing, and the atmosphere is filled with ozone sufficient to produce a general buoyancy to the spirits. Just what this peculiar electrical condition has to do with the disease we are not yet prepared to say. But it is evident that this surplus energy, whatever may be its source, constitutes the disease proper, and not therefore a lack of nerve force as the books define it.

To use a patient's own words who was a sufferer from this disease, "I felt all the while as though some shock would cause me to explode." Is this a condition of exhaustion of nervous energy? Not at all, but rather a weakening of the lines that carry this force—a broken wire, an interrupted current, a multiplicity of currents meeting and crossing, the weaker ones being attracted by the stronger ones and conducted into unaccustomed channels, and the impression often wholly lost.

And this accounts for the inability of the neurasthenic to engage in any line of continued thought. He loses the subject and wanders, or the current of thought ceases to flow and the stream is lost in the sand.

To understand this more fully we have only to study closely the minute anatomy of the brain and its psychological functions.

That the feelings are closely connected with physical manifestations is patent and undeniable. But thought is at times so quiet, so far removed from bodily demonstration, that we might suppose it conducted in a region of pure spirit—merely imparting its conclusions through a material intervention. Unfortunately for this supposition, the fact is now generally admitted that thought exhausts the nervous substance as surely as walking exhausts the muscles.

Our physical framework is involved with thought no less decidedly than with feeling. To all varieties of human feeling there correspond varieties of diffusion in the brain, as there correspond varieties in external manifestation.

The outward signs are only a small part of the wave of effects upon muscles and viscera. Many movements receive only an incipient stimulus, too weak for producing action. The impulse in many instances may be sufficiently strong in the start, but the counter-impulse which the wave meets on its journey may be sufficient to suppress it, or to render the thought as to effect of no purpose.

But these diffused waves of nervous energy are inseparable adjuncts of feeling.

The powers of the nervous system are various, and even mutually opposed. Intellectual feebleness, decay of memory, and incapability of thought are not painful in themselves. But there is probably a distinct power of the nervous system connected with the pleasurable tone of the mind, which may not fail when intellect fails, or may fail while the intellect is yet vigorous—a function very unequally manifested in different individuals.

The mental effect of diminished power in various organic functions is ultimately realized by some failure in the brain itself. Could we suppose the brain to maintain all its functions, derangements might occur in other organs without depressing the mind, but, strictly speaking, this is an impossible occurrence. There is sometimes an approach to this situation, namely, when the blood, such as it is, flows in excess to the brain, supporting its powers at the expense of all other interests, an arrangement that cannot be permanent. In such a contingency there is an extraordinary exaltation of mental function, including a hilarious and even ecstatic enjoyment. It is the state that narcotics may produce for a brief moment in a constitution partially wrecked, and it occasionally occurs in the closing hours of life.

The neurasthenic state is not infrequently produced by causes which may be easily discerned and by treatment removed. Many of the disturbances of the digestive function, anæmia, uterine displacements, tapeworm, all are known to have produced manifestations of this disease; yet with the removal of the cause the symptoms disappeared.

But with grave neurasthenia we have another picture presented, with no objective point to be found, no tangible ground in view. We seek in vain, in the words of Shakespeare, "for the cause of this effect, or rather say the cause of this defect, for this effect defective comes by cause."

The therapeutics of this disease, contrary to most diseased conditions, is far in advance of the etiology and pathology. It is amenable to treatment, and in most cases is a self-limited disease.

Therefore the treatment resolves itself into an effort to treat the individual and not the disease; salt-water baths, a change of climate and of environment, and a calming of the surging waves of thought which dash down the interrupted channels of their being. Restrict, as far as possible, all impressions made upon the mind from without, for while we go the round of the mental circle of sensation, emotion, and thought, there is an unbroken physical circle of effects. It would be incompatible with all we know of cerebral action to suppose that the physical chain ends abruptly in a physical void, occupied by an immaterial substance, which immaterial substance, after working alone, imparts its results to the outer edge of the physical break, and determines the active response—two shores of the material, with an intervening ocean of the immaterial. There is, in fact, no rupture of nervous continuity.

And by thus studying the relation of mind and body we may yet arrive at the true pathology of this disease. When we can know and understand the origin of a thought, and the molecular change of gray matter in the brain consequent upon that thought, then, and not till then, may the pathology of neurasthenia be written.

Coming now to the medicinal treatment of this disorder, we have the whole pharmacopœia of tonics and sedatives to select from, but each case must be treated upon its individual conditions—supporting treatment consisting in good feeding; tonics, such as iron, quinia, and strychnia; occasional warm baths with massage; stimulants cautiously used, and possibly tonic doses of opium.

Usually, we may infer that the pathological condition is most likely to be one of defective nutrition from anæmia and exhaustion.

Where there are decided evidences of vaso-motor spasm of the cerebral vessels, as shown by pallor, coldness of head and extremities, tinnitus, vertigo, etc., the inhalation of nitrite of amyl is generally recommended with good results. If a more continued effect is desired, nitro-glycerine internally, one-drop doses of a one per cent. solution, is employed and cautiously increased.

These drugs seem to have a double beneficial action in these cases, dilating the peripheral blood-vessels and strengthening and freeing the heart's action, which is embarrassed by under-innervation or over-inhibition.

Alcohol and opium are the other two remedies generally recommended. I have seen some temporary good results from a single large dose of alcohol, but I am not prepared to recommend it. Its continued use is open to serious objection, and the same may be said of opium. I have never seen the opium habit created by the medical use of this drug in these cases, but I can readily see how this might occur.

Alcohol as a vaso-dilator, in the stricter sense of the term, has but a limited field of usefulness. With opium the case is somewhat different. It possibly has, in many instances, a favorable action on the blood-vessels of the brain, relieving the vaso-motor spasm and aiding in bringing about a more normal condition of the nutrition of nerve elements. In these conditions small doses seem best, from two to six drops of the deodorized tincture three hours apart being sufficient, and its results cautiously watched.

Naturally following the medical treatment of the disturbance of the cerebral circulation comes that of the management of the excessive motor excitement and irritability, one of the most prominent symptoms of this disease.

This involves the whole question as to the use of sedatives in mental disorders, in regard to which a wide difference of opinion exists among authorities, and certainly a very wide range of variation in practice.

The fact that motor activity is not injurious, but positively beneficial and compensatory, does not destroy the other fact, that in many cases it is so excessive as to wear out the patient unless checked; and the only way this can be done successfully is by the use of sedatives. And possibly the safest of all these are the bromides of potassium and soda. They seldom do harm when properly diluted, and they are excellent adjuvants to other and more powerful quieting agents.

Clouston recommends the use of the bromides with cannabis indica as the best general sedative, while others claim that Squibb's fluid extract of conium and hy-

oscyamus with ten to fifteen grains of chloral is the best all-round sedative for these conditions.

But the tonic treatment must not be lost sight of for a moment. Maltine, cod-liver oil, the peptones, acid phosphates, all have a decidedly beneficial action on this disease, and on most mental disorders. The faradic or galvanic current is of doubtful utility. But the Weir Mitchell treatment and abundance of fresh air and sunshine, promise more relief to these most miserable of all human sufferers—the neurasthenic.

ARE WE LIKELY TO HAVE ANY MORE EPIDEMICS OF ASIATIC CHOLERA IN NEW YORK?

By F. A. BURRALL, M.D.,

NEW YORK.

During the last few years much anxiety has been felt lest cholera, which was then a wide-spread epidemic in Europe, should cross the sea and again visit this country. The painful memories of former visitations are not yet effaced, and it was with a sense of relief that summers were seen to pass and cool autumns arrive, without the advent of the Asiatic scourge.

It is reasonable to suppose that until sanitary regulations are better enforced and ignorance is less prevalent in some portions of Russia and the East such menacings of cholera will be likely to recur.

The question arises, How far should they be a source of anxiety to this outpost of our country, which has often been a distributer of this pestilence? Have any advances been secured in the knowledge of cholera during later years which render it more manageable than formerly and less an object of dread? The study of this question is connected with the history of the Asiatic scourge.

The literature of the subject is so extensive and complete that the materials for such a study are very ample. Its peculiar features have attracted the careful scrutiny of the keenest and most patient medical observers, and page after page bears witness to the untiring efforts which have been made to solve the riddle of this erratic and mysterious pestilence. In looking through the literature of cholera we can clearly follow the forward and backward footsteps of the trail which have at least arrived at definite opinions. These views, based on the most laborious studies and scientific investigations, explain why cholera has been so difficult to control and so destructive to human life. For a long time the views concerning its origin and nature were indefinite and conflicting. Now vague, now fanciful in the highest degree,

> "Such stuff as dreams are made of,"

this did not interfere with the tenacity of those who held them, and the result was to render any unanimity of action which looked toward preventive measures weak and futile. Such unanimity was absolutely necessary for practical results.

For a long time the question of the communicability of the disease was completely unsettled. Those who studied the pestilence and even treated it in epidemics were widely at variance concerning this point. It is difficult for those of us who have watched the rise and establishment of the modern ideas concerning cholera to understand how men could have failed to see the bearing of facts which now lie so open and clear to the view. Yet, as in other matters, the strength of preconceived opinions is often so strong that facts are forced as far as possible to fit these opinions, and the plain, obvious truth is overlooked. Such views as these of Jameson, who wrote in 1855, are an instance of the ideas of very many at that period. He writes:

"Everything, we think, conspires to disprove the belief that the cholera poison came from the East, traversed parts of Europe, and then arrived in this country and now fills a considerable part of this continent. Since we have no control over this specific matter, it is not very material whether we can or not ascertain its source, but we think, with Sydenham, that its primary cause emanates from the earth. In briefly summing up the character of cholera, we view it as an epidemic and of course dependent upon some atmospherical contamination for its predisponent cause, mostly confined to neighborhoods of moderate extent, but sometimes, simultaneously or in near succession, in different places; it is most clearly non-contagious, non-migratory."

Still another writer gives it as his opinion that "I wish it to be distinctly understood that I have seen nothing in its progress that has led me to conclude that contagion is instrumental in its diffusion. One or two *prima facie* cases of infection have presented themselves, but a little scrutiny has shown me their fallacy."

As to the cause of cholera, all kinds of ideas were advanced. One writer is of opinion that the disease depends upon a "subtle entity," which spreads by the agency of some modification of electricity, like ozone. He writes:

"What other agent is there to which we could ascribe the appearance of cholera in its course? It is true, electricity has the quality of ubiquity, but this does not interfere with its change of place, as may be seen in the operation of the telegraph. All the known laws of electricity, in all its modifications, serve to give it fitness for the agency of spreading a subtle entity, like the entity which gives rise to cholera."

In 1866, among other views which were brought forward to explain the cause of cholera, it was reported by "Malakoff," who was then the Paris correspondent of the *New York Times*, that "a distinguished lady of title had made a communication to the French Academy of Sciences, that she had discovered the cause of cholera in a microscopic insect which she calls the winged leech and which she says is developed in marshes and filthy localities. The details she gives in relation to the animalcule and its connection with cholera are so minute that the Academy, which commenced by laughing at the first paragraph of the report, finished by deciding to investigate the matter."

It was hunting in the fog to seek for prevention, while the nature of the disease was so imperfectly understood and its communicability denied. Far-fetched explanations were advanced for the strange conduct of what seemed to be a capricious pest, and the opposing views held by those who had had the best opportunities for studying the disease led physicians and the public to regard the new theories with scant favor.

The belief in the communicability of cholera had been making slow headway for years. The admission of negative evidence was a great impediment to its progress. But those who thought cholera communicable held that the testimony of the five witnesses who saw the culprit steal the axe was not at all weakened by that of the twenty who swore that they did not see the theft. There were so many instances where the arrival of cholera patients at villages or in families in which there was no cholera, was speedily followed by an outbreak of the disease, that these accumulating facts bore convincing evidence in favor of communicability. Why, as was the case, should cholera appear in an uninfected island of the ocean, soon after the advent of a vessel with cholera on board, unless it had been brought there by that vessel? One such instance of portability would be insufficient as a ground for belief, but the facts flowed in in increasing numbers, and from 1867 to 1870 the doctrine of the communicability of cholera had gained a hold sufficiently strong to form a basis for definite sanitary action. The settling of this point in the minds of the majority

was the most important step in advance which had been made for years. In this light was explained the strange circumstance, which had seemed inexplicable, that this pestilence had attacked ships in midocean as if borne from distant lands or dropped from the clouds, by attributing it to an infection caused by the opening of trunks and airing of infected clothing by passengers from infected districts. It may be incidentally mentioned that cholera has been said to be unaffected by cold, and to spread even in spite of the rigors of a Russian winter. A satisfactory explanation of this fact seems to be that the houses of the poorer Russians are closely sealed to keep out the intense cold. The interior is hot and filthy, and thus the cholera plant is fostered and carried from house to house, although it would die in the temperature of the external air. At present it is established that great cold is unfavorable to the spread of this disease, but at one time, before the communicability of cholera was admitted, the spread of a winter epidemic was regarded as another *bizarrerie* of this inscrutable plague.

Communicability having been admitted, or in other words the transfer of the disease as a special poison by human agency, then the question of prevention assumed a more definite and practical form. Prevention was all the more important, since the treatment of the fully developed malady was and still is extremely unsatisfactory. The mortality remained about the same, notwithstanding that one treatment after another was recommended, as new epidemics came and went. A certain number of the sick recovered under almost any treatment. Methods of cure which seemed effective in one epidemic proved valueless in another, and in estimating the effect of remedies it was necessary to take into account the period of the epidemic in which they had been tried, since the mortality in the early part of the epidemic was found to be naturally much larger than in the later portions. On the other hand the treatment of the premonitory symptoms of cholera had been found quite efficacious, and general cleanliness had limited to a certain degree the large mortality.

As confidence became developed in the efficacy of preventive methods, these methods were more carefully studied and improved. Isolation, cleanliness, the use of pure water, and house-to-house visitations were found to be of use, because definitely directed against a special poison, which displayed prominent characteristics, although its essential nature was still unknown. The great mistake which had been made, of concealing or denying first cases of the disease for fear of creating a panic, seemed but natural when no satisfactory method of treating them was known. While the cases were being discussed, the disease spread, and as in one of the Parisian epidemics, where the pestilence broke out in vast proportions, this was not a primary wave, but the sudden development from cases which had been present in the city for a month.

Confidence in the power of prevention has also led to another and most important step which is strongly in contrast with previous custom. Doubtful cases are treated with all the sanitary discipline of genuine cholera, and efforts are made to bring to the light all such, in order that a possible lurking evil may be "stamped out" before it has made headway.

The discovery of the cholera germ by Koch has thus far been of less practical value than of interest from a scientific point of view. This statement is for the present time: If anti-cholera inoculation should prove successful it will be the great preventive method, but this treatment is still *sub judice*. At all events, the discovery of the bacillus was a most important link in the history of the disease and most essential to its completeness. Still what had already been acquired was directly in the line of what would be indicated by that discovery. It has often been the case that medical treatment has been in advance of that more exact scientific knowledge which comes later to justify the treatment and explain its results.

One fundamental consideration which precedes all others when we regard our liability to an introduction of cholera is our separation from European ports by the ocean. It is only from those ports that we have ever received it. The shortest voyage across the sea is longer than the ordinary time which elapses between infection and the appearance of choleraic symptoms. The question is not fully settled, but it must be admitted that the usual period of incubation is within four or five days. A maximum period has been placed at twenty-one days, but if we consider the very great infrequency of cases upon which this estimate is based, we must admit the possibility, at least, that the infection came from soiled clothing or fomites, to the poisonous action of which the patient had been exposed during the latter portion of the twenty-one days.

We may now ask what legacy have the years given us after all the suffering and experience and study which have accompanied the successive epidemics of cholera?

It cannot be claimed that our knowledge of cholera is complete. In some directions we have only a "working hypothesis," but the knowledge acquired is sufficient to form a good basis for preventive treatment.

We may regard it as a standard opinion at present that Asiatic cholera is a disease produced by the fermentative results connected with the presence of the cholera bacillus. The existence and growth of the bacillus are favored by certain conditions, while interfered with, even to annihilation, by others. Intense cold checks its growth, many chemical agents destroy it, cleanliness retards its advance. Experiments[1] made to ascertain whether the soil in itself has any action favorable or injurious to the comma bacillus of Asiatic cholera, apart from the moisture which these soils contain, are of much interest. The earth experimented with was white crystal sand, yellow sand, garden earth, and peat, and these earths were sterilized by moist heat. Under these circumstances the bacilli in these different soils died between the third and fourth day. In a moist soil, where there was no excess of moisture, it was found that the bacillus in the white crystal sand was alive on the seventh day, in moist yellow sand on the thirty-third, and in moist garden earth also on the thirty-third day. Peat was unfavorable to its vitality, since in that soil the bacilli were dead in from invariably twenty-four to twenty-six hours, independently of the amount of moisture present. Whether the acid present in peat is inimical to the bacillus is not stated. Some acids, such as sulphuric, have been supposed to act as antidotes to the poison of cholera. It has long been held by Pettenkofer that the epidemics of cholera depend for their prevalence on the varying quantity of water in the soil, and in India certain places, like Multan, in the Punjaub, are considered as out of the cholera area, and cholera is "always present in damp Bengal." So that the drift of evidence indicates that moist soils favor and dry soils impede the spread of this pestilence.

Cholera is not regarded as contagious in the exact sense of the word, but the germ taken within the body, as by food or water, originates the disease, and this is spread by the fermented waste of the body.

The usual period of incubation is placed at from three to four days. The occurrence of those longer periods which are given as elapsing between exposure and the appearance of symptoms may be explained by attributing them to infected clothing or other fomites.

As a rule, epidemics in this country begin by a single case, or two or three in near succession. The premonitory symptoms of cholera are, as a rule, easily controlled. A quarantine may be so conducted as to aid very de-

[1] London Letter to the New York MEDICAL RECORD, June 23, 1895.

cidedly in prevention without greatly embarrassing the demands of commerce.

What, then, do these premises indicate with reference to systematic effort in keeping cholera out of this continent, and especially New York? In the first place, such an examination and preliminary quarantine as was practised on immigrants sailing to America from Amsterdam or Rotterdam during recent cholera epidemics was a defensive blow nearest the seat of the evil, and a five days' quarantine, with airing or disinfection of clothing, would be a great advance on former methods.

A second quarantine on this side of the water, in the event of suspicious cases arriving on board of a vessel, is an additional defence. If thorough disinfection of personal clothing and baggage is practised, and all exposed localities are carefully cleansed, so that if the disease enter it may find no soil to nourish it, it does not seem necessary to require a detention longer than ten days, including the passage, for healthy vessels from infected ports or which contain passengers from infected districts, or for infected vessels of more than ten days after the end of the last case of cholera or acute intestinal disturbance.

The thorough cleaning of seaport towns, and a supply of pure drinking-water.

The co-operation of the community with the authorities in reporting all suspicious cases. No one can be "frightened into cholera" if the specific disease does not exist, and the best method of averting it is, with confidence in our present preventive agencies, to search out and destroy the earliest sparks of the fire before it goes beyond our control.

The sanitary treatment of all doubtful cases as if they were genuine, with the same aids of isolation and disinfection as are used at present so successfully in our epidemics of scarlet fever, diphtheria, measles, and small-pox.

In this article are contrasted the former views concerning the nature of Asiatic cholera with our present standard opinions and the views concerning preventive treatment. A comparison of the earlier with late views shows us how high the tide has risen. The results of preventive efforts made within a few years in this city are full of encouragement. We cannot tell how many more threatenings of cholera we may have, but it does not seem probable that this city will ever again be forced to lament the visitation of a cholera epidemic. It would seem as if nothing but a relaxation of our present vigilance could account for such an unhappy event.

What this means in the establishment of that calm confidence which soothes and upholds the nervous system of a community, as opposed to the effects caused by the dread of a coming horror, what of sorrow and misery would be averted, what of business complications and loss of treasure would be avoided, it is impossible to thoroughly comprehend in all painful detail.

The Duke of Cambridge seems to be a cad. He is commander-in-chief of the British army and is about as well qualified for the position he holds as was the ruler of the Queen's Navee; yet he had the impudence to refer to Surgeon-Major Robertson, who distinguished himself for heroism at Chitral, as "that brave civilian," not recognizing a surgeon as an army officer. Surgeon-Major Robertson is to be congratulated in not being recognized as a comrade of the absurd Duke of Cambridge.

The Horse is in Luck, for just at the time that his occupation as a drawer is in danger of being lost in competition with electricity and the bicycle, the antitoxin treatment has created a demand for him as a purveyor of serum.

FRIEDREICH'S ATAXIA, WITH CASES.[1]

By SIDNEY I. SMALL, M.D.,

SAGINAW, MICH.

In reporting these cases of this comparatively rare disease I do not expect to add anything original to its literature, but I am encouraged to believe that a history of the cases which have been under my observation for a considerable time, illustrated by the presence of the individuals themselves, will be of sufficient interest to claim a small share of the Society's time.

I trust it will not be deemed a reflection on the dignity and erudition of this Society that, before taking up the personal histories, I recite briefly the history and general course of the disease, as a reminder for those who have had no special reason for its recent study, and an aid to the appreciation of the symptoms as they appear in the different stages.

The disease was first noticed in 1861, by Professor Friedreich, of Heidelberg, who at that time reported six cases. In 1866 but 14 new cases had been reported. In 1872, the number had increased to 47, and at the present time is something over 200. The only case which has been reported in this State was described by one of our own members, Dr. Inglis, in a paper read before this Society in 1891.

For a definition of the affection I shall quote from the excellent monograph of Dr. J. P. Crozer Griffith, as giving briefly, and yet clearly, the results of study up to the present time:

"Friedreich's ataxia is a chronic systemic inflammatory degeneration of the spinal cord, developing usually in infancy or childhood, and occurring in cases in which there has probably been an arrest of development of the cord during fœtal life, this being the result of some hereditary predisposition. It is situated chiefly in the posterior columns, the lateral pyramidal tracts, the direct cerebellar tracts, and the columns of Clarke, though other parts of the white and gray matter are very commonly somewhat affected, and the sclerosis extends slightly into the medulla. The affection is characterized clinically by a disturbance of the co-ordination of the bodily movements, developing gradually, advancing from below upward, and finally involving the organs of speech. Curvature of the spine, talipes, vertigo, and nystagmus are frequent. The patellar reflex is nearly always abolished. Paralysis and sensory disturbances are not uncommon in advanced cases. Trophic, vaso-motor, and visceral affections are unusual, and any involvement of the intellect is probably accidental."

It is probable that all sufferers from the disease inherit from some of their ancestors, near or remote, a tendency to degenerative processes, yet to call it hereditary we must regard the term in its broadest sense. While cases are recorded of undoubted direct or similar inheritance, in the large majority it will be found that the ancestors suffered from some other form of nervous disease; and a certain number appear in which no sign of heredity has been discovered.

But few well-marked cases have shown the first symptoms after the age of twenty years. In 127 cases tabulated by Griffith, the first symptoms were noticed in 39 before the age of six years; in 45 at from six to ten years; in 20 at from eleven to fifteen years; in 18 at from sixteen to twenty years; and in 5 at from twenty to twenty-five years. Not infrequently the first manifestations of the disease have been preceded by some acute affection, usually infectious.

Clinically, Friedreich's ataxia resembles tabes dorsalis and disseminated sclerosis. In our diagnosis we have to bear in mind the early development of Friedreich's disease, its slow but steady progress, its tendency to occur in several members of the same family, the peculiar oscillating, staggering gait, the usual absence of the patellar reflex, the deformity of the feet,

[1] Read before the Michigan State Medical Society, June 7, 1895.

the slow, thick speech, scoliosis, and nystagmus; the absence of pain, cerebral disturbances, and genito-urinary troubles. Tabes dorsalis is a disease of adult life, with pain as an early and common symptom, seldom affecting more than one in a family; lesions of the optic nerve are early and frequent symptoms, without curvature of the spine, or inco-ordinations of speech, and very seldom nystagmus.

Disseminated sclerosis rarely appears before the age of twenty. The onset is sudden, and but one case in a family affected. There is exaggeration of tendon reflexes, spastic paraplegia, cerebral disturbances, with vertigo, headache, and epileptiform and apoplectiform attacks. The general pathological changes are well described in the definition quoted at the beginning.

Three of the cases which form the subject of this paper have been, for a number of years, inmates of St. Mary's Hospital, in Saginaw. The fourth is living in Essexville, in which town all the children were born.

In my study of the family history I find nothing of importance on the paternal side. The father was a native of Holland, and came to this country at the age of twenty-five. He was a large, strong man, and healthy until a few years before his death, which occurred at the age of sixty-one, of gastric cancer. His father and mother died in Holland at the age of fifty-eight and fifty-two, respectively. One brother is living in this State at an advanced age.

The mother of the patients, French, a native of Canada, died at thirty-eight years of age from blood-poisoning, the result of vaccination. Maternal grandfather living at eighty-five; maternal grandmother died at seventy-three. A sister aged twenty-eight is in good health, and a brother aged sixteen is apparently well, though inclined to stammer, especially if at all excited, and the patellar reflex is absent or doubtful.

From a maternal aunt I obtain the following personal history: She is forty-six years of age, and has been married twenty-three years. Three months after marriage, being then pregnant, she took cold, and had "inflammation of the lungs" which lasted several months, and for one year after recovering from this illness she was unable to walk, and had no sensation in her legs; then she learned to walk as a child learns. Three years afterward, in her third pregnancy, she suffered an attack similar to the former, and was again unable to walk for a period of a year and a half, since which time she has been well; so she says, but when the marked kyphosis of the dorsal region developed I was unable to elicit; probably at the time of her first illness. She has had nine children, seven of whom are living. The first-born died at two and a half years of age, never having been healthy, though I was unable to learn the immediate cause of death. The other died of diphtheria. The remaining children are well, mentally and physically. A cousin of the parents on the mother's side has a daughter eight years of age, who has since the age of eight months had convulsions, and is still an infant in all but years. Three other children, of the ages of four, six, and fourteen, are in good condition, physically and mentally. It may be worthy of note that the parents are slightly related—their grandmothers being half-sisters.

In another branch of the family is a girl, eleven years of age, a distant cousin of the patients, who had hemiplegia in infancy, and still remains weak in body and mind. Eight other children, whose ages range from eight to twenty-two years, are in good health.

The following personal histories are obtained from the patients themselves and their friends:

Case I.—Mary V——, aged twenty-six. She was in good health up to thirteen years of age, when there appeared an unsteadiness in her gait—a wavering, uncertain manner of walking, with frequent falls. The patient says there was an uneasy sensation in the back, and later in the knees and ankles, though it never amounted to absolute pain. She also remembers that she was unable to stand upon a chair, or anything raised even but a little distance above the ground, and this she noticed some time—four or five years—before the trouble in walking appeared. At the age of nineteen, the difficulty in walking had so far increased that she was compelled to use crutches, and after about four months was no longer able to walk even with this support. Menstruation began at eighteen, and has been normal.

Present Condition.—The patient sits during the day in an arm-chair in a somewhat stooping or rather slouching position. There is some scoliosis in the dorsal region. She is unable to walk or stand, and gets about by drawing herself along the floor by the hands. With difficulty she can get from the floor to a chair. She can extend and flex the leg upon the thigh, but cannot flex the thigh upon the trunk. The feet are in the condition of talipes equinus, with a tendency to dorsal flexion of the great toe. Patellar reflex is absent or doubtful. There is no more atrophy of the muscles than would naturally follow disuse. The muscles of the arms and hands are fairly strong, but showing marked inco-ordination. An attempt to bring the forefingers together, or to touch the tip of the nose or the ear is seldom successful. When the limbs have remained for some time at rest the patient is unable to tell their position except by sight.

In grasping an object the hand and fingers are held in a claw-like way, and often carried beyond and about the object before seizing it. The functions of the bladder and rectum are normal. The speech is thick, as though some object were held in the mouth, and the words are pronounced in a slow and somewhat jerky manner. Though generally of a quiet and serious habit, the patient is subject to fits of immoderate and uncontrollable laughter on slight provocation. There is no impairment of intellect or memory.

Case II.—Joseph V——, aged twenty-five. Ataxic symptoms first noticed at the age of thirteen, but he was able to go about and work until the age of eighteen, when he had what seems to have been an attack of typhoid fever, lasting seven weeks, and after recovery he could walk only with the aid of crutches, and this aid soon became insufficient, and walking impossible.

Present Condition.—He is unable to walk or stand, and with great difficulty gets from the floor to a chair; and yet he goes down several flights of stairs, out of doors, and about the lawn, sliding down the stairs, and returning very slowly by seizing the balusters with his hands and drawing himself up a step at a time. His method of locomotion is the same as that of his sister, drawing himself by the hands.

There is scoliosis in the dorsal region. He can extend and flex the legs, and flex the thigh upon the trunk. The same condition of talipes and dorsal flexion of the great toe is present, as in his sister. The patellar reflex is absent; the plantar reflex well marked. There is no apparent lack of strength in the muscles of the arm and hand, but the inco-ordination is much greater than in the case of his sister; and there is the same inability to locate the position of the limbs when at rest. There is no affection of the visceral or urinary organs. There is a slight oscillation of the head, which is increased by conversation or excitement. The speech is slow and even more unsteady than in the previous case.

Memory and intellect unimpaired.

Case III.—John V——, aged twenty-four. The first symptoms appeared at the age of thirteen, gradually increasing, and at the age of twenty-one he gave up walking altogether, after a few months' use of crutches. No illness preceded and no pain accompanied the ataxia. One bit of information which he gives concerning his childhood tells of inco-ordination in the arms at an earlier relative date than is usually given. He could not drive a nail or use a hammer at

all successfully, but always hit something different from that at which he aimed.

Present Condition.—Much the same as his brother, except in degree, the symptoms being slightly less marked, as might be expected from the difference in duration; and both patellar and plantar reflexes are present.

Case IV.—Julia V——, aged twenty-two, was in good health previous to the first appearance of the difficulty in walking, at the age of fourteen. Never had any pain—not even a headache, and even now, when sitting in a chair, feels as though she could get up and walk as well as anyone. Menstruation began at eighteen, and has been normal.

Present Condition.—She has a healthy appearance and intelligent expression. She walks only by the aid of a chair, but is constantly engaged in work about the house, and happiest when she is busy. The ataxia is greater in the right leg. In both feet, but more marked in the right, is a condition of talipes, or rather an appearance of exaggeration in the arch of the foot at the expense of its length. This is more noticeable than in any of the others. The patellar reflex is absent, plantar reflex normal.

A point which I have noticed in all of these cases is a tendency to hyper-extension of the thumbs.

In no one of them has there been pain, anæsthesia, or girdle sensation, and nystagmus has not appeared as a prominent symptom.

An examination of the eyes in Cases I., II., and III., by Dr. D. B. Cornell, discovers some atrophy of the optic nerve. Accommodation, pupillary reflex, and color sense are normal.

Progress of Medical Science.

Combinations of Morbid Conditions of the Chest.—Dr. F. T. Roberts, in his Lettsomian Lectures on this subject, easily makes good his contention that such combinations are very common and that their importance and significance are inadequately recognized. The error of fixing the attention upon one morbid state or one prominent clinical symptom is very general, and to immature minds and unskilled observers is practically irresistible; but we all need occasional reminders that there are no hard-and-fast lines in nature, and that the elaborate classifications and hard-and-fast distinctions so usual in text-books, though often practically useful, give an erroneous impression of a fixity and precision which as a matter of fact do not exist. (*The Lancet.*) Disease is not mathematical or mechanical. It is fluid, mobile, easily passing from one transition to another, incapable of precise definition, obeying general laws and definite principles, but not to be confined within the limits of rigid rules or unvarying formulæ. Specialism in medicine is always open to the reproach that disease refuses to recognize the limits of the specialist's domain. Dr. Roberts wishes to utter "an emphatic protest against the absurd development of specialism in relation to this region—*i.e.*, the chest—which at the present day is working so much mischief;" and he gives it as his opinion that "the practice of dealing with each thoracic organ as if it were entirely separate and distinct, or, still more, of making a specialty of different complaints, is both dangerous and absurd." It is evident, we think, that any attempt to study pulmonary disease apart from morbid conditions of the heart must be doomed to failure; and to this extent, at all events, we entirely concur in Dr. Roberts's *caveat* against excessive specialism. But we must beware of running from one extreme to another. Dr. Roberts discusses a group of cases characterized by a combination of conditions difficult to define, but of great practical importance. "In these cases the superficial structures are more or less wasted, it may be considerably; the chest-walls are obviously rigid; localized pleuritic adhesions can be made out, it may be in several spots; there are no gross lesions to be detected in the lungs, but these organs are evidently wanting in normal elasticity and tending toward degeneration, perhaps also exhibiting limited areas of emphysema, or there is a suspicion of a fibrotic change here or there; sometimes there are indications of commencing atheroma of the aorta, or the heart is feeble in its action and is probably of actually small size." Everyone is familiar with these cases which, as the lecturer says, do not belong to the chronic emphysematous or phthisical groups, and are often, for want of a better title, simply labelled cases of "weak chest." The important practical point about such cases is that they do well by using suitable precautions and having an occasional change of climate; but that even a slight bronchial attack is a serious matter for them and that they die really from pneumonia or other grave acute affection. The prognosis and treatment of such cases require to be regulated by a due recognition of the fact that symptoms trivial in themselves acquire a serious gravity when viewed in relation to this peculiar type of patient. Dr. Roberts protests against the crude and superficial way in which many of the laity talk of phthisis, as if the mere recognition of the bacillus explained everything. He points out the absolute necessity of recognizing the numerous grave organic changes wrought by the disease, such as consolidations, tuberculous, inflammatory, caseous, or mixed; miliary tubercles, diffused or in groups; softening of these structures; cavities, reparative changes, the formation of fibroid tissue, bronchial inflammation, compensatory emphysema, and the like. Cases of chronic pneumonia, in whatever way arising, "in time assume a decidedly complex character. The fibroid change is limited in most cases mainly or entirely to one lung, or a portion of it, which is thus hardened and contracted, the involved structures being rendered quite useless; it is often accompanied with the remains of phthisical cavities, and still more frequently with dilated bronchi, while unaffected areas of the same lung, as well as the opposite one, become the seat of compensatory distention, which may ultimately terminate in true emphysema. . . . There is an exceptional class of chronic pneumonic cases which may prove very puzzling. In these one lung is absolutely solid, either throughout or over a large extent, but instead of being contracted it is more or less enlarged. The opposite lung becomes greatly distended, and also in some instances the seat of dry bronchial catarrh; so that the general aspect of the patient, as well as the prominent symptoms, may resemble closely at first sight those of an extreme case of emphysema and bronchitis, with an asthmatic tendency." Asthma and angina pectoris afford Dr. Roberts good instances of the necessity of a comprehensive view of chest ailments. In a large majority of cases asthma "supervenes upon distinct and obvious morbid changes associated with the chest, which tend to become more and more pronounced as the case progresses. The cases in which asthma occurs are usually more or less of the emphysematous and bronchitic type; but rigidity of the chest-walls, adhesion of the upper part of the lung, and other factors, are often of much importance in these cases in relation to asthmatic attacks." Angina pectoris "usually complicates more or less definite morbid conditions of an organic nature. . . . Those which are most likely to be overlooked are atheroma or calcification of the aorta and coronary arteries, and cardiac degeneration not of a pronounced character." Dr. Roberts is emphatic on the importance of recognizing what may fairly be expected from treatment and what it is folly to attempt; on the necessity of wisely adapting our measures to acute conditions supervening on chronic; on the need of grappling promptly with grave conditions readily

amenable to treatment—*e.g.*, effusions into serous cavities; on the value of rest and the simpler drugs; on the impolicy of fussy therapeutics and routine symptomatic treatment; and on the wisdom of being on our guard in relation to new "cures" and vaunted specifics.

The Importance of Menstruation in Determining Mental Irresponsibility.—In regard to the mental irresponsibility of women during the menstrual period, Krafft-Ebing reaches the following conclusions: 1. It is useful to consider the mental soundness of women during menstruation from a medico-legal point of view. 2. It is advisable, where a woman is held on a criminal charge, to ascertain whether the commission of the act coincided with the menstrual period; and by period is meant not only the days when there is actual flowing, but those before and after as well. 3. It is best to advise examination of the mental condition when such coincidence is established. This is indispensable when there is a personal history of neuropathic defect, of mental disturbance at the time of previous menstrual periods, or when the nature of the act reveals any striking features. 4. When the menstrual process exerts a powerful influence on the mental life of the subject, the accused should be given the benefit of extenuating circumstances in the infliction of the penalty, even although there be no proof of menstrual insanity. 5. When the offence or crime has, in a person whose mind is impaired, occurred during the menstrual period, she must be declared irresponsible, for there is every reason to believe the act due to emotional impulse. 6. But individuals, who by reason of menstrual insanity would benefit by acquittal on this ground, should be considered as dangerous in the extreme and subjected during the times of the menses to close surveillance. It is best to confine them in an asylum for the insane, where they will be comfortably cared for and often cured of this menstrual instability of mind.—*New York Medical Times.*

Etiology of So-called Continuous Fever.—According to Dr. Chassiotis, the two sources of infection which have been found to cause the phenomena of so-called continued fever—viz., typhoid and plasmodia of malaria—have not been found in some cases. Numerous observers have thought to explain the origin, in the absence of these, on various hypotheses, none of which are satisfactory. Chassiotis had the opportunity of examining and following many cases, clinically, and subsequently pathologically upon the autopsy table. Peyer's patches and the mesenteric glands were carefully examined for typhoid bacilli without success; likewise resulted the search for malaria plasmodia. Certain features of these cases were found to exist in common with those found in malaria, typhoid fever, scarlet fever, diphtheria, and other miasmatic affections. 1. In various organs, especially the spleen, liver, and kidneys, were found many embryonal or round cells. 2. A dilatation of the blood-vessels. Then many granules of pigment as in malaria, and due to destruction of red blood-cells. As regards the round cells three varieties were observed: 1. Large cells with an abundance of nuclear chromatin. 2. Smaller cells with an abundance of nuclear chromatin 3. Smaller cells with scanty nuclear chromatin. The examination of the blood revealed the most interesting features of Chassiotis's observations. He discovered numerous diplococci, of oval or rounded form and varying in size. In the beginning of the attack they are very small, but increase in size as the affection progresses, attaining a length of 0.16 μ to 2 μ. The forms are most perfect during the exacerbations of the fever; they show evidences of degeneration during the remissions of apyrexia. One of the most characteristic evidences of degeneration is the failure of the diplococci to stain well or uniformly. They are possessed of a slow motility in the blood plasma, when placed in a moist chamber. As they approach the edge of a red blood-cell, they show a tremulous motion. Within the white blood-cells one or more diplococci may be visible. They may lie at the periphery of the cells or completely fill them. If the temperature be very high and there is coincident weakness and emaciation preceding death, there will be marked poikilocytosis and diminution in the numbers of red blood-cells. In this condition each half of the diplococcus is semilunar in shape, with distinct space between the two, and appearance as though the whole were surrounded by a clear gelatinous caspule.—*Pacific Medical Journal.*

Fetid Endometritis of Old Women.—According to the Paris correspondent of *The Lancet* endometritis occurring in women after the establishment of the menopause is doubtless due in some instances to the reawakening of an old infectious process or to a necrobiosis accompanying the elimination of a moderate-sized fibroma; but these causes cannot explain other cases. Thus, Fritsch, and, later, Patru, ascribe its occurrence to a destruction of the endometrium. In some of these sufferers the symptoms recall those of cancer of the uterus—vaginal irritation, periodic flow of pus, emaciation, and straw-colored complexion. The importance of a correct diagnosis in such cases has impelled Dr. Maurange to publish three observations of the disease, for a description of which classical works on gynecology may be vainly thumbed. The first case was that of a woman, aged fifty-five, in whom menstruation had ceased at fifty. For the past few months she had lost flesh, the features were drawn, and the complexion yellowish. She complained of abdominal pains, with a constant discharge of a horribly fetid, thick liquid—so great was the stench that her *femme de chambre* could not bear to remain near her. An examination by Drs. Picqué and Josias, surgeon and physician respectively to the Paris Hospital, led to the diagnosis of cancer, despite the smallness and mobility of the uterus and the absence of lesions of the os. Hysterectomy was proposed and accepted, but fortunately for the patient the os was first dilated with laminaria, the removal of which gave exit to a flow of pus, floating in which were fragments of mucous membrane. Examination of one of the fragments failing to confirm the diagnosis of malignant disease, the uterus was thoroughly scraped, with the result that recovery ensued in a month. Two years later her appetite had returned, the complexion was normal, and all pains had ceased. The other two cases cited were similar to the first. It would appear that the disease occurs in women from five to fourteen years after the onset of the climacteric, that it attacks women who have had children as well as those who have never been pregnant, and that pathological antecedents have no appreciable influence on its occurrence. The symptoms are as detailed above, and, in addition, the sound enters for a distance of from seven to eight centimetres; its introduction is painful and its removal induces a copious flow of blood-stained pus whose fetidity surpasses even that of cancerous ichor. Only histological examination of *débris* collected by curettage can enable us to distinguish between this disease and cancer. In only one instance has this examination been made (by Dr. Maurange). The lesions discovered were those of chronic catarrhal endometritis—viz., glandular hypertrophy, leucocytal infiltration, and areolar hyperplasia. Microscopically the uterine mucous membrane is swollen, hardly ever ulcerated, and is easily detached with the curette. The prognosis is favorable if the following treatment be carried out: Dilatation of the os and thorough scraping of the uterine lining, followed by *tamponnement* of the uterine cavity with iodoform gauze.

Danger in Frozen Milk.—The *Lancet* is justly alarmed at the growing trade in frozen milk from Holland and Sweden, where there is no guarantee as to its freedom from contamination.

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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A STUDY OF TWINS.

THE subject of plural births in the human animal is one that has always attracted the attention of the curious, whether regarded from the anatomical or from the developmental point of view. A recent noteworthy contribution to the literature of twins is a comparison of the statistics furnished by the lying-in hospitals of the Scandinavian countries, and a study of a large number of personal observations, published by Dr. Drejer, in Christiania.[1] The author has had abundant opportunity, as physician to the large lying-in hospital of Christiania, for studying his subject, and although he presents little that is new yet his contribution is valuable, as is every study based upon facts.

Multiple births occur on the average in 1.17 per cent. of all cases, but this percentage varies within pretty wide limits in different races; among Europeans it appears to be highest in Slavonic peoples and lowest in the Latin races. The number of twin pregnancies is greater, both relatively and actually, among those living in the country than in city dwellers, and among the latter the proportion seems curiously to vary inversely as the size of the town.

There is a certain relation between human fecundity in general and the frequency of twin births, but there are also notable differences. Thus, a woman is at the period of maximum fecundity at the beginning of her sexual life, during the early years of her marriage, and while the husband is still young, but twin conceptions are more common in later sexual life, in women who have married late, and in cases in which the husband is considerably older than the wife.

The origin of the twins, whether from one ovum or two, was determined by Dr. Drejer from an examination of the membranes, a single placenta indicating a uni-ovular origin. In the cases studied by the author the ratio of uni-ovular to bi-ovular twins was as 1:3.7, a much larger proportion of uni-ovular twins than other investigators have found. In ninety-six cases, the placentas were weighed and were found to be as heavy relatively as in single pregnancies. The umbilical cord was, as a rule, shorter than in normal pregnancies, and its insertion was frequently marginal.

The diagnosis of twins is impossible before the end of the sixth month, and is at all times very difficult until labor has actually begun. In only 48.8 per cent. of twin pregnancies were the children carried to full term. The birth of the first child is apt to be tedious, owing to the fact that the uterus works at a disadvantage through the body of the other child, but the birth of the second child is easy and rapid because of the very effectual dilatation of the parts. The presentation in Dr. Drejer's cases was usually occipital, though less frequently so than in normal childbirth; breech presentations were common, especially of the second child. In one of the author's cases the placenta of the first child was expelled before the second child was born, but in all the other cases the two children were born first and then the placentas, these usually together. The question as to how long the accoucheur should wait after the birth of the first child before taking measures to hasten the expulsion of the second is one that has given rise to more or less discussion. In the Maternity at Christiania, Professor Schœnberg has established the rule to wait a full hour after the birth of the first child, and it is found that the accouchement is spontaneously completed within that period in eighty per cent. of the cases.

Among twins the number of boys is greater than that of girls, although the disproportion is not so great as in normal pregnancies; some observers have even asserted that girls are in excess. The two children are more apt both to be girls than to be of opposite sexes.

Of the twin births occurring in the author's practice, 13.22 per cent. of the children were still-born, and 11.98 of those born alive died within two weeks, a mortality much in excess of that following single births. The prognosis for the mother is somewhat less favorable than in uniparous accouchements—the increased mortality in the cases studied being due to the complications of pregnancy and child-birth, and especially to eclampsia. The danger of infection is perhaps a little greater than in the case of single birth, but in none of the author's cases did death occur from puerperal septicæmia.

[1] Om Tvillinger, af P. Drejer, Praktiserende Læge. Kristiania: Det Steenske Bogtrykkeri, 1895.

ACROMEGALY AND GIGANTISM.

ABOUT a year ago an article appeared in the *Journal of Nervous and Mental Diseases*, by Dr. C. L. Dana, in which he described the brain of a person who was of gigantic stature, and who had acromegaly. The idea was suggested that gigantism was a disease allied to acromegaly, and that both were dependent upon disease or perverted functioning of the pituitary gland. A number of cases of giants with acromegaly were cited in evidence.

It seems that this theory was not propounded first by Dr. Dana, for in a recent article by Dr. Robert Massalongo, of the University of Padua, the claim is made that he published a theory of gigantism and acromegaly as long ago as 1892.

At the International Congress held in Rome last year, Professor Tamberini also published an article upon acromegaly, in which he asserted the same views, and cited a number of cases in which examination of the skeleton of giants showed that they were really cases of acromegaly.

Dr. Massalongo believes that the pituitary gland is

excessively active in its functioning in all cases of real gigantism; that after this condition has reached its climax, however, the gland begins to undergo retrograde changes, and coincidentally with this, the individual himself begins to show evidences of physical and mental decay. In the cases of acromegaly, he believes that the process is less complete, and that, in fact, acromegaly is only an abortive type of gigantism, both conditions being dependent upon this same underlying pathological change. A number of new giants are brought forward in support of this view.

Other authors, who take a more sceptical view regarding the importance of the pituitary gland in its relation to excessive growth, state that while it is true that the majority of giants are cases of acromegaly, yet this is due simply to the fact that gigantism furnishes a fruitful soil for the disease acromegaly to grow upon. In other words, giants are more disposed to acromegaly than ordinary individuals, hence the excessive proportion of such among them.

The subject is certainly an interesting one, although somewhat academic, so far as the ordinary practitioner of medicine is concerned.

OSTEOPATHY.

Life in the United States of America is made much more interesting, if not more safe, by reason of the various medical and surgical vagaries that crop out over the land. We venture to say that in no other country could such interesting phenomena as Christian science, "Perkinism," vegetarianism, Thompsonianism, mental healing, and a number of other interesting forms of pathological activity, develop. No sooner is one thoroughly exploited, than it begins to spread around the country; then, after a few years of picturesque and uneven existence, it dies out. Among the latest of the medico-surgical cults, is what is known in the West as "Osteopathy." It seems that at Kirksville, Mo., there is or was an institution known as the "Medical School of Osteopathy." This school turns out a class of practitioners who call themselves "osteopaths," and they have made themselves quite popular in certain sections of the great Southwest. The person who is at the bottom of "osteopathy," possesses not only skill in developing a medical art, but also in manipulating politicians. He succeeded in getting a bill through both houses of the Illinois Legislature, amending the Medical Practice Act of that State. The amendment was in the form of a law, which stated that nothing "in this Act shall be considered to prohibit services in a case of emergency, or the administration of family remedies, or the practice of osteopathy." The bill was vetoed by the governor, who gave the assurance, however, that any one confining his treatment to physical manipulation would not be prosecuted, thereby giving the "osteopaths" a quasi standing before the law.

We learn from the *Medical Fortnightly* that osteopathy has become so popular in Missouri as to call for scientific investigation of its merits, and Dr. Steele, of St. Louis, took the trouble to make such an investigation. He reports that the theory of the new school is this: There are two kinds of diseases, one coming from the displaced bones of the extremities, causing deformities, pain, etc.; the other from dislocation of some of the vertebræ, giving rise to diseases of the trunk. The same treatment, however, cures all cases, and this treatment consists in acts of manipulation, with perhaps an element of "suggestion." He says that the method certainly effects cures in cases of chronic rheumatism and sprains, in old dislocations, and in hysterical and neurasthenic pains. In other words, osteopathy is practically a form of massage.

BATHING AND DISEASE OF THE EAR.

Now that the summer season is at hand it may be well to remind our readers of some of the aural mishaps which occur to those who indulge in bathing, particularly in sea bathing, where there is a good deal of concussion from the surf. A correspondent of the *Lancet*, Dr. A. H. Cheatle, says that the common accidents to the ear are acute inflammation of the middle ear, diffuse inflammation of the external ear, the lighting up of an acute condition in a chronic suppurating otitis media, simple deafness due to swelling of a ceruminous plug. Besides this there are occasionally troubles from diving, such as concussion of the labyrinth and rupture of the membrana tympani. In order to avoid these accidents, Dr. Cheatle says that persons suffering from middle-ear discharge should never bathe at all, and that those who have had middle-ear discharge and whose membranes have healed should never bathe without some efficient means for preventing the water from entering the ears, such as firm plugs of cotton-wool with an oil-skin cap fitting tightly over them. Water remaining in a healthy ear should be let out as soon as possible. Acute otitis seems to be occasionally caused by water which has entered the naso-pharynx, hence the nose should be protected. Some advise that everyone who bathes should introduce a plug of cotton in the ear.

News of the Week.

The Medico-legal Society.—The Medico-legal Society of this city, which makes a specialty of holding congresses, has decided to hold another one in 1895. The meeting will be held in or near this city, September 4th, 5th, and 6th, and the science of medical jurisprudence will be discussed under nine different headings, ranging all the way from bacteriology to chemistry and crime.

The Case of Secretary Gresham.—In the *Journal of the American Medical Association* for June 26th, Dr. W. W. Johnston, of Washington, gives in great detail the clinical history of the last illness of the late Secretary of State. Mr. Gresham was taken ill April 30th, with an acute pleurisy with effusion. The disease ran about the ordinary course, and at the end of three weeks he was apparently convalescent. Suddenly, without much warning, an attack of pneumonia developed, from which the patient died on the third day.

The Secretary was evidently carefully watched and skilfully treated. We scarcely see the necessity, however, of publishing the minute details of such an illness, including the amount of buttermilk drank, the number of stools, etc.; but the record, as a whole, is an interesting account of the untimely and fatal illness of the lamented Secretary.

The Third International Congress of Physiologists will be held in Berne, Switzerland, on September 9 to 13, 1895, under the presidency of Professor Kronecker, Director of the Physiological Institute of the University of Berne. The official languages of the Congress will be French, German, and English. The cost of membership is ten francs. Titles of communications may be sent to Frederic S. Lee, Secretary of the American Physiological Society, Columbia College, New York City.

The Late Dr. John M. Byron.—At a meeting of the Medical Board of Columbus Hospital, held July 8, 1895, the following action was taken, relative to the death of Dr. John M. Byron, late Visiting Physician and Pathologist to the Hospital.

1. That we deeply regret the loss of Dr. John M. Byron, Visiting Physician and Pathologist to Columbus Hospital, and that we desire to place in the records of the hospital the following sentiments, as an expression of our regard for, and appreciation of, our late associate.

2. That in his death the science of bacteriology has lost a student whose intelligent devotion to investigation would have placed him among the most illustrious workers of that branch of medicine.

3. That his successful career, prematurely cut short by an infection derived, as he believed, from his daily laboratory work, has furnished another example of that true self-sacrifice, so characteristic of medical men in their devotion to duty.

4. That we deeply sympathize with his family in their bereavement, and it is hereby ordered that the foregoing record be transmitted to them, and sent to the local medical journals for publication.

STEPHEN SMITH, M.D.,
President of the Medical Board.
CHARLES H. LEWIS, M.D., *Secretary.*

Dr. F. T. Roberts has been appointed professor of medicine to succeed Dr. Charlton Bastian, at the University College, London.

Rabies in England.—Rabies is said to be increasing in England. In the first five months of the year 1892 there were only 11 cases reported. During the same period of the following year there were 37 cases, while in the first half of 1894 the number of cases reported was 80; and this year it is 373.

The Southern Medical Record has changed hands, and is now under the management of Dr. Bernard Wolf, of Atlanta, Ga.

The Medical Society of Virginia will meet in Wytheville, on September 3d. The President is Dr. Robert J. Preston, of Marion. The Virginia Society now numbers 860 members, and it is hoped that the coming meeting will result in increasing the membership to 1,000.

Laboratory Diphtheria.—Dr. Ruffer, the Director of the British Institute of Preventive Medicine, whose researches in regard to the antitoxin treatment of diphtheria are so well known, recently contracted a severe attack of the disease in the course of his investigations. Immediately on the nature of his complaint being ascertained he was treated by antitoxic serum, and, we are glad to learn, with most satisfactory results, as at last reports he was making very good progress toward recovery.

The Force of the Human Jaw.—Dr. J. V. Black, a dentist, of Jacksonville, Fla., has made some experiments as to the force exerted by the human jaw in chewing food. He says that the amount of pressure recorded in a single bite, varies from thirty to two hundred and seventy pounds. This maximum record, it is interesting to note, was made by a physician. The crushing force necessary to masticate ordinary beefsteak, Dr. Black says, is only forty to forty-five pounds, but the doctor has probably never lived in a boarding-house. He says that usually a good deal more force is applied than is necessary, viz., from sixty to eighty pounds, and he laments somewhat this waste of energy.

Ipecac in the Insomnia of Alcoholism.—Some years ago ipecac was greatly advocated as a hypnotic in insomnia due to alcoholism. Recently Dr. Waugh has discovered that twenty minims of the fluid extract of ipecac caused sleep in a patient when large doses of sulphonal had failed.

An Economist.—"If you insist on knowing the truth, madam," said the doctor, "your husband will not live twenty-four hours longer." "Good gracious!" ejaculated the broken-hearted but economical wife, "and yet you have sent in medicine enough for five days."—*Flieg. Blätter.*

Cholera is reported to be alarmingly prevalent in Prussian Silesia.

The Ontario Medical Council.—The Council of the College of Physicians and Surgeons of Ontario met on June 11th at the Council Building, Toronto, and was in session two weeks. The following-named members were elected officers for the current year: *President*, William T. Harris, M.D., Brantford; *Vice-President*, A. F. Rogers, M.D., Ottawa; *Registrar*, R. A. Pyne, M.D., Toronto; *Treasurer*, W. T. Aikins, M.D., Toronto; *Solicitor*, B. B. Osler, Q. C., Toronto.

The Hyams Case.—A great deal of professional interest has been aroused in Canada by what is known as the Hyams Case. According to the Canadian *Practitioner*, life insurance men, elevator experts, surgeons, and medical jurists have all taken part in it. A young man named Wells was found dead at the foot of an elevator shaft, and an examination apparently showed that the head alone had been injured. No special examination was made at the time the body was found, and two years passed before suspicions of foul play were strong enough to call for further investigation. The body was then exhumed and examined with as

much minuteness as possible under the circumstances. The head alone was damaged, but the injuries to it were of such a character as to completely destroy its continuity, for fractures were found involving, not only the vault, but the base, the face, and even the lower jaw. The photographs published by the *Practitioner* showed that the skull was apparently almost comminuted by the force of the blow or fall, or both. The ground taken by the prosecution was that more than one blow was necessary to cause all the injuries found. A large number of experts were summoned on each side, and the case was brought, according to our contemporary, to "an unsatisfactory termination," but what that termination is we are not informed. The weight of the medical evidence seems to have been that more than one blow was necessary in order to produce the effects upon the skull.

The Absorption of Salicylic Acid.—Drs. Lenoissier and Lanois have made some experiments upon the method of absorption of salicylic acid. They found that the application of salicylic acid in solution upon the skin led to its absorption in small amount. They made some experiments upon the method by which this was absorbed. When dissolved in alcohol, and placed upon the arm and then covered with a bandage, it was found that the acid was not absorbed if the skin was kept cool. If, on the other hand, it was kept warm by external applications, salicylic acid was soon found in the urine. They concluded, therefore, that the salicylic acid is volatilized and absorbed in that way. The fact that this drug has a considerable efficacy when applied externally in rheumatism is well known, and the explanation of the method of absorption seems to be satisfactorily determined.

New York and Paris Saloons.—While New York is trying to get its saloons open, Paris is trying to get some of hers shut. New York has about 9,000 saloons. Paris had, in 1890, 29,583 wine-shops. Eminent physicians, such as Laquean and Lancereaux, consider that the abuse of alcohol is increasing the amount of phthisis in Paris. In 1893 there were 10,681 deaths from this disease, about two-thirds being in men. In New York the total deaths from this disease were, in 1893, only 2,128. It is evident that phthisis, like the wine-shops, is two or three times more prevalent in Paris.

Shall Insane Criminals be Imprisoned or Put to Death?—In the communication with this title appearing in the issue of July 13th, the address of the author, Dr. J. B. Ransom, should be Dannemora instead of Clinton. On pages 40 and 41, where figure 6 is mentioned in the text, it should read figure 13, and figure 7 should read figure 12.

Imprisonment of a Physician for Negligent Prescription.—A young physician in Berlin has been recently condemned to a month's imprisonment for homicide through negligence (fahrlässiger Tödlung). He had a woman under treatment suffering from obstinate trigeminus neuralgia. She came to him on May 22d to ask for a prescription for a narcotic, as she had suffered from sleeplessness for a long time. Knowing that she did not react well to narcotics, he prescribed 6 grammes (1½ drachm) of chloral hydrate. He signed the prescription: "To be taken in two portions before going to bed." The apothecary also wrote the same directions. The woman told her friends that according to the doctor's orders she was to take half before going to bed, and the remainder after getting into bed. After taking the first half she seemed drunk, she became lively, laughed, and gesticulated; she then received the second half and never woke again. The autopsy resulted in the verdict of death by intoxication with chloral hydrate. The chemical investigation showed that not more than six grammes had been taken. The Pharmacopœia prescribes three grammes as the maximum dose. The prescription, however, ordered six grammes, to be taken in two portions, the one shortly after the other. The accused stated that he had repeatedly impressed on the patient that she should take half at once, and if she did not then sleep she should take a teaspoonful more after an interval of five hours; the remainder she should take the following morning. The statements of all the friends of the deceased were opposed to this, however. The court, after the interrogation of two experts, awarded a month's imprisonment, as it held it to be proved that the fatal result was solely attributable to the ambiguous directions, and that the physician, in exceeding the maximum dose, was in duty bound to exercise the greater caution.—*Medical Press.*

Piano Playing and Neuroses.—A corresponding member of the Paris Academy of Medicine has sent to that learned body a memoir in which he maintains that the numerous cases of chlorosis, neuroses, and neurasthenia observed among young girls is due to learning to play on the piano and the hours devoted to practising. He has drawn up careful statistics from which he concludes that, among six thousand pupils obliged before attaining the age of twelve to learn to play the piano, nearly twelve per cent. suffer from nervous troubles. The author does not attempt to draw up statistics of the victims among persons who have to listen to their performances.—*British Medical Journal.*

Dr. George F. Shrady has been appointed attending surgeon to Columbus Hospital.

Obituary Notes.—Dr. C. M. Fields, died on July 12th at Plainfield, N. J., from an overdose of morphine and cocaine. He was found in his apartments in an unconscious condition. He was compelled to cease practice several years ago, and since that time he has travelled extensively in foreign countries. He was born in Bound Brook, and was forty-five years old.—Dr. Judson C. Nelson, of Truxton, Cortland County, N. Y., died July 11th, of angina pectoris, in his seventy-second year. He was a graduate of Geneva College in 1848, and began practice at once in Truxton. He went out as surgeon of the Seventy-sixth New York Volunteers. After the war he returned to Truxton, where he had an extensive practice, both family and consultation. He was a gentleman of fine appearance, although his health had been much impaired by his army life. He was a Democrat and served two terms in the Assembly. He had also filled other offices in the county. He leaves a wife, a son, and a married daughter.

Reviews and Notices.

ECTOPIC PREGNANCY: Its Etiology, Classification, Embryology, Diagnosis, and Treatment. By J. CLARENCE WEBSTER, B.A., M.D., F.R.C.P. Ed., Assistant to the Professor of Midwifery and Diseases of Women and Children in the University of Edinburgh. With Eighty Illustrations of Naked Eye and Microscopic Appearances. Pp. 240. New York: Macmillan & Co. 1895.

THE work is most comprehensive, scientific, and scholarly. It will prove a great acquisition to the knowledge of the profession on this much-disputed subject. The points which render it of special value are its intelligent review of the previous literature, a broad discussion of the theories as to the causation of ectopic pregnancy, and an exposition of existing conditions, which have a greater value than any hitherto advanced, owing to the fact that it is supported by the evidence given by frozen sections prepared by Dr. Berry Hart and the author. These, with the careful microscopic studies, give a practical value to the work which cannot fail to make it appreciated.

In his chapter on treatment he says that the tendency of the present time is toward the non-employment of electricity. He doubts that without puncture of the sac sufficiently strong currents can be employed to prove efficacious. He favors abdominal incision rather than the vaginal methods of reaching the tumor in surgical procedure.

MEDICAL GYNECOLOGY. A Treatise on the Diseases of Women from the Stand-point of a Physician. By ALEXANDER J. C. SKENE, M.D., Professor in the Long Island College, Brooklyn, formerly Professor in the New York Post-Graduate Medical School, etc. With Illustrations. Pp. 529. New York: D. Appleton & Co. 1895.

DR. SKENE writes this book to advocate conservative measures in gynecology, and to accentuate the importance of medical treatment, and its success, rather than the surgical and radical measures, to which gynecologists are tempted to resort in their haste to obtain speedy and brilliant results. The intention is a laudable one, and the long experience of Dr. Skene in the practice of the diseases of women has not failed to yield results that are of use and profit to the profession, as embodied in this work. In his discussion of the general conditions of woman in her mental and physical education, her heredity and environment, it is evident that the writer is not thoroughly acquainted with "the new woman." The reader will find of especial value his chapters on pelvic inflammations and the diseases of the urinary organs. His wide experience in Kings County Insane Asylum is the basis upon which he gives the result of his experience. He agrees with the few gynecologists that have had to do with these unfortunate women, that systematic gynecological treatment is impossible for them, and that the only results are those which can be obtained from treatment given under the influence of an anæsthetic. He finds nitrous oxide gas the most useful and easily administered anæsthetic for this purpose.

THE EVOLUTION OF THE DISEASES OF WOMEN. By W. BALLS-HEADLEY, M.A., M.D., F.R.C.P. Pp. 375. London: Smith, Elder & Co. 1894.

THE author, who is the Lecturer on Obstetrics and Diseases of Women at the University of Melbourne, gives us the rather unusual view of gynecology, that of the Australian. The writer is determined to make good the promise of his title, and one could almost believe that he had taken the word evolution and its adjective evolutionary as a trademark, by which all his chapters were to be known. His definition of subinvolution illustrates what is meant. "Subinvolution," he says, "is an evolutionary state in which the various structures hypertrophied by pregnancy and stretched by parturition have failed to return to their normal retracted state," etc. Under the discussion of every disease there is a paragraph entitled "Progressive Evolutionary Disease." This continual reiteration is not always *apropos*, and mars the effect of the work. He has given introductory chapters on sexual relations and modern marriages, lamenting the lateness of marriages, and the decrease of offspring. He exaggerates, judging from an American stand-point, the difficulties of childbirth, when he says, "One out of nine in hospitals and a larger percentage among the upper classes cannot produce her child without the aid of forceps, and many more not without lacerations, misplacements, and evolving disease." In inflammatory diseases of the uterus and displacements in virgins he gives great prominence as an etiological factor to unsatisfied sexual desire. Instead of being a usual cause, it is very rare, judging from American stand-point and observation.

The book is written clearly, concisely, and comprehensively. The chapters on the various diseases present clear pictures to the student. The illustrations are most excellent, from their simplicity and the clearness with which they demonstrate the points which are to be shown. The chapter on treatment is much too general to be of very much use, though it enforces several salient points, such as dilatation, drainage, and curettement, which one little accustomed to gynecology might in his attention to applications to medicines not yield the considerations due.

DISEASES OF THE EAR. A Text-book for Practitioners and Students of Medicine. Pp. 645. By EDWARD BRADFORD DENCH, Ph.B., M.D. New York: D. Appleton & Co. 1894.

THE author is to be commended for the great amount of labor performed in the compilation of this book. It contains the matter usually embraced in works on the ear; 170 pages are thus devoted to the anatomy, physiology, and examination of the organ, and 464 pages to its diseases and their treatment. That most important feature of aural surgery, namely, the surgery of the conducting apparatus, is considered pretty fully in 50 pages. It would have been a courteous attention to the authors' colleagues in this country, whose successful labors in this field opened to him the way for such work, had he made some acknowledgment of his indebtedness to their efforts. The attempt so extensively to illustrate operations on the middle ear by means of pictures never has been attempted before, so far as we remember at least, in any work on the ear, and if one may venture to predict from the impression these produce on the mind, the effort will not be repeated. Nor are the lithographic views of the drum-head, as shown in Plates V. and VI., and intended to represent various diseased conditions of the membrane, of any greater value. The publishers seem to have spared no expense in illustrating the book, and some of the illustrations are useful, but we can see no advantage to be gained by inserting in a modern work on the ear pictures of the valueless catheters of Pomeroy and Noyes.

Practitioners and students of medicine are in need of a precise and practical work on the ear, but this big book is too verbose with theoretical and obsolete matter, which has been accepted by the author in lieu of personal knowledge, to meet this want.

IMMUNITY. PROTECTIVE INOCULATIONS IN INFECTIOUS DISEASES AND SERUM-THERAPY. By GEORGE M. STERNBERG, M.D., LL.D., Surgeon-General United States Army; Ex-President American Public Health Association; Honorary Member of the Epidermological Society of London, of the Royal Academy of Medicine of Rome, of the Academy of Medicine of Rio Janeiro, of the Société Française d'Hygiene, etc. New York: William Wood & Co. 1895.

THE author divides his monograph into two parts, the first dealing with immunity, natural and acquired, in animals and man, the second treating of protective innoculation and serum-therapy. He takes the ground that pathogenic bacteria are common to the human economy during health, but are kept in abeyance by the *vis medicatrix naturel*—in other words, that blood-serum is an antitoxin. As early as 1881, three years prior to Metschnikoff, Dr. Sternberg affirms that he was the first to claim that leucocytes were bactericidal, that immunity is acquired through acclimation, inoculation by attenuated viruses, and an attack of any one of the specific diseases. In part second a chapter is devoted to an elaborate and practically interesting consideration of each of the infectious diseases as occurring in animal and man. An elaborate bibliography is annexed. In the chapter on pneumonia the author claims priority over Fraenkel in the discovery of the "micrococcus pneumoniæ crouposæ." To the general practitioner this work is of inestimable value, inasmuch as it treats in a thoroughly scientific manner all the important questions bearing upon the subject of serum-therapy. It gives a description of the latest methods employed in the pursuit of this very interesting and promising study. The facts presented are founded on a long series of experiments and studies by the author, extending over a number of years under most favorable circumstances and with unusual facilities. To anyone who studies this book carefully it will appear self-evident that serum-therapy has opened up a large and useful field to the student of therapeusis. Cer-

tainly no one has a better right than the author to say thus much from the stand-point of an acknowledged authority on the subject of which his admirable work so interestingly and instructively treats.

GOUT AND ITS CURE. By J. COMPTON BURNETT, M.D. Philadelphia: Boericke & Tafel. 1895.

THIS is a well-written and readable little treatise on the therapeutic management of gout from the stand-point of a homœopathic practitioner, for whom urtica urens takes the place of the orthodox colchicum. The author is an ardent disciple of Hahnemann, but his book is none the less interesting, and it contains numerous little hints that may profitably be followed even by those who have no faith in the mother tincture of nettle. It is even possible that urtica urens will do as much for gout as colchicum—which is not very high praise for either remedy.

MANUEL DE DIAGNOSTIC CHIRURGICAL. Par SIMON DUPLAY, Professeur de Clinique Chirurgicale à la Faculté de Médecine de Paris, E. ROCHARD, Chirurgien des Hôpitaux, et A. DEMOULIN, Chef de Clinique Chirurgicale de la Faculté. Premier Fascicule. Paris: Octave Doin. 1895.

THIS manual of surgical diagnosis is a *résumé* of the course of instruction given by Professor Duplay and his assistants at the School of Medicine in Paris. This first volume contains general directions on the examination of the patient and the methods of clinical exploration, and the diagnosis of diseases of the head, face, neck, and spinal column. It is a very practical little work which cannot but be of assistance to any student or young practitioner of surgery. A few well-executed illustrations, printed when necessary in colors, add to the usefulness of the manual. The concluding volume is promised for the end of this year.

THE YEAR-BOOK OF TREATMENT FOR 1895. A Critical Review for Practitioners of Medicine and Surgery. Philadelphia: Lea Brothers & Co. 1895.

THIS excellent annual has become such a standard work and such a favorite that there is little to say each year but to repeat the praise of the year before. The present volume is fully up to the standard of its predecessors, and with it in his library the physician would have no excuse for not keeping abreast of the times in the therapeutic art.

FIFTEENTH REPORT OF THE STATE BOARD OF HEALTH OF WISCONSIN. 1893–1894. Madison: 1895.

THIS volume contains the usual matter contained in reports of boards of health, but possesses an added interest because of the small-pox which the board had to fight in the city of Milwaukee, and of the rioting excited by its efforts to isolate the patients. The incident is well described in the report.

ANNUAL REPORTS OF THE MANAGERS AND OFFICERS OF THE STATE HOSPITALS OF NEW JERSEY FOR THE YEAR ENDING OCTOBER 31, 1894. Trenton: 1894.

THIS volume contains reports of the hospitals at Trenton and Morris Plains. Several interesting cases are related in the report of Dr. Evans, the Medical Director of the Morris Plains Hospital.

TRANSACTIONS OF THE SIXTEENTH ANNUAL MEETING OF THE AMERICAN LARYNGOLOGICAL SOCIETY, Held in the City of Washington, D. C., May 30, 31, and June 1, 1894. New York: D. Appleton & Company. 1895.

THE meeting of the American Laryngological Society in Washington a year ago must have been one of more than average interest, if we can judge from the contents of the volume before us.

TRATTATO DE PATOLOGIA E TERAPIA CHIRURGICA GENERALE E SPECIALE. Dal Professore FRANCESCO DURANTE, Direttore della Clinica Chirurgica della R. Università di Roma. Vol. I. Parts I. and II., Roma: Società Editrice Dante Alighieri. 1895.

THIS work, written by the foremost Italian surgeon, Professor Durante, of Rome, promises to be a most valuable addition to surgical literature. The present fascicule contain seven chapters—on inflammation and its results, surgical fevers, traumatisms, the healing of wounds, the complications of wounds, and tumors. The author treats these general subjects in a way to hold the interest of the reader while at the same time instructing him, and in this his work is facilitated in no small measure by some seventy well-made illustrations.

PATHOLOGY AND TREATMENT OF DISEASES OF THE SKIN, FOR PRACTITIONERS AND STUDENTS. By MORIZ KAPOSI, Professor of Dermatology and Syphilis, and Chief of the Clinic and Division for Skin Diseases in the Vienna University. With Eighty-four Illustrations. Translation of the last German Edition under the Supervision of James C. Johnston, M.D. New York: William Wood & Co. 1895.

FORTUNATELY we are not called upon to speak of another text-book to be added to the rather formidable list of those devoted to skin diseases which have appeared within a comparatively brief period. It is in this instance a translation which claims attention. Kaposi's work is well worthy of reproduction for the benefit of those whose knowledge of German does not permit the full enjoyment of the original text. The reproduction as it comes to us shows unmistakable evidence of having been worthily done.

Not every student has the advantage of a course of study in Vienna, and the great majority of practitioners are debarred from even reading the works of distinguished foreign teachers in the original. We therefore welcome such a publication, which affords the English-speaking physician an opportunity to become familiar with the prevailing views and practices of the Vienna school of dermatology. In the preface to this American edition, written by George Henry Fox, a just tribute is paid to the author's attainments and ability.

An occasional word or turning of a sentence may remind one that the text was originally German, but as a whole the translation shows great care and accuracy, while at the same time the English has been made as fluent as a strict following of the text would permit. On page 336 the omission of a period in the formula for Unna's ointment might cause one to read ten grammes of corrosive sublimate where one gramme is the quantity intended, but as the author states that he has never seen any benefit from this application in lichen planus, perhaps it would not be considered a serious error.

We may note in passing that the author still maintains the identity of Besnier's pityriasis rubra pilaris with his lichen ruber acuminatus; that he admits the adjective "contagiosum," as justified in the designation of the epithelial molluscum, while leaving it as an open question whether the gregarinæ are the carriers of infection. "Alopecia areata," he says, "we are forced to assume, is due to trophic disturbance of entirely unknown origin." The many experimental investigations of recent times and the changes of views based upon new discoveries have not operated to cause as great alterations in the text of this last edition as one might be led to expect. Still, enough will be found to interest those most familiar with earlier editions. There is one full-page colored plate, but this, as well as the other eighty odd illustrations, is of histological subjects. The impression is made of a serious, conscientious work upon which student and practitioner can alike rely.

Salicylic Acid Externally in Rheumatism.—Dr. Kinnicutt reported at a meeting of the Practitioners' Society upon the use of salicylic acid by inunction in cases of acute articular rheumatism. The formula used by him was that of Bourget, viz., salicylic acid ten parts, lanolin ten parts, lard one hundred parts. Two drachms of the pomade were rubbed into several areas on the trunk and extremities, every four hours, the total daily inunctions representing sixty grains of salicylic acid. The absorption was very rapid, requiring no more than ten minutes for the single inunction, and it was unattended with any irritation of the skin. No covering was employed. The inunction of two drachms of the pomade, representing ten grains of the acid, permitted the discovery of the latter in the urine, at the end of four hours. It had proved to be an efficient method of introducing salicylic acid into the economy, and of the treatment of acute articular rheumatism. It possessed the advantage of not producing disturbances of digestion.

The Plague has made its appearance in Foo Chow, China. There is no pretence of sanitation in that city, so the epidemic will probably continue until the soil has been exhausted.

Society Reports.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

Seventeenth Annual Congress, Held at Rochester, N. Y., June 17, 18, and 19, 1895.

FIRST DAY—MONDAY—JUNE 17, 1895.

President's Address.—The President, DR. JOHN O. ROE, of Rochester, delivered the opening address welcoming the members of the Association to the Flower City. He believed that these annual meetings were productive not only of scientific, but also of social good. Old friendships were cemented and new ones formed. In the friendly intercourse of such gatherings, much could be learned which could not be incorporated into formal papers.

Regarding the laryngological progress of recent months, he would call attention especially to the value of antitoxin in diphtheria, and to the great progress made in the treatment of tubercular disease of the upper air-passages, by Krause, Heryng, and their followers.

The President then read a paper on "The Relation of Damp Air to Diseases of the Upper Air-passages with Especial Reference to the Lake Region."

No one region is good climatically for all diseases, nor can it promote the vitality of all the bodily organs. Conditions good for respiratory difficulties are apt to prove the opposite for biliary troubles, and vice versa. This may result from either the effect of the atmosphere on the organs directly, or from its effects on the habits of the individual.

The climate of the Lake region seems to exert an injurious effect on the nose, throat, and lungs, whereas in this locality biliary disorders are not common. It is humid and characterized by sudden variations of temperature, with a low mean annual temperature. Any climate depends partly on the nature and degree of cultivation of the soil, on the elevation of temperature, and the position of a given locality with reference to the sea-level. In the Lake region, the soil is in places light and sandy, and in other places heavy and underlaid with clay. This sub-soil condition largely determines the amount of moisture in the atmosphere. Hence the importance of thorough drainage to render any given locality healthy. The sandy soil is naturally drained, so to speak, but the heavy soil requires the aid of sanitary science. The Lake region is highly cultivated and this also tends to lessen the amount of atmospheric watery vapor, and the activity of the circulation varies according to the latter.

The chain of great lakes sends down over the region under consideration large volumes of cold air, and there are consequently frequent and rapid changes of temperature. Early warm days of spring are succeeded by chilling blasts from the north. The amount of cloudiness is considerable, averaging six and one-tenth days out of ten, according to the records of the past twenty-five years. There is an average rainfall of 27.8 inches.

The damp-air currents check the insensible perspiration and thus affect the body unfavorably. The mucous membranes, and especially the nasal mucosa, bear the brunt of this onslaught. Endosmosis and the alterated elimination both lead to turgescence, hyperæmia, and hypernutrition, and from the naturally abundant blood-supply of the nose, this organ is especially exposed to deleterious influences.

A pernicious American habit is that of sleeping with open windows. A temperature is withstood during the night, when bodily resistance is low, which could not possibly be borne with comfort during the day. Hence the frequent colds referred to exposure the day before, but which are in reality due to night air, and thus naso-pharyngeal catarrh has come to be known as the "American" disease.

The relation of damp air to phthisis was pointed out by Bowditch over thirty years ago, and though we then knew nothing about the tubercle bacillus, the correctness of his views is now generally admitted; for the damp air and damp soils undoubtedly prepare the tissues for bacillary invasion. We should most carefully drain our lands and houses, and thoroughly ventilate our rooms, as prophylactic measures.

Desiccated Thyroids in Goitre.—DR. E. FLETCHER INGALS, of Chicago, read a paper with this title. During the last fifteen years he has treated eighty-seven cases of bronchocele and exophthalmic goitre. Formerly he gave potass. iodid., grs. v.–x., thrice daily. If the patients were not distinctly improved in two or three weeks, he gave iodine tincture, gtts. v.–xv., three or four times daily, administered in capsule and followed by a large goblet of water, beginning with the minimum dose and increasing one drop daily; or he would inject a three to five per cent. solution of carbolic acid in water and glycerine—using from twenty to fifty minims at one injection, and injecting once a week.

During the past three or four years he has used thyroid preparations of various kinds, and in his last six cases desiccated thyroids. Six grains of this preparation represent one entire gland. Dr. Ingals then gave outline clinical histories of his last six cases. All, with one exception, are still under treatment. Several of them had previously been subjected to the old style of treatment. He had obtained reports from other physicians who had used the desiccated thyroids, and was able to report on 50 cases in all. Taylor's series of 25 cases showed improvement in all but 7. The neck was uniformly diminished in size. As unpleasant features of the treatment, headache was reported in thirty per cent., dizziness in thirty-seven per cent., and increased rapidity of pulse in twenty-five per cent. Out of the 50 cases the size of the neck was reduced in 38. In addition to the foregoing unpleasant symptoms, were to be noted trembling, weakness, backache, nausea, loss of weight, and in one case uterine contractions which could be directly traced to the effects of the remedy. He would, from his study of the question, draw the following conclusions: 1. Thyroid products exert a powerful effect on the nervous and circulatory apparatus, as evidenced by head pains, rapid pulse, and fluctuations in weight. 2. These symptoms may arise from a daily dosage of from one and a half to two thyroids. 3. From cases observed it is not irrational to suppose that incautious dosage might produce fatal results. 4. The desiccated preparations are the preferable mode of administration. 5. Internal administration offers as good results as hypodermatic use. 6. The dosage should commence with two grains thrice daily, and run up to four or eight if necessary. 7. The effects are not constant in different patients, nor are they the same at all times in the same individual. Some of these may be due to incidental digestive disorders. 8. The remedy is of value in myxœdema. 9. In exophthalmic goitre, the gland is reduced in size, but in enlargement (not of the exopththalmic type), rapidity of cardiac action may be aggravated, instead of benefited. 10. Cystic glands do not seem to be benefited. 11. There is no evidence that thyroid therapy has any place in diseases other than the foregoing.

The discussion was opened by DR. E. L. SHURLY, of Detroit. He had used the ordinary extract of thyroid in some twenty cases, with disappointing results. He related the case of a boy from whose neck the entire gland had been removed some years ago, with the result that it seemed to diminish the boy's physical growth, and three or four years later he had developed a mental apathy and a peculiar piping voice. The movement of the cords and arytenoids appeared normal, except that the normal phonatory tension of

the former was markedly deficient. For the past two years the boy had been on thyroid extract (previous subdermic administration having proved useless), with the result that the tension of the cords was much better. He thought that laryngologists should protest against the whole removal of the gland for any purpose whatever. Experiments have shown that the retention of a very small portion will prevent the untoward results which follow its entire extirpation.

Dr. W. E. Casselberry, of Chicago, had used the remedy in one case of exophthalmic goitre, giving a preparation of fresh gland twice a week. His patient was improved, but not well. He called attention to a recent article by Paul Bruns, of Tubingen, who had shown from a series of cases that the younger the patient was, the more likely was he to be benefited. Thus all his cases in the first decade of life were cured; of those in the second decade seventy-five per cent. recovered; then the recoveries rapidly diminished as the age increased, and of the cases over forty years, scarcely any got well. Béchère had produced a fatal result in a monkey in ten days under thyroid feeding, sudden death resulting from heart failure.

Dr. Ingals, in closing the discussion, stated that in view of the possible causative agency of infected water in causing goitre in certain districts, all patients should be made to drink distilled or otherwise purified water.

Electrolysis by a Current Controller for the Reduction of Spurs of the Nasal Septum.—This was the title of the next paper, read by Dr. W. E. Casselberry, of Chicago. Electrolysis is not a universal substitute for other procedures, as it has well-defined limitations. A review of the literature shows that extravagant claims have been made for it, some of which are illogical in argument and unsupported in clinical experience. Dr. Casselberry then described a McIntosh current controller which he uses in connection with the Edison current. The ideal electrolytic current is one of moderately high tension (voltage) and of comparatively low current strength (ampèrage). He follows the so-called bi-polar method and uses needles of irido-platinum.

The histories of ten cases were next given. These can be divided into three types:

1. Spurs strictly cartilaginous. Here electrolysis will remove the offending mass, but one must be careful not to carry the process too far, else perforation may result. From 15 to 40 milliampères, and séances of from six to eight minutes are sufficient to dentalize cartilage.

2. Spurs partly bony and partly cartilaginous. Here electrolysis is beneficial directly proportional to the cartilaginous percentage of the mass to be removed. Only the cartilage disappears; the bone does not.

3. Spurs wholly of bone. Here electrolysis is useless.

The author concluded as follows:

1. Spurs of the first type can be removed by electrolysis. There is no danger of hemorrhage, but even here it is not a universal substitute for surgical treatment.

2. Spurs of the second type are removable only in part.

3. Spurs of the third type cannot be removed, as no needles will penetrate the bone.

4. Deviations cannot be remedied by this method.

Dr. J. E. Newcomb, of New York, opened the discussion, narrating his own experiences with this method, and taking strong issue with the continental authorities who claimed that it was useful in bony spurs or deflections of the septum.

Dr. W. H. Daly, of Pittsburg, would condemn the method as antiquated, as a waste of time, and as involving the use of that most unreliable of all apparatus—an ampère meter. What we really did was to cauterize, rather than to electrolyze. He preferred the usual surgical procedures, particularly the trephine driven by the De Vilbiss motor. Moreover, Dr. Casselberry's current controller could not be used with alternating currents.

Dr. E. P. Shurly thought that to use electrolysis for these spurs was analogous to trying to amputate a thigh by lunar caustic.

Dr. Jonathan Wright, of Brooklyn, thought there was a legitimate field for electrolysis in cases of phthisis and other debilitated states, where we did not wish to risk hemorrhage and shock. These patients were in a delicate position and it was easy to send them down hill.

Dr. Ingals said it was possible to remove soft anterior spurs with the fine cautery tip heated to whiteness.

Dr. John H. Loumar, of Cleveland, believed that the most reliable continental authorities were against electrolysis.

Dr. S. Hartwell Chapman, of New Haven, thought Dr. Casselberry's apparatus faulty in that it did not sufficiently reduce the initial current strength.

Dr. A. B. Thrasher, of Cincinnati, inquired whether the bipolar method was less painful than the monopolar.

Dr. Casselberry replied that it was. He admitted the validity of Dr. Chapman's objection to his apparatus, and hoped to remedy it in the future.

Is Acute Tonsillitis in any Way Dependent on the Rheumatic State?—Paper by Dr. George B. Hope, of New York. (Read by Letter.) He believes that the very generally accepted theory of tonsillitis attributing it to an underlying rheumatic or gouty diathesis, is not substantiated by the results of clinical experience, and considers the theory as largely the result of the natural disposition to fall into line with time-honored statements which continue to pass current and are not subjected to careful analysis.

The point is taken, that patients subject to tonsillitis do not commonly afford a history of rheumatism, either proximate or remote, and that, on the other hand, rheumatic individuals rarely suffer from tonsillar inflammations. It is a striking fact that the tonsil is, in later life, less and less disposed to acute attacks, while rheumatic tendencies become more and more manifest with advancing years. On pathological grounds, rheumatism should attack a sero-fibrous rather than a muco-fibrous or lymphatic structure such as the tonsil. Carrying the argument still further, it is claimed that peri-tonsillar suppuration is clearly of an infectious nature, and is frequently a sequel of intra-nasal operations.

The conclusion deduced from the foregoing propositions, is that the favorite anti-rheumatic treatment, as guaiac or the salicylates, addressed to the causation is either erroneous in practice or acts independently and by a method not clearly understood. Such remedies are not to be regarded as scientific, and must be adjusted to the varying conditions of each individual case. Moreover it is not proven that they either abort or mitigate the cause of the disease. After the reading of papers, there was the following presentation, of apparatus and instruments: Dr. J. W. Gleitsmann, of New York, a nasal conchotome. Dr. J. W. Farlow, of Boston—picture of Ferdinand I. of Germany, who died in 1524, and is supposed from the peculiar physiognomy to have had adenoids in the naso-pharyngeal vault. Dr. Morris J. Asch, of New York, a modification of Gradle's post-nasal forceps, also Bors's dilating intubation apparatus for laryngeal stenosis, and a mouth gag. Dr. A. Coolidge, Jr., of Boston, a cartilage knife and a dilator for syphilitic adhesions of the soft palate to the post-pharyngeal wall. Dr. J. C. Mulhall, of St. Louis, a current controller for applying the alternating current to the conditions of galvano-cautery work.

Second Day, Tuesday, June 18, 1895.

Lipomata of the Larynx.—Dr. J. W. Farlow, of Boston, related the clinical histories of two cases of lipoma and showed specimens and illustrative diagrams. The first one was a growth of the inside of the right cheek occurring in a boy two years old. It appeared

of a reddish lobulated appearance, was soft, smooth, and not ulcerated, looking in fact like a portion of the parotid and attached just anterior to the mouth of Steno's duct. Removal with cold wire snare, no hemorrhage. The lipoma of the larynx occurred in a male, aged sixty-six, in good health till fifteen years previous, when he noticed a growth coming from somewhere in the throat and projecting out between the teeth. A piece two inches long was removed by scissors. In March, 1893, it had again grown and was so long that the patient had to hold a small piece of cloth about it to keep it from getting between the teeth. It seemed to run down into the larynx and to cause suffocative attacks, from getting nipped between the cords and running down into the trachea. A cold wire snare and long curved scissors removed another piece. Patient was then lost sight of, but again returned with a recurrence of the growth and the old symptoms. The entire mass was then removed with the galvano-cautery snare, and its attachment found to be above the right arytenoid. Report of pathologist, "sub-mucous lipoma." No recurrence in three months.

Some Remarks on Removal of the Tonsils.—This was the title of Dr. Farlow's second paper. He discussed the question solely from the point of the choice of the method of operating. He first breaks up adhesions between the tonsils and the faucial pillars. If adenoids are to be removed at the same time, he anæsthetizes the patient and first removes the faucial tonsils by a special variety of wire écraseur, which he exhibited, and then removes the adenoids. This answers well for large tonsils in large mouths, but the condition is frequently seen in children with small mouths and narrow jaws. The tonsil is the more easily encircled by the wire loop (No. 5 or 7 steel piano wire), by being pressed in from the outside. This method is also applicable in adults, and the speed of tightening the loop depends on the consistency of the tissue to be removed. Ice can be used after operation, and cocaine applications before sections of the tissue removed have shown that everything has been taken out even down to the sheath of the tonsil.

Dr. Farlow also showed the tonsil punch of Ruault, of Paris, and the conchotome of Hartmann, both of which had been of service in removing the tonsil piecemeal. There was no hemorrhage to speak of with any of the foregoing instruments. The punches were useful for the removal of the tonsillar masses high up between the pillars, and knives suitably shaped could be used to open up fragments of tissue to be removed by the punch. He had tried galvano-cautery, but had found it very tedious.

Dr. F. H. Bosworth, of New York, said that if we cut into any lymphoid tissue, bleeding was possible, but it was rare in children. The large adherent masses between the faucial pillars must be dug out in some way, but the large projecting tonsils could be guillotined. No one instrument would answer for every case.

Dr. Ingals had found bleeding more common in children whose tonsils were not large at the time of operation, but in whom removal seemed indicated. Cocaine did not anæsthetize, and it promoted bleeding.

Dr. Carl Seiler, of Philadelphia, thought that the Matthieu fork instrument was faulty as generally constructed, in that the long diameter of the fenestrum was vertical instead of horizontal as it should be.

Dr. Daly thought that more bad surgery had been done on the tonsils than on any other part of the body. Mackenzie's instrument doesn't but half finish the task; we must trim with knife or forceps. He had had four or five alarming hemorrhages.

Dr. Casselberry would assert most emphatically that children, as well as adults, may bleed, and he never operated without having the galvano-cautery close at hand. In fibrous tonsils he preferred the hot snare. It was difficult to separate adhesions, but if he could get the muscular pillars free he did not hesitate to sacrifice a little mucous membrane if necessary.

Dr. Shurly had had two hemorrhages in children. We must estimate the nature of the tonsil and the amount to be removed, and must be prepared for an abnormal distribution of vessels. In igni-puncture he does not insert the cautery tip in the crypts, but diagonally between them. He aims to cut across the lymph-spaces and set up a new inflammation in place of the old chronic proliferating process. He would differ from Dr. Seiler as to the greatest diameter of the tonsils being horizontal. He believes it to be vertical.

Melancholia Cured by Intra-nasal Operation.—Case reported by Dr. Bosworth, of New York. Patient was a male, aged forty-two years, who became melancholy, sleepless, and unfitted for business; complaining of a bursting pain between the eyes and a feeling as if the eyeballs were too large for their sockets. He fell into the hands of various physicians, and went through the following ordeal in the hope that each procedure would cure him: Operation for varicocele, wearing of eyeglasses, operation for stricture, castration, circumcision, ligation of internal pudic artery, operation for hemorrhoids, cautery to spine, seton in neck, tenotomy of eye muscles, enucleation of one eye. He finally came into Dr. Bosworth's hands. He found almost complete right nasal occlusion from septal deviation, and an enlarged left middle turbinated with myxomatous degeneration and evidences of ethinoiditis. The removal of all obstructions from the nostrils speedily restored the patient to health.

A Case of Suppurative Ethmoid Disease, Followed by Invasion of the Sphenoidal Sinus, Abscess of the Brain, and Death.—Dr. Bosworth also related a case of the above nature. Patient, male, aged thirty-three, had ethmoid disease with usual symptoms for some years. He then had sudden headache, left facial neuralgia, but no fever, the latter symptoms lasting four days. General condition good. Pus was seen running down between the left middle turbinated and the septum. These last symptoms were held to indicate extension of the suppuration to the sphenoidal sinus. The use of the gouge and burr afforded but temporary relief, and very speedily he had a rigor fever (106°), semi-coma, paralysis of left face and arm, and died in twenty-four hours. No autopsy was held, but it was believed that death was caused by abscess at the base of the brain. Dr. Bosworth desired to say that ethmoid disease, though generally considered not fatal, might indirectly become so by serving as a focus of infection for the sphenoid. He believed that the so-called cases of sphenoidal disease are probably not truly so, but are rather ethmoidal than sphenoidal. He had seen a hundred and fifty cases of ethmoidal disease, but only two of independent sphenoid disease.

A Further Contribution to the Study of Suppurative Disease of the Accessory Sinuses, with Reports of Cases.—A paper with this title was read by Dr. J. H. Bryan, of Washington, D.C.

Case I. *Abscess of Right Maxillary Sinus, from Dental Caries.*—Patient, male, aged thirty-nine. Symptoms, nasal discharge, more on right side, neuralgia, some emaciation, mental incapacity, and gastric disturbance. On examination some tenderness over canine fossa, slight inferior turbinated hypertrophy, and foul pus discharged by forcible blowing; caries of first and second right upper molars. Removal of one molar disclosed a needle sticking in its root. Patient recollected that he had picked the tooth eight years before with a needle, and that the latter had broken off. Sinus washed out with hydrogen peroxide, and boric-acid solution thrown in, and in the course of three weeks pus had ceased to flow, and alveolar opening was allowed to close.

Case II. *Suppurating Ethmoiditis Terminating in Caries of Anterior Ethmoidal Cells.*—Patient, male, aged sixty-eight. For ten years neuralgia over inner

angle; left orbit always more acid by a coryza. Yellowish secretion from left nostril. No orbital swelling or visual disturbance; left middle turbinated bone enlarged and pus flowing down from below and above it; probe easily detected caries of anterior ethmoid cells, though the swollen mucosa prevented inspection. All diseased bone was curetted away under cocaine; relief of all symptoms.

CASE III. *Abscess of Left Frontal Sinus, Resulting Nasal Polypi and Hypertrophic Rhinitis.*—Patient, male, aged fifty, with left nasal discharge for some years, left frontal headache, obstruction to left nostril in breathing, and much impairment of the general health, skin over left frontal sinus was somewhat swollen and red, with pain on pressure. Right inferior turbinated body hypertrophied; left nasal chamber blocked by numerous polypi, with adhesion between left inferior turbinated and septum. Polypi removed, adhesion broken away, and turbinated hypertrophies reduced. This sufficed to drain the frontal sinus, owing to the unusual size of the fronto-nasal duct; result, great relief, but not at time of writing entirely cured.

CASE IV. *Abscess of the Frontal, Ethmoidal, and Maxillary Sinuses, with Caries of Fronto-ethmoidal Cells.*—Patient, female, aged forty-eight, subject to frequent catarrhs, and for past seven months left nasal discharge: teeth sound, but those on left upper jaw project farther than their opposites; severe headaches and left facial neuralgias; left side face congested, with supra- and infra-orbital swellings, pain on pressure over these regions and also over canine fossa: right inferior turbinated slightly enlarged, but on left side both inferior and middle turbinated bodies were congested and swollen, and the nose filled with pus, which flowed freely anteriorly and posteriorly.

Translumination showed opacities over left frontal and on axillary sinuses. Visual field was narrowed for red and green. Trephining was done through its alveolar process after extraction of the first molar tooth. Gelatinous mucus escaped; boric-acid irrigation and later daily washings with hydrogen peroxide; all these procedures gave but partial relief, and it was found necessary to open the frontal sinus, from which dark-green and fetid pus was removed. Healing occurred in about a month and the patient was about to be discharged, when the purulent flow with attendant symptoms reappeared. Sinus was again opened thoroughly, curetted, and packed with iodoform gauze. Later it was discovered that communication existed between the frontal and maxillary sinuses. Still later diseased bone was detected about the anterior ethmoid cells. After curetting the latter a cure finally resulted after ten months' treatment.

According to Dr. Bryan, not only is grippe a frequent mark for these sinus diseases, but they are far from being uncommon in simple rhinitis.

After enumerating the causes of frontal and ethmoidal disease, the writer discussed the question of diagnosis of the latter affections. As symptoms of ethmoid disease we may have pain pressure, exophthalmus, usual disturbances, and a softening of the bone at the inner angle of the orbit. Probing through the nose will in the majority of cases detect carious bone.

In frontal disease, the severity of symptoms depends largely on whether the frontal nasal duct is opened or closed; pain is early and severe; tenderness on pressure is frequent, with occasional supra-orbital redness and swelling and purulent discharge in the nostril; but if the fronto-nasal duct is closed, the evidences of local pressure in the neighborhood of the sinus become very great. Orbital or even intra-cranial abscess may result unless early relief is afforded.

As to the treatment of the ethmoidal cases, we should remove the cap of the middle turbinated with a snare or burr, and then continue the opening of the individual cells with some easily controlled instrument, for we are working in a dangerous region. "Free drainage" is the goal of all our efforts. If the frontal-ethmoidal cells are involved we should proceed as in frontal disease. The nose should be freed of anything which seems to clog up the fronto-nasal duct. Incision may be made just below the supra-orbital ridge in the usual manner, and great care be used in determining whether the two frontal sinuses communicate with each other. If the duct is closed or the fronto-ethmoidal cells are implicated in the suppurative process, the little finger should be crowded into the nostril of the affected side, and on this as a guide, a curved trocar should be thrust through the opening in the sinus into the nose.

The two foregoing papers elicited a lively discussion. DR. WRIGHT gave his experience with a very obstinate case of antral disease. It was often difficult to find out just where the pus came from. He cautioned against too early operation.

DR. INGALS had seen three cases of sphenoidal disease. He preferred to open into the sinus on its inferior rather than its anterior aspect.

DR. GLEITSMANN preferred to enter the sphenoidal sinus with Schaeffer's probe passed in the usual way. In one case he had had profuse secondary hemorrhage. He passed the probe four and a half inches up and back just along the edge of the middle turbinated, one-eighth of an inch above its lower border. In chronic cases the anterior sinus wall is not very hard, and can be easily broken through with the probe.

DR. SHURLY was surprised to notice that none of the speakers had alluded to disturbances of smell in these cases. He had seen many cases of nasal discharge which he referred to a neuritis of the olfactory bulb, secondary to organic brain disease, but had not regarded them as ethmoid cases.

DR. DALY would sever the nose along the ala on one side and lay it over on the face before attacking the sphenoidal sinus.

DR. MULHALL thought the brain cavity was better guarded from injury in the sphenoidal than in the ethmoidal region. Sphenoidal disease apart from ethmoid was rare. Grünwald's monograph was incomparably the best book on the subject.

An exciting discussion followed as to the linear distance into the sphenoidal sinus. Various opinions were given, but no one was able from personal experience to lay down decisive data. Grünwald's measurements are the correct ones.

A Consideration of Some of the More Important Principles.—DR. W. K. SIMPSON, of New York, said that the history of advance in any specialty was the history of its surgery. The more we could apply general surgical principles to morbid conditions, the greater would be our success. Conservative surgery may be defined as "knowing when not to interfere." But intra-nasal surgery has gone too far and the pendulum is now returning to a median position. Mistakes have been made, but they should be our landmarks and thus prevent a repetition of our errors.

The writer called special attention, however, to the treatment of obstructive or hypertrophic rhinitis by reducing measures. The nose has a natural protective office toward the rest of the body, and there is in its pathology a pre-surgical or pre-operative period. During this, we should do as much as possible in a therapeutic way with climate, diet, clothing, environment. Where we have conditions of hypertrophy and atrophy with a tendency of the latter to spread, we should be especially chary in our surgical interference, or we may hasten the atrophic changes; remembering also that perfectly symmetrical nasal interiors are rarely encountered.

Our choice of means should eliminate as much as possible shock, leave a smooth, hard mucosa, destroy as little membrane as is consistent with the attainment of the desired result, be attended with a minimum of hemorrhage, and of danger of infection, and finally leave a normal secreting surface. Of just as much im-

portance is the post-operative care of these cases, in which a rigid antiseptic routine should be carried out. Nasal surgeons are apt to get careless in their minor work as to antisepsis. Special care should be taken to clean the thumb and forefinger of the left hand, as with these the commonly employed cotton carrier is rolled. Nasal asepsis is probably impossible, as the nose is not a closed cavity, but we should approximate thereto as closely as possible. Many of the so-called "heavy colds," "grippe" attacks after nasal operations, are nothing but mild sepsis.

DR. MULHALL thought that danger of septic trouble was greatly lessened if we used the galvano-cautery (when applicable) at a white heat, and never allowed it to cool in situ. He used cocaine four per cent. over the entire nostril and ten per cent. over the operative site. The smarting produced by the radiated heat was immediately relieved by a saturated solution of bicarbonate of soda.

DR. WRIGHT said that while formerly he had no trouble with noses after the cautery, he found he did not remove much tissue. A more thorough cauterizative plan had, however, given some annoying sequelæ. Trichloracetic acid had been suggested as a suitable application after the operation.

Ludwig's Angina was the title of the following paper, by DR. J. E. NEWCOMB, of New York. The writer traced the history of this affection as it has been referred to in the medical literature of the past sixty years. The name itself is objectionable on the ground that pathological processes should be known, not by the name of any person, but by their distinguishing characteristics. Moreover it is probable that Heim, thirteen years before Ludwig, had already noticed this peculiar condition. The modern conception of the affection is to regard it as a diffuse phlegmonous inflammation of the floor of the mouth and of the intermuscular and sub-cutaneous cellular tissue of the submaxillary region, which may resolve or may end in gangrene or abscess. Many writers confine the field of its occurrence to the sub-maxillary region, but this is not in accord with the earlier views. It is quite evident also that all authorities have not had exactly the same thing in mind when using this title.

It has always been a matter of dispute whether the disease should be regarded as a morbid entity deserving a special name and special consideration, or not. Ludwig gave as the characteristic local features the following: 1, A peculiar wooden-like induration of the connective tissue which would not receive impressions; 2, a uniform spread of this induration in such a way that it is always sharply bordered by a zone of entirely unaffected cellular tissue; 3, a hard swelling under the tongue with a bolster-like swelling around the interior of the lower jaw of a deep-red or bluish-red color.

Out of the various confusing statements given, it would seem that the true view is to regard the malady as an intensely infectious phlegmon, occurring under peculiar conditions. It is, in fact, one form of septic sore throat. Etiologically we are in doubt, for the bacteriology is very meagre thus far, and only the ordinary germs of suppuration have been found, though the suggestion of actinomycosis has been made. In the fatal cases there is a uniform record of general disintegration of the cervical cellular tissue and muscular substance. Large sloughs have been found mixed with an ichorous fluid or offensive pus. In several instances the pus has burrowed down along the planes of cellular tissue to the sternum, mediastinum, and even pericardium.

The nature of the infection is a very indefinite one in many instances. All lesions of the teeth, glands of the mouth, herpetic ulcerations of the lips, eruptions of the wisdom teeth, and tonsillitis act as predisposing causes, for they favor the entrance of the virulent germs into the lymphatics, and the conveyance thereby into the cellular tissues. Cold as an exciting cause signifies very little, for what is called "cold" is often an indeterminable infection.

In all these cases the pus originates in the triangular pyramidal space the apex of which (situated below) corresponds to the point where the mylo-hyoid muscle borders the genio-glossus and the base of which (situated above) stretches along under the tongue. Its external wall, which is oblique, is formed by the internal face of the inferior maxilla and the mylo-hyoid muscle; the internal wall (vertical) by the genio-glossus and hyglossus. Undoubtedly the sub-lingual gland often first becomes affected and the sub-maxillary later. The germs determining the sub-lingual phlegmasia may penetrate the sheath of the sub-maxillary gland also, or the sub-lingual pus may disassociate the fibres of the mylo-hyoid muscle and thus invade the sub-maxillary region.

The local symptoms are those of a phlegmon, and the constitutional may assume either a sthenic or asthenic type of an infectious fever. Special importance is attached to the presence at the inner aspect of the dental arcade of a pad-like or button-like area of hardness.

A differential diagnosis must be made from osteomyelitis of the jaw, simple sub-maxillary adenophlegmon, and that rare condition known as Fleischman's hygroma.

About 100 cases are on record under the title of Ludwig's disease, but in only 58 are the particulars given with sufficient fulness to serve for analysis. Of these, 44 were males, 9 females, and 5 infants (sex not stated). The oldest patient was sixty-six years of age, and the youngest three months. Forty per cent. occurred between the years of twenty and thirty. Of the 58, recovery is noted in 33 and death in 25. In 9 only were bacteriological findings recorded, viz., streptococci pyogenes, 4; staphylococcus pyogenes aureus and albus, each 1, and cocci of erysipelas, 2. In one the microbe was a little longer and narrower than the B. coli communis, but clearly distinguishable from the latter by culture reaction.

Treatment is summed up in early incision, subsequent rigid antisepsis, and general supportive measures.

Very recently Semon, of London, has advanced the view that this malady, along with erysipelas of the pharynx, acute œdematous laryngitis, œdema of the larynx, and phlegmonous pharyngitis, are all practically one and the same thing, viz., septic inflammation of the throat, differing only in severity and localization, and having the same etiology. His general statement is that this theory constitutes a simple clinical application of bacteriological principles to a certain group of septic inflammations.

The paper was discussed by Drs. Daly and Ash, both of whom related cases thought to be of this nature. Dr. Swain thought that peri-tonsillar inflammation at the base of the tongue might produce the same type of symptoms.

Tuberculosis of the Upper Air-passages.—The session ended with a discussion on this topic opened by DR. JONATHAN WRIGHT, of Brooklyn, who spoke of etiology. Recent bacteriological progress has led us to modify very largely the literal interpretation of Koch's postulates regarding the relations of germs to disease. We now know that bacteria can get through epithelium and in some instances they seem to be destroyed by phagocytosis. It is believed possible that the lymphoid tissue at the base of the tongue may become inoculated by tubercular material taken in as food. It is conjectural, however, as to whether the bacilli found here are really in the tissues or in the superficial papillæ. We can inject tuberculous material into animals and kill them, but the Pravaz syringe does not exactly meet the requirements of clinical medicine. We all get a dosage of tubercle bacilli sooner or later, and one in every seven falls. Autopsies reveal in one out of

every two or three evidences of arrested tuberculosis. The mortality is due not so much to the bacillus as to the bad general environment under which men live. Physicians as a class are not particularly liable to tubercular disease, though exposed most constantly thereto. Children fed on the milk of Alderney cows suffer especially.

The scanty anastomosis between the external and internal lymphatics about the neck explains perhaps why so many escape, but in the nose the abundant communication of the lymph-channels with those of the sub-arachnoid space may account for the frequency in children of tubercular meningitis. The protection of the larynx is also very remarkable. We have abandoned Louis's theory of corrosive sputa, but many patients are either not examined, or the tubercular deposit escapes observation, or the tubercular ulcers are seen only when the patient is in extremis. Out of 25 cases examined, Dr. Wright found nasal or throat tuberculosis in only 4. As we clinically see the disease, the pyogenic cocci may first make a breach in the epithelium through which the bacillus enters. The latter cannot produce an abscess. It is doubtful whether it can penetrate glandular epithelium or not.

Sections of the laryngeal mucosa in recently born children show that it has a wavy outline, especially in the inter-arytenoid space. Under vocal strain this wavy columnar epithelium stretches, and so exercises a protective influence over the deeper laryngeal structures. Nasal tuberculosis in phthisis generally comes toward the end of the disease, as does that of the pharynx, though the latter is possible in the earlier stages of acute miliary tuberculosis.

Dr. C. C. Rice, of New York, was expected to speak on diagnosis, but was not present. The following is an abstract of his paper:

Tuberculosis of the Nares is Rare.—Williglk found only one case in 476 autopsies. It may occur either as an ulceration on the nasal septum and floor, and resembling tubercular ulcerations in general, or as small papillary growths attached to the turbinated tissues. Nasal tuberculosis is frequently overlooked, since it may co-exist with septal specific disease, and because the small growths frequently removed are not examined. In any case of chronic ulceration in a patient with pulmonary disease, we should be suspicious if the nasal condition resists the effect of the iodide.

Tuberculosis of the Pharynx and Larynx.—In Williglk's 1,307 autopsies, the latter was involved 237 times and the pharynx only once. Rice believes that tuberculosis of the fauces is usually associated with an acute general tuberculosis rather than the customary chronic lung process. Occasionally miliary nodules may appear in the soft palate before it undergoes ulceration, but probably all organs are affected at the same time.

Tuberculosis of the Larynx.—The writer further believes that eighty per cent. of all cases of laryngeal phthisis can be easily diagnosed, but that great care needs to be exercised in the remaining twenty per cent. Of this latter proportion, perhaps one-half cannot be definitely diagnosed without the aid of the iodide and the microscope. In ordinary cases nothing can be more typical than the semi-œdematous, semi-inflammatory swelling of the tubercular infiltrations, and the superficial "moth-eaten" ulcer which follows with its gray surface. Such lesions are usually symmetrical and upon a very anæmic surface.

In the laryngeal appearances in incipient tuberculosis, we find localized anæmias of the hard and soft palate in an otherwise healthy pharynx, and, with this, enlarged capillaries merging from: he different portions of the palate toward the uvula. In addition, we have elevation of the papillary layer in the inter-arytenoid commissure and feeble action of the internal laryngeal adductors. Recurring papilloma on the vocal band is to be regarded as a suspicious circumstance. Rice believes that there is often an intimate relation between them and tubercular laryngitis. Suspicious also is localized congestion of the arytenoid cartilages or the slightest appearance of bogginess.

There are also irregular cases. We frequently have the co-existence of syphilitic and tubercular ulcerations, and specific disease in the larynx with tubercle in the lungs.

One or two cases were cited presenting that pathological condition common enough to syphilis, but very rarely seen in tuberculosis, viz., adhesive inflammation at the anterior ends of the vocal bands. Also cases illustrating three forms of growths seen at times in the tubercular throats: 1, The granular hyperplasias which are the ordinary granulation tissue; 2, the wart-like excrescences frequently seen in the inter-arytenoid commissure, and which are closely allied to the laryngeal papillomata; and, 3, the small round tubercular tumors appearing beneath unbroken mucous membrane, microscopically found to consist of a tubercular structure usually containing tubercle bacilli.

Dr. E. L. Shurly, of Detroit, spoke on "treatment," and enumerated various remedies which have been used in the disease. He believes we may have a phthisis without tuberculosis, and is inclined to doubt whether the post-mortem table reveals evidences of previous bacillary invasion as often as is claimed. The best local remedies he has found have been chlorine gas, solutions of sodium formate, and iodoform. As a specific internal, plain iodine with chloride of gold and sodium have accomplished good results. He would pay great attention to diet, and in painful swallowing would use gavage. He made the point that vegetable food should be combined with the meat extracts in these cases. In the laryngeal cases alcohol was apt to be too irritating. We should not take away all hope from our patients, and when they get so low we should use morphine enough to keep them comfortable. Tracheotomy, scarifying, and curetting he did not believe in.

Surgical Treatment of Laryngeal Tuberculosis.—This subdivision of the general topic was discussed by Dr. J. W. Gleitsmann, of New York. He confined his remarks to curettement with the single or double instrument. Surgical treatment is, broadly speaking, either endo- or extra-laryngeal. Under the former are included incision with knife or properly curved scissors, curettement, sub-mucous injections, electrolysis, and the galvano-cautery; under the latter laryngotomy and excision of diseased parts, extirpation of the larynx, and tracheotomy; altogether eight subdivisions.

A *résumé* was given of the historical aspects of the subject. Dr. Gleitsmann has found recorded eight total and seven partial extirpations of the larynx for tubercular disease. In four of the former category, diagnosis was made before operation, two were done on account of lupus, and two had been diagnosed as carcinoma. In the latter class, five operations were done for tuberculosis, one for lupus, and one for supposed carcinoma.

As to curettement, it is steadily gaining in favor. Only six out of seventy publications consulted are indifferent or do oppose it. We cannot hope that it will exert a favorable influence on the almost always present pulmonary complication, but we are justified in speaking of a cure of the larynx where, in spite of the continuance of the pulmonary disease, the laryngeal symptoms have subsided; when the larynx bears a normal aspect, and furthermore, when there is no trace of the local disease found at post-mortem examination—conditions which are established beyond a doubt and which are on record in literature. Relapses may occur, for curettement cannot of course remove the diathesis nor can any other plan of treatment.

Two writers claim to have observed outbreak and hastening of the pulmonary process after operation, but this is probably a coincidence and does not prove any causative relation. Other objections are danger of

hemorrhage, pain, and difficulty of operating. Bleeding can be arrested by a styptic solution of lactic acid and liquor ferri chloridi; pain can be almost entirely avoided by the repeated applications of strong solutions of cocaine, and the remedy may be injected directly into the tissues. Difficulty in operating can never be considered a valid objection against any legitimate surgical procedure.

Curettement should be regarded as analogous to excision by the surgeon of a tuberculous joint. It removes a diseased area, a focus of infection which is a constant drain upon an already debilitated system. It is in properly selected cases more effective, quicker, and better in result than any other procedure. Besides, the infiltration of the arytenoid region, which is the great cause of dysphagia, can often be removed at one sitting by the double curette. Healing is prompt and cicatrization rapid. Moreover, the suffering of patients due to abundant nerve proliferation, justifies arytenoidectomy. Even in active pulmonary disease with hectic, diminution of dysphagia means more nourishment taken and a consequent improvement in the general condition. Additional advantages gained are improvement in voice, cough, and respiration.

Indications for curettement are:

1. Primary tubercular disease without lung complication.

2. Cases with concomitant lung disease, either incipient or which has stopped short of softening or hectic.

3. Especially circumscribed ulcerations and infiltrations.

4. Dense hard swelling of the arytenoid region, ventricular band, posterior wall, tuberculous tumors, and affections of the epiglottis.

5. In advanced lung disease with distressing dysphagia from arytenoid infiltration.

Contra-indications are:

1. Advanced pulmonary disease and hectic.

2. Disseminated tubercular disease of the larynx leaving little or no area of healthy tissue.

3. Extensive infiltration producing stenosis. Here tracheotomy is indicated.

As to technique. Heryng's single curettes are best suited for cleaning and scraping of ulcerations: Krause's double curettes and Heryng's rotary curettes for excision of tubercular infiltration. Sub-glottic lesions can be operated upon with Scheinmann's forceps, and an attempt may be made to reach the ventricles of the larynx with laterally bent forceps. Absolute quiet is necessary after operation, and until cicatrization is complete daily applications should be made of lactic acid and pyoktannin (one or two per cent.). Cicatrization occurs in from seven to twenty-eight days. Ulcerations which are well defined do better than if shallow and extended. Dense infiltrations (which are generally localized) do better than œdematous conditions.

After giving the statistics of Heryng, Gougenheim, and Krause, with their four hundred and fifty-five cases, Dr. Gleitsmann narrated his personal experience with the double curette in twelve, all with lung complication; two operations were for infiltration of the posterior wall alone, one for such with affection of the ventricular band combined; four were arytenoidectomies, three arytenoidectomies and excision of the ventricular band, and two of the latter alone. Arytenoidectomy was necessary a second time with two patients on account of recurring infiltration. One patient died from heart failure and another from advanced lung disease. Four are without recurrence of laryngeal disease from six to ten months. Of these, one had an affection of the posterior wall, another of ventricular bands, and two of the arytenoid region.

THIRD DAY, WEDNESDAY, JUNE 19, 1895.

Tuberculosis of the Upper Air-passages.—This discussion was continued.

DR. T. MORRIS MURRAY, of Washington, D. C., had used lactic acid in seven or eight cases of laryngeal and pharyngeal ulcers, and had seen good results in three. One case was curetted two weeks before the patient's death. The uvula was also infiltrated in this case. The ulcer had healed and the patient's last days had been rendered much more comfortable. One case had remained healed now for five years.

DR. INGALS thought that of one thousand cases operated on and one thousand cases treated topically, the latter series would show more cures than the former. He had had four recoveries from laryngeal and pharyngeal ulcerations by simply rubbing in lactic acid without previous scraping. In the deeper cases we should doubtless curette. It was of doubtful propriety to cut away large masses of tissue. The trichloride of iodine (gr. j. to ij. to water ℥ j.) had served him well. He did not like to use cocaine here on account of its depressing effects upon the nervous system. The patient is not so able to bear pain afterward. His favorite mixture is one of carbolic and tannic acids with morphine. It smarts at first, but there is no pain afterward.

DR. DALY had seen some laryngeal cases recover under diet, inhalations, and especially iodoform, with which he saturates the patient. He has never curetted, thinking it useless so to do. He had used creosote in large doses.

DR. WRIGHT, in closing the discussion, said that he was very sceptical as to the treatment of laryngeal tuberculosis. Ulcers will occasionally heal under curettement and lactic acid. We have been looking too much at one single etiological factor, whereas there are many. Laryngeal tuberculosis may give no symptom whatever even when the erosive process has gone way down to the cartilage. The cases reported cured have been limited to the first stage of the disease.

Very few cases out of the whole number are suitable for Krause's and Heryng's methods.

DR. SHURLY had tried Dr. Ingals's sedative formula, but had great difficulty in making a good mixture of the three ingredients, and used them separately. As to creosote, he felt disappointed in it, but thought it a good, mild, and disinfecting agent. Has had no experience with the curette. It seemed absurd to expect recovery by scraping a few ulcers while there were ulcerated patches on invisible areas.

Necrosis of the Middle Turbinate.— Paper by DR. A. B. THRASHER, of Cincinnati. While in acute rhinitis the lower turbinate is more frequently affected, yet disease of the middle is more significant, in that the pressure on the adjacent walls is great and the mouths of all the adjacent sinuses are easily closed, thus causing a mechanical retention of the normal secretions, which quickly became purulent.

Ethmoiditis is comparatively a frequent disease, but necrosis of the middle turbinate is certainly rare. Zuckerkandl declares he has never seen it. Woakes asserts that necrosis is present as a rule wherever there is ethmoiditis, but the pathologist's report of his published cases gives only two cases of true necrosis out of twenty alleged to be such.

Dr. Thrasher sees no reason why prolonged disease of the middle bone should not eventuate in necrosis, as the local anatomical conditions all would appear to favor such a result. Given a case of ethmoiditis and a polyp springing from under the middle turbinated, the conditions are certainly fairly ripe for developing necrosis of the latter structure. On the other hand, it is possible that a polyp may spring from a membrane bathed in the secretions from a purulent ethmoiditis. It is quite analogous to the condition of aural polypi from purulent otitis media. Cysts of the bone do not necessarily lead to necrosis.

Dr. Thrasher gave the two following clinical histories:

CASE I.—Woman with severe pain in left side of nose,

radiating over entire left face and head, constant though with regular and intense exacerbations; left side nose slightly swollen. Creamy discharge flowed from beneath left middle turbinated bone with an offensive odor, but not that of necrosed bone; anterior extremity of left middle turbinate swollen and pressing on septum and lower turbinate. Patient had severe influenza one year before.

Treatment.—Removal by cold snare of projecting mass, about one inch long by one-third inch in vertical, and one-quarter inch in lateral diameter; mucosa was tightly drawn over bone, and one-third of outer portion of latter was dead. Adjacent ethmoid cells were curetted. No recurrence in four years.

CASE II.—Male, aged twenty-six. Neuralgia right supra- and infra-orbital nerves for two years, unrelieved by medical treatment; right middle turbinated presenting as a large rounded mass pushing out outer wall of nose and filling middle meatus; little discharge.

Treatment.—Cold snare broke down tissue (in an endeavor to remove *en masse*), leaving a large open cavity within their walls. A part of bony tissue removed bore evidence of being dead. No connection could be made out between opened cyst and ethmoid cells.

The general symptoms of the condition are: 1, Pain, referred to supra- or infra-orbital regions, orbit itself (ethmoid involvement), or ear; 2, discharge often offensive; 3, nasal obstruction and anosmia, but frequently, even in severe disease of the middle turbinate, the breathing is unobstructed; 4, obstruction of natural sinus openings with attendant symptoms; 5, external nasal deformity and displacement (in ethmoid cases) of globe of the eye; 6, various reflex disturbances.

Treatment.—In cases of middle turbinate inflammation, if mild and recent, use alkaline sprays, cocaine, scarification, or deep incision; if the case is of long standing and osteitis or necrotic bones are suspected, prompt removal of the offending tissue is advocated. This may be done by cold snare, drill, trephine, or saw-tooth scissors. Cauterization here is contra-indicated owing to the proximity of the brain.

Dr. Thrasher also reported a case of congenital osseous stenosis of the naris. Patient, male infant, eighteen months of age; in good condition but with mouth breathing and muco-purulent flow from right naris. Adenoids were found in the vault and removed, but a probe passed through the nostril detected a thin partition of bone just at the posterior naris. This thin scale, thicker toward the septum and thinning out toward the external wall, was seemingly united to the latter at the posterior extremity of the lower turbinate, but was not attached to the turbinate, as could be detected by the finger in the naso-pharynx.

DR. S. W. LANGMAID, of Boston, had seen three cases of congenital closure of the nares. He thought that the temporary continuance of mouth-breathing after operation was due to the incapacity of the nose for immediate functional activity until it had been trained, so to speak.

DR. INGALS had never seen any congenital cases. He thought that in many cases of adenoids there was a partial closure of the posterior nares which was overlooked. He always probes both nostrils before the patient comes out from under the anæsthetic, to see if they are pervious.

Cysts of the Naso- and Oro-pharynx and Fibroma Papillare, or True Papilloma of the Nasal Septum.—DR. JONATHAN WRIGHT, of Brooklyn, described cases of this nature and presented illustrative drawings. Naso-pharyngeal cysts are very rare, and sinuses of the naso-pharyngeal mucosa are not very common, though Tornwaldt has asserted the contrary. The so-called pharyngeal "crusa" and the cysts are formed by the agglutination of the folds and projections of the membrane found in infancy. Hence results a closed cavity leading to discharge of, or retention of, thick mucus, which dilates the walled-in space to the proportions of a cyst.

The epithelium in the naso-pharynx is columnar, but shades off below into the squamous, and in many cases of hypertrophied lymphoid growths in the vault this covering is in part or wholly of squamous cells, evidently the result of irritation from secretions or rubbing surfaces. The cyst reported in the present paper is probably an inclusion cyst. In a transverse section through folds of the mucous membrane in the naso-pharynx of a still-born child, it is possible to see oblong spaces either just where the lymphoid tissue borders on the connective tissue, or just within the lymph tissue itself, or just within the connective tissue. These spaces are lined with a single endothelial layer. These are probably lymph-spaces and from them cysts can probably originate.

The nasal papilloma was removed from the septum of a Roumanian woman, aged twenty-eight, with a history of nasal obstruction for seven years. Just inside the left nostril was a soft, vascular, pedunculated mass freely movable. The cold snare removed it with only moderate hemorrhage. The site of attachment was the upper part of the cartilaginous septum about 2 ctm. from the columna. This spot corresponded with a region subjected to the attrition of the upper edge of the triangular cartilage, forming the ridge known as the *plica vestibuli*, and which in this case rubbed against the septum when the lower edge of the triangular cartilage was rolled out by muscular action in the dilatation of the ala nasi during inspiration. The base was cauterized and there has been no recurrence (nine months).

Microscopical examination showed the neoplasm to be a true fibroma papillare.

DR. NEWCOMB had recently removed with the cold snare without hemorrhage a naso-pharyngeal cyst from a young man of about twenty. There was still left a mass *in situ*, and he presumed he had a multilocular condition to deal with.

DR. LANGMAID had recently removed a naso-pharyngeal cyst by avulsion, the attachments of the growth being such that the wire loop could not be made to encircle it. No hemorrhage resulted. In cases of recurrence of such growths, it was possible that we left a portion of the cyst wall behind.

Relation of Vasomotor Disturbances to Diseases of the Upper Air-tract.—This question was discussed by DR. W. H. DALY, of Pittsburg, who reiterated his well-known teachings on this subject. He called attention also to a variety of disturbance first described by Glascow, where the mucosa is pallid and yet leaks serum. As to his own success in relieving asthma and hay-fever by intra-nasal treatment, he would simply say that his own statistics showed a cure in sixty-three per cent. of catarrh and hay-fever cases, and in forty per cent. of spasmodic asthma. He would conclude: 1. That abnormal disturbances of vasomotor origin may be primary or secondary. 2. That both may be co-active and progressive. 3. That the surest and quickest relief is afforded by those cases where surgical interference finds its proper election.

DR. MULHALL remarked that as to vasomotor disturbance, there was the pallid variety and the turgescent, just as some people get white in the face when angry and others red. The mode of life was a frequent factor in such cases, rather than any essential intra-nasal condition. Diet and exercise would do much to relieve them. He advocated daily frictions with cold water, mild galvanism, a daily dosage of atropia, one to twenty grains, given in the morning on an empty stomach, with one drop of Fowler's solution after meals.

DR. SIMPSON was inclined to lay less stress than formerly on the reflex disturbance theory, as he had seen so many cases in which a thorough examination of the entire body had revealed causes of disturbance supposed at first to originate in the nose. He believed

that it would be found in most instances the cause was near the seat of the disease we had to treat.

The Cigarette Habit.—This was the title of the closing paper, read by DR. J. C. MULHALL, of St. Louis. The chewer, smoker, and snuff-taker all experience a different variety of satisfaction. The cigarette smoker soon learns to inhale the smoke, an unusual habit with either cigar or pipe smokers. The smoke does not penetrate farther than the first division of the bronchi. It does not reach the lungs proper. It enters into the tidal but not the residual air. A cigarette milder than the one habitually used does not give the usual satisfactory feeling to the laryngeal and tracheal interior, nor also does one stronger than usual. The effect of inhalation is really a pleasurable sensation produced upon the laryngeal and tracheal filaments of the pneumogastric nerve, a sort of nicotine satisfaction. The absorption of material from smoke varies, of course, according to amount of surface, and it has been estimated that in inhalers there is three times as much absorptive surface as in non-inhalers. Three cigarettes are about equal in tobacco strength to one cigar, but it is the frequency with which cigarettes are smoked which has led to the characterization of the habit as "deadly." Moreover, the circulative effect of frequent cigarettes is analogous to that of a given amount of drug administered in divided doses.

The evils of cigarette smoking are local and constitutional. The latter are the same as from the use of tobacco in any form—always nicotinism—and on the young these evils are great. Cigarettes are so cheap that they may be said to teach the use of tobacco. The first cigarette never nauseates as does the first cigar, and hence the deterring effect of the latter is wanting.

As to local effect, cigarettes may aggravate pre-existing trouble, but Dr. Mulhall does not believe that there is evidence to prove that they originate any throat disease worthy of the name. There may be a mild hyperæmia of the mucosa, or even a trifling catarrh, with pearly viscid secretion ejected by a single slight cough in the form of pellets. A few râles wholly bronchial are occasionally heard. The murderer Maxwell, confined in a St. Louis jail, inhaled forty cigarettes daily, and though he was a complete physical wreck, he had no throat alterations, as was proven by an examination of the parts made after death. Mario, the great singer, was an inveterate inhaler.

DR. INGALS, in discussing the paper, said that he could not assent to the doctrine of the local harmlessness of tobacco. He has seen pronounced tracheal cough result from its use.

DR. CARL SEILER stated that the habit of spitting while smoking did more local harm than the smoke itself, because the constant loss of saliva led to an abnormal dryness of the pharynx.

DR. LANGMAID thought that one great injury of tobacco upon the young was in its destruction of the power of consecutive thought, by reason of its insidious narcotism. As to pipe-smoking, it was not so harmless as generally believed, because the mouth was kept hot by the heat of the stem and the relatively large mass of fire in the bowl.

During the session of the Congress the following papers were read by title:

"Foreign Bodies in the Œsophagus," by Dr. Harrison Allen, of Philadelphia. "The Influence of Chronic Diseases of the Throat Upon Certain Defects of Speech," by Dr. D. Bryson Delavan, of New York. "Cyst of the Maxillary Sinus," by Dr. Charles H. Knight, of New York. "Pemphigus of the Pharynx and Larynx," by Dr. M. R. Brown, of Chicago. "Compensatory Arytenoid Movement," by Dr. William Porter, of St. Louis. "A Study in Diphtheria," by Dr. S. Hartwell Chapman, of New Haven.

At an executive session the following gentlemen were admitted to active fellowship:

J. E. Boylan, M.D., Cincinnati, Thesis, "Herpes Chronica Pharyngis;" F. E. Hopkins, M.D., New York, "Œdema of the Larynx and Report of a Case." Thomas Hubbard, M.D., Toledo, "Treatment of Acute Laryngitis." J. E. H. Nichols, M.D., "Intra-nasal Causes of Headache."

The next meeting will be at Pittsburg, Pa., the time to be selected by the Council. The following officers were elected for the ensuing year: *President*, Dr. W. H. Daly, Pittsburg. *First Vice-President*, Dr. Jonathan Wright, Brooklyn. *Second Vice-President*, Dr. A. W. de Roaldes, New Orleans. *Secretary and Treasurer*, Dr. H. L. Swain, New Haven. *Librarian*, Dr. J. H. Bryan, Washington.

MEDICAL SOCIETY OF NEW JERSEY.

One Hundred and Twenty-ninth Annual Meeting, held at Cape May, June 25 and 26, 1895.

O. H. SPROUL, M.D., PRESIDENT, IN THE CHAIR.

The Health of New Jersey.—DR. H. W. ELMER, chairman of the standing committee, read a summary of reports from physicians throughout the State regarding the health of their localities. Typhoid fever had been more common than usual. Antitoxin for diphtheria had been slow of adoption. Three cases of hydrophobia were reported. Variola, which had threatened an outbreak, had been suppressed. The consensus of opinion was in favor of sterilized water for wounds instead of antiseptic solutions.

Prevention of Blindness through Legislative Enactment.—DR. W. B. JOHNSON, chairman of the committee on this subject, read the report, by which it appeared that they had succeeded in getting a bill passed by the State Legislature which differed in one or two important points from the one first passed in New York and subsequently by several other States. He quoted a paper by Dr. May showing, apparently, no decrease in blindness from ophthalmia neonatorum in New York since the passage of Howe's bill in 1892. The intentions of the bill were not carried out. The following is a copy of the New Jersey bill, the new features being in italics:

1. BE IT ENACTED *by the Senate and General Assembly of the State of New Jersey*, That should one or both eyes of an infant become inflamed, swollen, or reddened, or show any unnatural discharge at any time within two weeks after its birth, *and no legally-qualified practitioner of medicine be in attendance upon the infant at the time*, it shall be the duty of the midwife, nurse, attendant, or relative having charge of such infant to report the fact in writing, within six hours, *to the local board of health* of the city, township, or other municipality in which the parents of the infant reside.

2. *And be it enacted*, That the said local board of health shall direct the parents or person having charge of such infant suffering from such inflammation, swelling, redness, or unnatural discharge of the eyes, to immediately *place it in charge of a legally-qualified practitioner of medicine*, or in charge of the physician of the city, township, or other municipality if unable to pay for medical services.

3. *And be it enacted*, That every local board of health in the State of New Jersey *shall furnish a copy of this act* to every legally-qualified practitioner of medicine, and to each person who is known to act as a midwife or nurse, in the city, township, or other municipality for which such board of health is appointed; and the Secretary of State shall cause a sufficient number of copies of this act to be printed, and to supply the same to such officers for distribution.

4. *And be it enacted*, That any failure to comply with the provisions of this act shall be punished by a fine not to exceed two hundred dollars, or imprisonment not to exceed six months, or both, upon conviction

under prosecution proceedings to be brought *by any local board of health.*

5. *And be it enacted*, That this act shall take effect and be in force on the first day of May, one thousand eight hundred and ninety-five.

Dr. Charles Kipp thought the Society was to be congratulated on the passage of this bill. But something should be done to prevent the occurrence of purulent conjunctivitis, and to lead to more general knowledge of the best means of treating it among physicians, and he moved that a committee be appointed to inquire into the best methods for the prevention of purulent conjunctivitis of the new-born in use in hospitals, and to recommend that which they regard as best adapted for private practice. The motion was adopted.

New Jersey on Bovine Tuberculosis.—Dr. J. W. Stickler, chairman of the committee on bovine tuberculosis, stated that he and Dr. A. V. M. Baldwin, members of the committee, had again gone before the committee of the Legislature and advocated the passage of a bill providing for the inspection of herds of cattle throughout the State, and the destruction of such as might be found tuberculous. It was objected to on account of its mandatory character, and the fact that a veterinarian was to be inspector. Of course, without such provisions the law would be worthless, as the present one was proving itself to be. On motion the committee was continued.

Relation of Physician and Pharmacist.—Dr. H. L. Coit, chairman of the committee on this subject, read the report. The following ethical rules had been formulated: Ethical rules for the guidance of physicians and pharmacists in their relations with one another, proposed to be adopted conjointly by the Medical Society of New Jersey and the New Jersey Pharmaceutical Association.

Propositions: 1. Ethical principles, or standards of right conduct, exist, irrespective of their formulation or codification. 2. Ethical rules are calculated to elevate standards of moral conduct and to foster a spirit of harmony between professional men. 3. A code of ethics is designed not only for the restraint of those who are actuated by unworthy motives, but for the guidance of those also who seek to be governed in their actions by high and true principles.

The Duties of the Physician to the Pharmacist.—1. The physician has no moral right to discriminate in favor of one pharmacist to the detriment of another, except for dishonesty, incompetency, or unscientific methods of work. 2. The physician is never justified in receiving from a pharmacist gratuities in return for patronage; in depositing secret formula with an individual pharmacist, or by word or deed to jeopardize his professional reputation. 3. The physician may sometimes find it an advantage to the patient to dispense the medicine, yet in the main it must be regarded as a subterfuge, and a hindrance to all interests involved. The physician should, if practicable, avail himself of the superior technical skill of a trained pharmacist in the preparation and dispensing of medicines.

The Duties of the Pharmacist to the Physician.—4. The pharmacist who recommends drugs or medicines for specific remedial purposes, either directly or through the avenues of advertisement, thereby exceeds the limits of his profession, and commits an act unworthy of his calling. 5. The pharmacist who consents to diagnose disease or prescribe for patients, except where emergencies arise, without the proper medical training, assumes responsibilities for which he is not qualified, and justly incurs the disapproval of physicians. 6. The pharmacist transgresses his true province when, for commercial purposes, he issues to physicians printed matter setting forth the therapeutic indications for the use of drugs or medicinal preparations. The constituents of the drug or compound, together with its chemical and physical properties, should be sufficient guarantee of its utility.

The Duties of the Physician and Pharmacist to the Public.—7. The combined efforts of the physician and pharmacist are required to protect the public from the nostrum maker, pseudo-scientific pharmacist, the sectarian physician, and drug-vender, and the two should be in continual alliance to demand the extermination of these commercial and mercenary institutions. 8. The physician and pharmacist should, as far as possible, limit the multiplication and manufacture of proprietary compounds. It must be regarded as reprehensible to encourage the use of these remedies to the exclusion of those which are official in the pharmacopœias. It is also their plain duty to discourage the use and sale of all medicines which lead to baneful drug habits. 9. The best interests of the patient are undoubtedly conserved by the custom of physicians of practising rational therapeutics, to the exclusion of those methods which tend to the use of many remedies, or those of unknown composition; and the supreme effort of the dispensing pharmacist should be to complete the circle of therapeutics by supplying eligible and trustworthy preparations.

Dr. Coit stated that this proposed code had met with warm approval by the State Pharmaceutical Association, but action had been deferred until the State Medical Society could be heard from. Upon motion, action and discussion were postponed until the next annual meeting. Printed copies were ordered distributed among the district societies for consideration.

Diseases of Pregnancy and Parturition.—The President, Dr. O. H. Sproul, stated that he had not been able to complete the address which he had intended to deliver on this occasion, so at the last moment had prepared a short paper containing a few personal observations on the diseases of pregnancy and parturition, for the crudeness of which he presented his apology.

Referring to the vomiting of pregnancy, out of over two thousand cases of pregnancy which he had attended there was uncontrollable vomiting in but one. This patient became maniacal and died. He would now resort earlier to abortion in a similar case.

Pruritus affecting the genitals, in his experience, usually resulted from vaginitis, and was relieved by douche of boracic-acid solution and subsequent application of nitrate of silver, twenty grains to the ounce. Œdema of the pudenda and extremities was usually relieved by salines. Dr. Sproul performed immediate perineorrhaphy, but left the surgical treatment of lacerations of the cervix, should necessity for this arise, until later. During thirty years' practice he had had but two cases of puerperal fever. It was a rare disease in rural communities. He had never been the agent for conveying erysipelas or other infectious disease. Perhaps this was because the precautions which had been inculcated by his teachers had led him to adopt more than usual cleanliness. In the management of phlegmasia dolens, he had usually been successful with the flannel roller bandage and slightly elevating the limb. In hemorrhoids, if medicinal and palliative measures did not give relief, he resorted to surgical treatment by ligation. Chloroform anæsthesia to the extent of complete insensibility was seldom necessary in labor, and should therefore be avoided.

Some Original Investigations Showing the Antagonism Between Morphine and Cocaine.—Dr. J. W. Stickler, of Orange, read a paper, which will be published in full later, showing that the best antidote for morphine poisoning is cocaine, and *vice versa*. His attention had first been called to the antagonism between the two drugs by a patient taking about eighteen grains of cocaine in solution, and being nervous and unable to sleep afterward, took about half an ounce of laudanum, which in one hour relieved the nervousness and induced sleep. The patient attended to his business next day. Later one of his laboratory assistants gave

to a patient who had taken nearly three ounces of laudanum, three-fourths of a grain of cocaine in divided doses, and within two hours he was perfectly normal. His experiments on dogs and pigeons, and also on two men, showed strikingly the antagonistic effects of cocaine and morphine, and in comparison with aconite and permanganate of potassium, he thought cocaine was a far superior antidote for morphine poisoning. In opium poisoning he would first give an emetic, then one-fourth grain cocaine hypodermatically, repeating it twice at twenty minutes interval if necessary.

Comparative Advantages of Water, Hot or Cold, versus Germicidal Solutions, in Modern Surgery.—Dr. W. B. Johnson opened the discussion upon this subject, which had been presented at the last annual meeting. He pointed out the marked advance which the Listerian system had made possible, but stated that lately the use of chemical agents had come to be so far restricted that water was relied upon as the chief factor, or even the exclusive one, in the preparation of instruments and cleansing the field of operation. The approach to the perfect aseptic technique now attained was undoubtedly due to perfect ablution. The time was not far distant when all chemical agents for the destruction of bacteria would be excluded from use in the vicinity of the wound — asepsis, not antisepsis, being the desideratum, when complete mechanical cleansing with sterilized water would render the use of germicidal solutions unnecessary.

Dr. Mordecai Price, of Philadelphia, said he thought chemical germicides would in the very near future be consigned to oblivion. He was not afraid of bacteria. They found in his work a hotel without a table. Leaving no food for them, his boarders left. There was no question in his mind that bacteria were not the cause of disease, but that disease was the cause of bacteria. Fortunately he had come into surgery after Bautock and Tait had demonstrated that chemical germicides were useless—were worse than useless—for they complicated the disease of which one was trying to relieve the patient. Dr. Price relied on cleanliness.

Dr. Barton, of Philadelphia, employed chemical antiseptics whenever he had to operate where he could not avail himself of the services of his own trained assistants, on whose aseptic methods he could place perfect reliance.

Dr. Ill would agree with Dr. Price, that no antiseptic should be put into the abdominal cavity, but he could see no reason why one should not sterilize the field of operation as well as the hands and instruments.

Dr. Charles Kipp said that antisepsis had made it possible to operate with safety upon a cataract within an hour after one had treated a case of gonorrhœal inflammation of the eye.

The views expressed by Drs. Gross, Keyser, of Philadelphia, and Benjamin, were in accord with those who used antiseptics in addition to cleanliness.

Papers on the relations between physicians and pharmacists were read by Delegates W. C. Alpen and H. P. Reynolds, from the State Pharmaceutical Association.

Our State Medical Society, Its Past Success, and Suggestions Concerning Its Future Usefulness.—Dr. D. C. English, third vice-president, took this subject for his address. As showing the past usefulness of the Society, he mentioned the fact that it had in effect originated the State Board of Health, the State Asylum for the Insane at Trenton, and that at Morris Plains, the New Jersey Pharmaceutical Association, etc. Among the officers of the Society who had been instrumental in its success were: Steven Wicks, William Pierson, who had acted as secretary for twenty-nine successive years, Ezra M. Hunt, and H. R. Baldwin. Two of the oldest and most valuable members were Pennington and Rogers. The society was the oldest in the States, having been organized in 1776, with thirteen members. The first president was a minister of the gospel, as well as a practising physician. Dr. English's address contained certain suggestions which were referred to a committee of five to report with regard to their adoption in the by-laws at the next annual meeting.

Tetany.—Dr. Louis Faugères Bishop, of Morris County, reported a case of tetany, a rare disease, fewer than one hundred cases having been reported in this country. His patient still occasionally had the attacks of clonic spasms which extended from the arm, but was improving.

Election of Officers.—The following officers were elected: *President*, William Elmer; *First Vice-President*, T. J. Smith; *Second Vice-President*, D. C. English; *Third Vice-President*, C. R. Fisher; *Corresponding Secretary*, E. L. B. Godfrey; *Recording Secretary*, William Pierson; *Treasurer*, Archibald Mercer. The next meeting will be held at Asbury Park, the fourth Tuesday in June, 1896.

New Instruments.

A NEW MASTOID RETRACTOR.

By MAX THORNER, A.M., M.D.,
CINCINNATI, O.
PROFESSOR OF CLINICAL LARYNGOLOGY AND OTOLOGY, CINCINNATI COLLEGE OF MEDICINE AND SURGERY (MEDICAL DEPARTMENT OF THE CINCINNATI UNIVERSITY); LARYNGOLOGIST AND AURIST TO THE CINCINNATI HOSPITAL, ETC.

During a mastoid operation the field of operation must be kept thoroughly clear by having the margins of the wound well drawn apart. After making the incision parallel to the insertion of the auricle, and stopping the hemorrhage, the bone is denuded by pushing the parts backward and forward with a raspatory. The margins of the wound are then kept separated during the whole operation by strong three- or four-pronged retractors, held by the hands of assistants. This is, however, not only very tiresome during protracted operations, but the hands, and especially the one holding the posterior retractor, are frequently in the way of the surgeon. To overcome this difficulty several devices have been invented, as, for instance, the self-retaining retractors of Barth, Zarniko, Allport, and Bishop. All of these are constructed on the principle of two retracting hooks, united at the lower extremities by cross-bars, or by screws; by which they are also separated and kept so during the operation. For some time I have been using a little device that is so exceedingly simple and has given such universal satisfaction, to me and a number of colleagues, that I think it will readily recommend itself for this and similar operations.

The instrument consists of a flat S-shaped piece of steel, about one inch and three-fourths long, and five-eighths of an inch broad. One of the extremities is shaped into a three- or four-pronged hook, while the other extremity forms a blunt, broad retractor, bent in the opposite direction. This instrument is used in the following manner:

When the bone is well denuded and the periosteum pushed aside, the prongs of one retractor are well hooked below the periosteum of the posterior margin of the wound, and the prongs of the other retractor below the parts of the anterior margin (*i.e.*, the detached auricle). Then a long strip of sterilized gauze, about an inch and a half broad, and preferably doubled, to render it stronger, is folded in its middle over the blunt end of the anterior hook, drawn across the forehead and around the head of the patient, and fastened tightly over the blunt hook of the posterior re-

tractor. Instead of the strip of gauze one may also use a long rubber ring, as was suggested to me by Dr. Vail, of this city, to whom I am also indebted for the sketch from which the cut has been made. Sometimes the amount of tissue which is to be held back by the anterior retractor is so enormous, comprising the auri-

cle and more or less infiltrated tissues deep down into the external auditory canal, that the usual anterior hook, as shown in the cut, cannot sufficiently grasp it, to embrace it well, as it were. For such cases, and their number is not small, I have had constructed, at the suggestion of Professor S. C. Ayres, a special anterior hook in which the pronged end is about one inch distant from the flat shaft. With this hook, especially if we have one somewhat (about one-fourth to three-eighths of an inch) broader, and having four instead of three prongs, we can safely hold back the auricle with any amount of infiltrated tissue.

This is the manner of procedure in which the antrum only is to be opened. In such operations, however, in which the upper and posterior walls of the auditory canal are to be removed, one may either apply both hooks in the above-described manner, or one may, as I would prefer in some cases, use only the posterior hook, after having drawn the strip of gauze around the detached auricle between the wall of the osseous and the cutaneous canal, and then back through the auditory canal proper, as has been recommended by Holmes.[1] The strip of gauze is then tied around the forehead and over the blunt hook of the posterior retractor in the above-described manner. Little changes in the application of the hooks will suggest themselves, of course, to the surgeon; sometimes, for instance, the relative position of the hooks will demand that the strip of gauze be carried across the upper lip, just below the nose, instead of across the forehead.

The advantages of this method are obvious. The margins of the wound are kept immovably separated, as the gauze can be fastened tightly or loosely. It can be removed or changed in an instant. One, and sometimes two, hands of an assistant are positively spared, and one may do with one assistant less. Neither hands of assistant nor cross-bars of instrument are in the way of the operator. This appliance does not get tired nor relaxed, as the hands of assistants sometimes do in protracted operations. The relative position of the hooks can be readily changed to suit the convenience of the surgeon. The posterior hook may also serve to hold down the flexible probe, which is introduced into the attic from the posterior funnel-shaped opening, after the antrum has been opened. The hooks are readily rendered aseptic, and the gauze is, of course, sterilized before the operation. Those who prefer a blunt retractor instead of a pronged or sharp one, may simply reverse the instrument. The slender S-shaped curve renders it easily adapted to the irregular surfaces with which we have to deal. And, finally, the instrument can be used for any other surgical operations, and is cheap on account of its simple construction.

[1] Archives of Otology, 1893, p. 344.

Correspondence.

RECIPROCITY IN REGISTRATION.

To the Editor of the Medical Record.

Sir: On July 9th the State Board of Registration in Medicine of Maine met and organized; this makes about ten States which require an examination before a person is allowed to practise medicine, regardless of diplomas, and several States are contemplating the enactment of similar laws. But nothing can be done until the whole of the medical profession in a State is aroused, sinking at least for the time their petty quarrels and jealousies, and act as a unit.

To hasten the goal, let me propose a measure that at once would place practitioners of all other States at a disadvantage and thus almost force them to the adoption of similar laws. Let the State Boards of Massachusetts, Maine, Minnesota, Mississippi, New Jersey, New York, North Carolina, North Dakota, Texas (Vermont and Virginia when they create a regular State Board), and Washington, or a committee representing them, draw up a section to be added to their law, something like this: "And said Board may give a certificate of registration to any person, who has previously been registered in another State where, in the judgment of the Board, the standard of such registration is equal to the requirements in this State, upon the presentation of satisfactory proof and payment of the usual fees, etc."

You will notice, sir, that I would make it perfectly voluntary upon the board to do so or not by the use of the word "may," and yet it would undoubtedly answer every purpose.

I object to the methods of such States as Alabama, California, Connecticut, District of Columbia, Maryland, New Hampshire, Vermont, Virginia, and Wisconsin, where the examination, which is not always required, is conducted by the various medical societies, or to Arkansas, Florida, Oklahoma, and a few others where there is a board for every section of the State. There should be one central body, appointed by the governor, where the different medical sects that are worthy of recognition should be represented. Examinations should be practical and to the point—not like the examiners in pharmacy in one of the New England States, who try to elevate their profession by "sticking" the greatest amount of candidates by theoretical suppositions, and who have only succeeded in creating a new class of frauds, crammed with just such questions and answers, who for a consideration will go and be examined in almost anybody's name.

The standard should be uniform throughout all the States, a matter which a committee could easily arrange, and then, when once registered, a practitioner would be so forever.

The convenience resulting from such a law would undoubtedly swing all the other States into line, and then the formation of a National Board of Medical Examiners would be in order, whose certificate would be good everywhere.

Country Doctor.

East Eddington, Me., July 1895.

THE PRESENT STATUS OF ANTITOXIN IN LONDON.

To the Editor of the Medical Record

Sir: Having just returned from a trip to England, and thinking the readers of the Medical Record, like myself, would be interested to learn the latest English results concerning the antitoxin method in treatment of diphtheria, is my excuse for sending you these few lines.

Knowing that in London there were several hospitals devoted exclusively to the care and treatment of infectious diseases, I took occasion to visit one of the largest, viz., the London Northwestern Fever Hospital, on purpose to find out for myself, from the physicians in charge, the results of their experience with this so-called cure for diphtheria.

I was very cordially received by the resident physician, and after stating the object of my visit, he kindly consented to furnish me all the information he had at his command, and at the same time invited me to accompany him through the various wards of the institution, which I did. The hospital itself is composed of several detached frame buildings, each of which accommodates from twenty-four to fifty patients, the aggregate capacity of the institution being four hundred beds. These frame buildings are now being rapidly displaced by more capacious modern brick and stone structures, so that the hospital is now undergoing extensive alterations. Each building was neat and clean, and furnished with comfortable beds, which were occupied with patients, for the most part children, suffering from either diphtheria or scarlet fever in their various stages.

"This," said the doctor, "is one of seven hospitals in London devoted exclusively to the treatment of infectious diseases." "How many cases of diphtheria have you here at the present time?" I asked. "About two hundred," he said. "Have you used the antitoxin in your treatment of them?" "Yes, we have been using it here since the first of the year." "What has been the result of your experience with it?" "It has proven an unfortunate failure." "How do your results compare with the other similar institutions?" "We are all agreed, with but one exception, and he is rapidly withdrawing his former premature statements in regard to its efficacy." "Do you confirm your diagnosis by making cultures?" "Yes, in every case." At this juncture a porter informed the doctor that a new case of diphtheria had just arrived. "Come," said he, "and I will show you how we receive patients at this hospital, and how we make our cultures." An opportunity was here afforded which I was very glad to take advantage of. "Do you often have mistakes in diagnosis?" I asked. "Yes," said the doctor, "we often get cases of tonsillitis for diphtheria, and measles for scarlet fever." "In cases of doubt, how do you avoid contamination?" "We have a receiving ward in which doubtful cases are kept isolated while yet under observation, until we are satisfied." "What is your rate of mortality?" "Twenty-seven per cent., which includes all cases; this could be reduced to twenty, if only the acute cases are considered." "Has this been increased or diminished since you have used the antitoxin?" "No," said he, "it has remained the same. Indeed, I believe that the antitoxin is harmful to the patients, because it produces a rash, which again increases the fever and renders the patients much more ill than they usually were before we used the remedy." "Are you still using it?" "Yes, we do not wish to discard it until we have given it a sufficient trial to satisfy the most sanguine mind, but for myself, I am now ready to brand it as a complete failure." "How is it regarded in the States?" he inquired. I replied that it was still in the scales being weighed, and that many had formed the same conclusions as himself, while others thought it was the only cure for diphtheria.

Before taking my leave I was invited to partake of the inevitable cup of tea, which is so common a part of English social life, and thus ended what I considered a very profitable afternoon's outing in London.

J. Punton, M.D.,
Professor of Nervous and Mental Diseases, University Medical College, Kansas City, Mo.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending July 13, 1895.

	Cases.	Deaths.
Tuberculosis	166	112
Typhoid fever	18	3
Scarlet fever	50	4
Cerebro-spinal meningitis	2	5
Measles	210	29
Diphtheria	196	19

Professor Cesare Lombroso was born in 1846, in Venice, of Hebrew parents. After being graduated in medicine he became interested in diseases of the mind, and especially in criminal anthropology, of which science he has been called, though not in strict justice, the founder. He is now Professor of Medical Jurisprudence in the University of Turin.

The Regents of the State University have voted to confer the university degree, M.D., only after one year's post-graduate study subsequent to receiving the degree of bachelor or doctor of medicine from some registered medical school, and only on candidates who have spent not less than four years' total study in accredited medical schools.

The State Medical Library.—Chancellor Upson, of the regents, has appointed Drs. Charles E. Jones, S. B. Ward, and Willis G. Tucker, of Albany, as an advisory medical library council for 1896, to recommend books to be bought and to confer with the director of the library in any matters connected with the new State medical library, which may be submitted to them.

Charing Cross Hospital, in London, is in financial straits. It is proposed to remove the hospital to Camberwell, south of the river, and to sell the valuable site on which it now stands.

The New York State Medical Law.—In a recent issue we published the full text of the codified medical laws of the State of New York as they existed before the session of the last Legislature. In order to emphasize the changes made by this latter body (and these are the *only* changes, notwithstanding misleading items published in some medical journals), we herewith append the amendments. Section 145 has been amended by Chap. 636 of the Laws of 1895, which became a law upon May 13, 1895. The amendment relates to the preliminary education requirement. The second paragraph of this section now reads as follows, the amended portion being in italics:

"The degree of bachelor or doctor of medicine shall not be conferred in this State before the candidate has filed with the institution conferring it the certificate of the regents that three years before the date of the degree he has either graduated from a registered college *or satisfactorily completed a full course in a registered academy or high school; or had a preliminary education considered and accepted by the regents as fully equivalent; or had passed regents' examinations representing for degrees conferred in 1898 one year of academic work, for degrees conferred in 1899 two years of academic work,*

and for degrees conferred in 1900 a full high school course. Students who had matriculated in a New York medical school before June 5, 1890, shall be exempt from this preliminary education requirement, provided the degree be conferred before August 1, 1895. The regents may, in their discretion, accept as the equivalent for any part of the third and fourth requirement evidence of five or more years' reputable practice, provided that such substitution be specified in the license."

Section 153, under which illegal practitioners are proceeded against, has been amended by Chap. 398 of the laws of 1895, and this amendment is of a most comprehensive character. By restoring the provisions of the former act of 1887 which gave the fines to the Medical Societies, it renders the systematic prosecution of offenders again feasible. This section now reads as follows:

"§ 153. *Penalties and their collection.*—Any person who, not being then lawfully authorized to practise medicine within this State and so registered according to law, shall practise medicine within this State without lawful registration or in violation of any provision of this article; and any person who shall buy, sell, or fraudulently obtain any medical diploma, license, record, or registration, or who shall aid or abet such buying, selling, or fraudulently obtaining, or who shall practise medicine under cover of any medical diploma, license, record, or registration illegally obtained, or signed, or issued unlawfully or under fraudulent representations or mistake of fact in a material regard, or who, after conviction of a felony, shall attempt to practise medicine, or shall so practise, and any person who shall append the letters M.D. to his or her name, or shall assume or advertise the title of doctor (or any title which shall show or tend to show that the person assuming or advertising the same is a practitioner of any of the branches of medicine) in such a manner as to convey the impression that he or she is a legal practitioner of medicine, or of any of its branches, without having legally received the medical degree, or without having received a license which constituted at the time an authority to practise medicine under the laws of this State then in force, shall be guilty of a misdemeanor, and on conviction thereof shall be punished by a fine of not more than $250, or imprisonment for six months for the first offence, and on conviction of any subsequent offence, by a fine of not more than $500 or imprisonment for not less than one year, or by both fine and imprisonment. Any person who shall practise medicine under a false or assumed name, or who shall falsely personate another practitioner of a like or different name, shall be guilty of a felony. When any prosecution under this article is made on the complaint of any incorporated medical society of the State, or any county medical society of such county entitled to representation in a State society, the fines when collected shall be paid to the society making the complaint, and any excess of the amount of fines so paid over the expense incurred by the said society in enforcing the medical laws of this State, shall be paid at the end of the year to the county treasurer."

Complete copies of the amended law can be obtained by addressing the Regents' Office, Albany, N. Y., or on application to the Secretary of the State Board of Medical Examiners, 78 West Eighty-second Street, New York City.

The Mutilation-market and the Business of Mendicancy.—Austro-Hungary is acquiring an evil pre-eminence in the manufacture of deformity and *lusus naturæ*. Some eighteen months ago we commented on the discovery made by the Croatian police of a regular mutilation-den, where boys and girls of tender years were distorted or maimed to supply the mendicancy-market—and where, by fracture or by continuous pressure between boards tightened by screws, the legs and arms and spinal columns of these poor little victims were made to assume monstrous shapes—where even the eyes were gouged out and artificial sores created—all to provide the traffickers in street-begging with "objects" wherewith to solicit the alms of the benevolent. (*The Lancet.*) The arrest and punishment of these purveyors of deformity seem, however, to have put no effective stop to the practice, for we read in a Hungarian journal that at Prague a man, Proschaska by name, was taken into custody charged with selling to the firm of Ritter & Munster, of Holstein, a number of children who, by means of specially contrived alimentations, had had their growth arrested for exposure as "Liliputians" in itinerant exhibitions. For every child so stunted and maltreated the sum of 300 florins was paid. We further read that not only were the authors of the "Liliputianizing" system brought to justice, but also the unnatural parents who consented to its being applied to their offspring, and who received money for doing so. This is, of course, quite commendable on the part of the law; but we fear its heaviest punishment will have small deterrent force so long as the public does not co-operate in suppressing the "business of mendicancy." Indiscriminate alms-giving lies at the root of the whole evil. Rather than take the trouble to ascertain where relief can most worthily and effectively be bestowed, the so-called "benevolent" man will lavish his small change on every beggar who crosses his path, thereby creating half-a-dozen similar beggars for every one he subsidizes, and depriving the really well-organized charities of the funds of which they are sorely in need. One of the most large-hearted economists of his generation, Archbishop Whately, congratulated himself at the close of his life that he never gave a penny to a beggar, but that the money withheld from such objects had been profitably bestowed on the institutions, medical and other, where succor was vouchsafed only to the deserving. If the public acted with equal wisdom and stiffened its back against the professional mendicant, while relaxing its purse-strings in support of well-accredited charities, an end would speedily be made of the "business of beggary," with all its concomitants of "mutilation-dens" and "Liliputian farms," and *lusus naturæ* manufactured and supplied to order. We hope the subject will be adequately discussed at the International Congress for the Protection of Infancy, which will meet next July at Bordeaux.

Onychophagia.—M. Bertillon, whose anthropometric system of identifying criminals has made his name so well known in connection with the outward and visible signs of inward abnormality, now tells us that biting the nails—or, to give it its scientific name, "onychophagia"—is a sign of degeneracy. It is an uncleanly habit which, in some people, takes the place of that "whittling" in which some New Englanders find relief for their superfluous energies. Long ago Dr. O. W. Holmes, in his "Autocrat" pointed out that punning might be an early symptom of insanity, and in that opinion we are inclined to agree with him, at least if the vice is habitual and suggestive of irresistible impulse; but it is hard that one should be convicted of degeneracy on the strength of ragged nails. What about other unconscious or semi-unconscious acts? Is a well-known reformer to be called degenerate because he constantly chews tobacco (when he is not drinking tea)? or the great masses of humanity who indulge in chewing-gum? It is dangerous to have a trick of any kind in these days when the disciples of Lombroso are among us "takin' notes," or when rubbing the nose or cracking the fingers may, to the seeing eye, be as fraught with mystic meaning as our Police Commissioners' midnight ventures.

Chloroform in Typhoid.—Dr. Quill, of the British Medical Staff in India, has treated a large number of cases of typhoid fever with chloroform and carbolic acid internally, and claims to have had excellent results.

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PREGNANCY ASSOCIATED WITH DIABETES.[1]

BY EDWARD L. PARTRIDGE, M.D.,

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IN a consideration of the subject of this paper, it will be impossible to do more than present the experience of a few observers of the association of the two conditions of diabetes and pregnancy. But little has been written on the subject, and the opinions of the writers have been reached on comparatively little experience. The presentation of the subject by those who have written has been forcible, however, and there exists, in the minds of those who are acquainted with the subject through this literature, an impression that very great danger attends the association of glucose in the urine and pregnancy. On more than one occasion the question has been anxiously raised as to the course to be pursued when these conditions co-exist, and a brief review of our knowledge on the subject may be proper and interesting, even if devoid of much result of a practical nature. By result of a practical character, I refer to the formulation of rules of guidance in reaching prognosis, and decision as to the proper treatment, especially in regard to the interruption of the pregnancy. That we would welcome conclusions which we could feel to be well-founded, we clearly realize. Have deductions of this nature been reached?

Glucose in the urine of a pregnant woman may appear for a single examination, or be occasionally present and, to a slight degree, constituting a glycosuria within the limit of what may be physiological. We may meet with pregnancy occurring in a woman who has the disease diabetes, or diabetes may develop during pregnancy, continuing thereafter; or, finally, we meet with instances in which diabetes develops during pregnancy, lasting through a considerable part, or the whole of gestation, and disappearing to recur in succeeding pregnancies, the instances of the latter class constituting what might be called, perhaps, "puerperal diabetes."

Glycosuria during gestation has attracted the attention of all who have occasion to make urinary analyses of pregnant women. By glycosuria we understand the amount of glucose to be small, and the condition need never be confounded with diabetes. Inasmuch as urinary examinations do not require frequent repetition during pregnancy, and as the majority of practitioners do not look for glucose, and furthermore, as glycosuria may exhibit itself on occasional days, or in certain parts of the day only, it is probable that this modification of the blood and urine may be much more frequent than it is reported to be. It is in the latter months of pregnancy that it is most commonly observed, and it is then that the more profound disturbances of the economy, through the influence of pregnancy, are present. One theory of the production of glycosuria relates to the activity of the mammary glands at this time, with a disposition to the production of milk-sugar, which by its presence in the blood, or resorption, makes its appearance in the urine.

[1] Read at a meeting of the Practitioners' Society of New York, May 3, 1895.

However this may be, it is true that with the activity of the mammary glands attending the establishment of lactation after childbirth, glycosuria is quite common. By the early investigations of Blot, later by Tarnier, and at the Simpson Memorial Hospital, physiological glycosuria has been shown to be very common. Berberoff notes that of twenty-five women just confined, thirteen exhibited glycosuria. The theory of relation between glycosuria and breast activity has had adherents so devoted, that the proposition has been offered to include, in the critical examination of women for wet-nurses, the investigation of the urine, and to regard the presence of sugar as a favorable indication.

Passing from this part of our subject to a consideration of diabetes as a disease, in its relation to pregnancy, we find in the important paper by Mathews Duncan much of serious import. He classes diabetes with nephritis and scarlatina, and ascribes to it—as we would to the others—especial malignity when associated with pregnancy, parturiency, or the lying-in period. He remarks "that cases of the kind are not sufficiently numerous to justify any statistical argument based on the number of the occurrences."

Fry takes a very grave view of the dangers of the complication, and in his review of Duncan's cases, it appears to me, has with some effort made them fit his theories. He would never permit a woman with diabetes to marry, and questions the propriety of marriage where there is a "strong hereditary predisposition to diabetes." Regarding obstetrical treatment by induction of labor, he says that there may be mild cases of diabetes, when there is reason to think that pregnancy will terminate naturally, in which interference is not justifiable, yet adds that "the difficult point to decide is not as to the advisability of inducing premature labor, but as to when it shall be done."

Barnes believes that induction of labor would be of doubtful value in these cases feeling that by the time indications for its adoption are reached, a perilous situation will have rapidly supervened, and results would not be modified by such a course. We can see that the explanation of the record of so few cases lies in part in the fact that general statistics show women to be less disposed to diabetes in the early, or child-bearing, period of life than men; and furthermore, when attacked between the ages of twenty and twenty-five, they are often subjects of amenorrhœa, or the general health is so deteriorated that marriage and pregnancy are less liable to occur.

Diabetes, in its unfavorable aspect during pregnancy or the lying-in state, presents certain cases of sudden death in coma or collapse. It has been thought also that, following a safe delivery, there is more rapid progress of the disease when it has been known to have existed during pregnancy. Duncan finds one case, however, which shows that diabetes may not return in pregnancy occurring after its cure. A fatal case reported by Fry, in 1891, occurred in the second pregnancy of the patient, diabetes developing at the fifth month. Death of the fœtus at the seventh month was followed by premature labor and the death of the mother on the fifth day. Minot, in 1888, reports a case of a woman of twenty known to have had diabetes for more than six months, who when about four and a half months advanced in pregnancy became suddenly comatose, and died in thirty-six hours. She was of

"nervous temperament; one grandfather died of spinal disease and diabetes. Her father died of tubercle of the spinal cord."

A case seen by me in the practice of Dr. Thomas T. Gaunt has the following history: Aged twenty, first pregnancy. At three months urine was normal. Second examination, at four months, showed one per cent. of glucose. Symptoms which were noted from this time to the end of fifth month—when the case was seen by me—were sore mouth, salivation, vomiting, and indigestion, loss of flesh, and prostration. She had been in bed several weeks, during which she had been on strict diet, notwithstanding which sugar had steadily increased to two and a half per cent. She was passing ninety to one hundred ounces of urine. She continued anæmic, had insomnia, and became extremely nervous, vomiting several times a day. There was present a trace of albumin, but no casts. At six months sugar reached highest point, viz., three per cent., a trace of albumin continuing, and her general condition being not essentially changed. On a somewhat more liberal diet, which her general condition demanded, sugar did not increase, and she improved a little, being up and about. At seventh month she had improved so that she could walk about and go out of doors, sugar decreasing, until at eighth month there was a trace only, urine being normal in amount. She left the city, and about this time had more marked albuminuria, with diminished urea and hyaline and granular casts. The further history, as reported, was continuance of trace of sugar, albuminuria which did not call for induced labor, confinement at term with child which lives, having been nursed by mother. One month after confinement, now two years ago, and thereafter, sugar was not present in the urine. From my investigation of current medical literature, I do not find other cases of diabetes and pregnancy reported. Such histories are likely to appear as notes of isolated cases, and a very full search might disclose more, but my impression is that these would be few in number.

It is probable that fatal cases would be reported most commonly, possessing, as they would, the most striking features. It is easy to believe that many cases, not fatal, might fail to attract attention, for in those reported by Duncan it happened, more than once, that the puzzling and alarming conditions of coma and collapse led to the investigation which disclosed the true state of affairs. When called to the case seen by me in consultation, I advised against induction of labor, feeling that this step, which would have sacrificed a life, was not justified upon any opinion founded on what I regarded as an incomplete literature of the subject, and because it appeared to me that the patient was reduced in health by other influences than diabetes. Her salivation and continued reflex digestive disturbances were sufficient to account for anæmia, loss of flesh, and acceleration of pulse.

While all urinary examinations during pregnancy should include tests for glucose—and but little additional labor attends this—special and repeated examinations should be made on the appearance of an unfavorable general condition of the patient. Highly suggestive symptoms would be thirst, dry mouth, succession of boils, polyuria, and so characteristic are these that, when present, their cause, if diabetes, would rarely escape notice. The class of cases most treacherous would be that in which obscure indications of ill-health were present, as loss of flesh, circulatory and digestive disturbances, respiratory effort, or debility. An easy and too frequent explanation for such deteriorated health during pregnancy, often as satisfactory and convincing to physician as to patient, is in the condition of pregnancy itself, which is generally looked upon as capable of producing every variety of deviation from the health standard. Herein lies a snare to be avoided by careful urinary investigation.

We have in all a collection of 25 cases of pregnancy associated with diabetes, 22 collected by Duncan (these reported by eleven different observers), 1 by Fry, 1 by Minot, and 1 by the writer, which are open to examination. These histories are fragmentary in some instances; therefore, while exact figures cannot be given as deductions, yet the accuracy of certain general statements may be asserted. The total number of twenty-five is about equally made up by the two classes, viz., women already having diabetes who became pregnant, and those acquiring diabetes during pregnancy. Among the cases of diabetes developing in the course of pregnancy, recovery took place in about three-fourths, with, however, an exhibition of a tendency to recurrence in subsequent pregnancy.

In the class in which pregnancy occurred in women already subjects of diabetes, safety through delivery and the lying-in period was apparent in about two-thirds of the cases. In most of this class ultimate history is not known, but for months at least, and in most instances for years, these women lived, and the condition of diabetes is not shown to have been influenced in either way through the intervention of pregnancy and parturition. It should be borne in mind that age has an important bearing upon prognosis in diabetes, and that between twenty-five and forty-five we encounter the greater number of severe cases, and those most prone to grave results. This is also the child-bearing period. All of the twenty-five cases reported occurred between the ages of twenty and thirty-eight, and all but three were in multiparæ. Fatal coma or collapse in diabetes has been observed to follow unusual bodily or mental exertion. Labor, certainly, is a severe tax on the physical system, a great strain to the nervous organization, and we can understand why the fatal complication, from which death may occur, should arise. Yet life presents many other adverse and trying situations beside parturition, and that these, unassociated with child-bearing, give us recognized deaths from collapse in those with diabetes is well known. Is it not pertinent to ask whether deaths associated with pregnancy can be said to arise altogether because of pregnancy? Again, in the event of death a year or more after delivery, can we properly say that a given patient would have lived longer without child-bearing?

Death of the fœtus is noticed in about one-half of the cases. Premature delivery is observed in a large proportion of the reported cases, but it is the presence of the dead fœtus which causes labor before term rather than the direct influence of diabetes. Hydramnios and excessive fœtal development are not rare, and even sugar in the liquor amnii has been noted. This seems to indicate that the products of gestation appropriate part of the water and of the sugar, despite the fact that marked elimination of both on the part of the mother is taking place.

In the instances of diabetes acquired during pregnancy, glucose in a marked degree was discovered "early in pregnancy" in three cases; "before middle of pregnancy" in one; "at four months" in one; "at four and one-half months" in two; "at five months" in two; "at eight months" in two; "at parturition" in one; showing that diabetes as a disease existed before the middle of pregnancy most commonly, and in three cases only the discovery was made after the fifth month. The histories of these three subjects do not show, however, that previous tests for glucose had been made.

In the twenty-five confinements there were six deaths in coma or collapse, closely related to labor as to time. One of these deaths took place in a woman who had diabetes before gestation, while five were in patients who acquired the disease during pregnancy. The fatal result occurred in one case at five and one-half months; in one at six months; in one at six and one-half months; in two at seven months; and in one at nine months.

It is evident that diabetes, as a grave affection, usu-

ally demands consideration before viability of the child, and the importance of tests for glucose in the early months of pregnancy is emphasized.

Coming now to a brief regard of the question of the propriety of artificial interruption of pregnancy when associated with diabetes, in the light of present knowledge we cannot see our way clearly, certainly not to the sacrifice of infant life in every instance coming under our notice. Duncan, a pioneer in the study of the subject, decided that he "could not lay down any special rules of treatment." In instances, comparatively few, when the question of treatment arises after fœtal viability, we may safely say that, by getting the patient into the best possible condition through diet and perhaps drugs, by which symptoms pertaining to the nervous system are quieted, induction of labor should be adopted. The advantage of this procedure (excited consideration of the subject by the patient not having been permitted previously) lies in the shorter time required than when spontaneous labor is allowed, and in the judicious use of chloral or other anodyne in the early part of labor, and chloroform and instrumental aid early in the second stage. It has been noted, however, that such selected cases have been rare—and in but one known instance has induction of labor been resorted to, in which case the patient was in a dying condition at the time of the operation.

Inasmuch as instances of the appearance of diabetes early in pregnancy, before the viable age of the fœtus, are more common than those of late appearance, the question of production of abortion is one which has to be met, and proves to be a complex one. We have no experience with this form of treatment to aid us in settling it, and it would seem that the knowledge of, and experience with, the disease diabetes can contribute to an *à priori* opinion as much as, if not more than, an obstetrical consideration of the subject. The most profitable line of study might be, perhaps, that which will determine what history and existing symptoms of diabetes afford a serious presentment of the disease, one which apart from pregnancy would constitute a grave case, such an one as would demand interference if associated with pregnancy. May it not be true that family history and temperament, particularly the latter, are matters of importance? The nervous organization is that which most keenly feels and is influenced by physical or mental strain such as may attend pregnancy and parturition. Do duration of disease, amount of glucose considering both percentage and quantity of urine, afford indications for interruption of pregnancy? In a case of long history, with attacks of threatened coma, or collapse, the indication would seem most plain. Absence of knee-jerk, and pains and disability of lower extremities indicating neuritis or spinal cord irritation, furunculosis, and emaciation, when other causes than diabetes can be excluded, must each be given defined position in relation to gravity of diabetes.

Unless we have a group of symptoms which betoken a very critical situation, we may help settle our question—while at the same time we benefit our patient—by resorting to dietetic and other treatment, from which we rarely fail to obtain some improvement, before more radical procedure. We have to admit that the least nervous excitement and strain, and less physical disturbance, would attend interruption of pregnancy in the early months.

Thus we seem compelled to the conclusion that each case must be considered by itself, as to its exigencies, as we have no special rules of guidance.

The value of infant life and the right to its sacrifice must be a part of such a question as this, and here we ever meet with much variance of opinion. The social economist, the physician studying this subject in the abstract, the physician in close relation to his patient, and the layman closely related to the patient, has each his own point of view.

EXPERIMENTAL PSYCHOLOGY.

By E. B. TITCHENER, A.M., Ph.D., F.Z.S.,

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In the list of the instructors at any of the principal American universities will be found some name with the title "Professor of Experimental Psychology," or "Director of the Psychological Laboratory." Those are curious titles. Fifty years ago they would have been as unintelligible and impossible as the titles "Professor of Experimental Logic" or "Director of the Theological Laboratory" would be to-day. The nineteenth century has seen the doing of many wonderful things; but surely nothing is quite so strange or wonderful as this—the construction of laboratories in which the material experimented on is the human mind.

For it is mind that the psychologist is busied with. Psychology is the science of mind. Everyone knows what mind means; or, at least, everyone uses the word quite commonly in conversation. People say: "I cannot make up my mind." It is that which they cannot make up that the psychologist experiments upon. Or they say: "I have half a mind to do it." Or again, if they are in doubt about something, and ask a friend for advice, they may be told: "Look into your own mind, and do what it tells you." And we are accustomed to characterize a person as strong-minded or weak-minded, as possessing a logical mind, or a quick mind, or an acute mind, and so on. Mind, in all these senses, is the subject of the psychologist's study.

But that, of course, is mind in the rough. One cannot begin to work upon mind, in that sense, without further preparation. Let me give an illustration. Physics deals with the properties of matter—of the bodies of the world outside us. And the physical laboratory is fitted up in a way that enables the student to experiment upon natural bodies—liquids and solids and gases. But when he enters a physical laboratory he does not find there a collection of natural bodies. He finds a number of special instruments—inclined planes, and pulleys, and wedges, and pumps, and so forth. It is by their aid that he is introduced to the study of natural bodies; and his study would not be scientific if he dispensed with them. So with physiology. In the physiological laboratory he is taught to examine the functions of the various animal organs; the uses of the heart, and the muscles, and the nerves. But when he enters the laboratory, he does not find a flock of sheep waiting to be worked upon. He finds, again, a collection of special, technical instruments; and he works with a single bit of muscle, or a single strand of nerve, by the aid of those instruments. Just the same rules obtain in psychology. When the student comes into the laboratory, he is not set to work upon mind as a whole; but at some particular little bit of mind, some special mental process. That is the technical phrase.

But how does one get to these "bits" of mind? How is this cutting-up, which seems to be a necessary preliminary to scientific work upon mental phenomena, accomplished? Why, that is not so very difficult. One only has to go to language, and ask it for help, and the thing is done. Language is fossil mind. When we talk, we do so in order to give expression to something that is in our mind. Words are symbols, standing for different bits of mind; and we have only to go and quarry among these symbols to dig out any number of separate fragments, which we can then set to work upon in the laboratory. Language distinguishes one set of mental states as emotions. Such are anger, fear, hope. It distinguishes others as feelings: pleasures and pains. It distinguishes others as sensations: such would be blue, hot, sweet, heavy. It distinguishes

others as desires, thoughts, instincts, ideas, and so on. So that mind, with which we started out as a whole, is split up by an appeal to language into a large number of separate mental states or mental processes. To the psychologist, mind is simply the sum total of all those mental states that language has marked off—thoughts, feelings, desires, perceptions, wishes, moods, sentiments, and all the rest. Those states constitute the material of his investigation.

Now, it is a rule of scientific inquiry to begin with the simple, and not go on to deal with the compound till we have learned all that we can learn of that. Begin with the easy, and then later proceed to the difficult. That is done in chemistry; we begin with the elements —oxygen, and hydrogen, and the like. It is done in biology; we start out with the most rudimentary animals—those that consist of only a single cell—and gradually take more difficult forms of life, till we come last of all to the most complex form that there is—man. Psychology must follow the same rule. We must begin with very simple states of mind, and travel by slow degrees from them to the more complex and difficult. And a little reflection shows us that the most simple mental states that we experience are our sensations. The emotion of anger is plainly complex: it contains the idea of the person who has made one angry; the idea of the act of his, at which one is angry; the idea of what his action should have been, of what he ought to have done, if one was not to be angry; it contains a sense of personal injury; there is an uncomfortable feeling in it, a feeling of discomfort and uneasiness: and there is contained in it, also, the wish to be oneself again, to be rid of one's uncomfortableness. We cannot possibly, then, begin to study mind by way of emotion. An idea, again, is a compound state. My idea of a house contains many sensations of color; many perceptions of form and outline; as well as a feeling of approval or disapproval of its beauty or ugliness. But the sensation is something different. We cannot split that up into other states. The sensation of blue: what can be simpler than that? Blueness cannot be resolved into so many ideas and feelings; it is just itself, and we cannot go behind it. So the sensation of sweet. You cannot say that it is composed of any other states; it is not a mixed state of mind, it is an ultimate and irreducible experience. So the sensation of heaviness, of pressure on the skin; or the fragrance of a rose, the sensation of smell; they are last things of mind, states at which inquiry stops short, beyond which analysis cannot go.

It will now not be surprising if I say that, when the student goes to work in a psychological laboratory, the first thing that he is set to study is sensation. He is put through a drill-course in sensation, before he is allowed to take in hand the higher mental states, like emotion or memory or attention. At the same time, there may be some hesitation in accepting the statement that sensation is a matter for the psychologist to investigate. Does not the study of sensation, it may be asked, belong by rights to the physiologist? Do we not find discussions of sensation in every physiological text-book? Cannot psychology accept the results of physiological research, instead of starting fresh on her own account? Those are all fair questions. But I think that I can show by a very simple illustration that there is work for the psychologist here, and that he is not trespassing on the physiologist's domain when he undertakes it.

For us to experience a sensation of any kind, it is necessary that a particular bodily organ be thrown into activity. We can only see, if our eye is in activity: we can only hear, when our ear is active: we can only taste if some sort of impression from outside affects the tongue. Now, these organs of sense are machines or instruments, just like the physical machines and instruments that we have around us to assist us in our ordinary employments. Suppose we compare the ear for instance, to such an instrument, we will say a piano. A piano is a single instrument, but it is made up of a large number of separate parts. There are so many pieces of ivory of a certain shape; so many pieces of wood of a certain shape; so many pieces of wire of certain lengths and thicknesses; so many pieces of felt of certain forms and thicknesses. One way, then, of describing the piano would be to enumerate all these various parts, giving exact details as to blemishes or excellences. It would be a long and wearisome way; but it is a distinctly possible way. But now all these parts of the piano, which we will suppose to have been described, are, in the instrument itself, grouped together, held together in systems, by hinges and levers and screws. One system would consist of the *c*-string, with the felt-headed hammer that strikes it, the lever connecting the hammer with the ivory note, this note *c* on the keyboard itself, and the part of the damper that works upon the *c*-string. There are some eighty-five of these systems in the instrument. Plainly, another way of describing the piano would be to give an account of one of these systems; to say that it consists of a number of pieces put together for a particular purpose, and to state what this purpose is. Instead of giving details as to the defects or excellences of the various bits of wood or metal or ivory, the describer would state the defects of the system, or its advantages, with reference to the work which it had to do. He would say that the systems in the bass did not work, because the wires were badly strung; that particular notes could not be sounded, because the hinges were jammed, and so on. This description would be different altogether from the first one, but it would be a good description from a certain point of view. And now, lastly, a third description might be given in terms of the tones which can be got from the piano. One might say that it was mellow in tone, or that its tone was metallic; one might say that the bass chords were richer than the treble; or, going into details, one might calculate out how many tonal combinations it was capable of producing, or ask how its tone differs from the tone of the organ or the trumpet, which are also musical instruments. Apply all that to the ear. The same three stand-points are possible. The man who enumerates and describes all the separate parts of the ear is the anatomist. The man who describes the ear in regard to its purpose or function is the physiologist. He will tell us what all the anatomical portions of the ear are for, and whether they are well or ill adapted to their purpose; he will tell us how the ear works, when a vibration of the air outside of it throws it into activity. The man who pays attention to the sensations of hearing, who asks how many different tones the ear can appreciate, how all these various tonal sensations combine in the mind when they are given together, what it is that marks off in the mind the note of a trumpet from the note of a clarionette, how it is that some tonal sensations and combinations of them are pleasant, and some unpleasant—that man is the psychologist. The anatomist finds that there are enough pieces in the ear to allow of the construction of systems for 11,000 tones. The physiologist finds that there are 11,000 working systems for tones, if the ear is normal. The psychologist finds that we can have 11,000 distinct sensations of hearing. But music uses less than 100 of those 11,000. There is a further problem for the psychologist. Why is it that music does not employ more tones? Why, of all the possible tones, does she employ just these that are given by the various musical instruments, and not another set of tones altogether? These questions can only be answered by an examination of the mutual relations existing between tonal sensations in the mind. In a word, after the spheres of anatomy and physiology have been travelled through and left behind, there is another domain before us, demanding exploration, the territory of psychology.

That, I hope, is a satisfactory answer to the objection that I imagined to be made just now, the objection that the study of sensation belongs to physiology, and not to psychology. It is plain that the student can be put through the drill-course that I mentioned in a psychological laboratory, and be kept strictly within the bounds of psychological investigation. And now, enough having been said by way of introduction, I can go on to tell something of what a psychological laboratory actually looks like, and of the problems that are worked at there.

If I were showing a visitor my own laboratory I should take him first of all into the acoustic-room. In that room he would find all manner of sound-, or rather tone-, producing instruments. He would find organ-pipes; tiny whistles, carefully constructed to tell how many vibrations in the second the air-wave that strikes the ear is making; he would find a piano; strings, and bows to sound them with; he would find chests containing metal tongues of different lengths, which can be set vibrating by a draught of air; blocks of wood which give different notes when one strikes them; steel rods which give deep bass tones when one sets them swinging; and above all he would find tuning-forks: tuning-forks on resonance boxes, that boom all through the room when they are struck, and little hand tuning-forks, that will give the full chromatic scale, but are so faint that they must be held close up to the ear to get the tone; tuning-forks whose tones are thousands of vibrations in the second apart from one another, and series of forks whose tones differ from each other only by a fraction of a vibration; tuning-forks that are as tall as he is himself, and tuning-forks whose prongs are so short that they are hardly anything more than little knobs of metal side by side at the top of the handle. All these instruments we employ to answer the questions which I spoke of a moment ago: the range of hearing sensations (anything between the rates of 16 and of 50,000 vibrations in the second can be heard); the capacity of the ear to discriminate between very similar tones; the manner in which simultaneous tones blend and combine in the mind to form single ideas; the laws of the musical scale; the mental process by which we hear an organ tone as different from the tone of a flute, and so on. All that would form a part of the student's drill-course in sensation. Then I should take my visitor into the optical-room. There is a quite similar collection of instruments. We have instruments for determining of how many sensations of light and color the eye is capable; there are about 40,000 of them. Others show how visual sensations are modified by the presence of other sensations in the mind; these are the phenomena of color-harmony and color-contrast. Others show how the form and size of visual sensations are affected by the various possible eye-movements. Others again measure the eye's power of discriminating between sizes and forms that are very nearly alike. Others demonstrate how long the sensation lasts, and what its nature is, after the physical stimulus has ceased to work. Yet others show us how the sensations from the two eyes blend together harmoniously to give us a single perception, and so on. All these instruments and their uses have to be learned by the student of psychology. Then in another room we have apparatus for the investigation of the other senses. Thus for the sense of touch there is an instrument that carries a point over the skin at a constant rapidity, and in a constant direction. The point is moved up-hill and down-dale, over the surface of the skin, at a perfectly even rate; and the place that you have worked over to-day you can work over again to-morrow, without deviating by a hair's breadth from the old path. Then there are other instruments for giving simultaneous impressions of equal heaviness, on the skin. By their aid one can discover how good the skin is at estimating distances in space. You put down two points, an inch apart, with equal pressure: and after a moment's interval two different points, which are one and an eighth inch apart, and you ask whether the skin feels that one of the distances is longer than the other, or if it is incapable of discrimination of such a small difference. Then again there are delicately graduated series of weights, by the help of which we can tell how fine the discrimination of our muscles and tendons is, they being the organs involved, of course, when weights are lifted. And there are plenty of others. Lastly, we have apparatus for the examination of smell and taste and the temperature sense, although these are not by any means so elaborate or so perfect as those that I have mentioned hitherto. All of them must be mastered and tested by the student.

The first thing, then, that the beginner in experimental psychology has to do, is to get a thorough knowledge of the sensations, and of the laws which govern their appearance, and the mode of their combination in mind. There is another branch of training which is not quite so elementary, but equally important. That is, training in what are called reaction-experiments. I must say a few words about them.

The typical reaction-experiment is very simple. The experimentee sits, we will say, in a dark room. Suddenly, a light flashes out from the darkness. As soon as the observer has seen the light, he makes some movement; the movement is his response to the light, and has been agreed upon beforehand between himself and the experimenter. That is all—the execution of a definite movement, in answer to a definite sense-impression. But the way in which the experiment is controlled makes it valuable.

The instruments are always so arranged that the time elapsing between the giving of the impression and the performance of the movement in response to it can be measured. At the moment that the impression is given an electric clock is set going; and at the moment that the movement is made the clock is stopped. The apparatus that gives the flash closes an electric circuit; the movement that answers to it breaks the connection of an electric key. The clock goes just for the few hundredths of a second between closing and breaking. Thousands—tens of thousands—of these time-records have been taken, and we now know within a few thousandths of a second exactly how long it ought to take a man to execute a movement in answer to a flash of light, a sharp snapping sound, or the prick of an electric current sent into his skin.

The time values are important in themselves to one who knows how to interpret them. But for the beginner in psychological work they are of more importance in another direction, both in themselves and for what they tell his instructor about him. For instance, if a man's reaction-time is too slow, and remains too slow in spite of practice, it is of no use to go any further with him in experiments upon the will or the attention; and so if the times are consistently too short, or if they are persistently irregular. Again, the instructor knows that the length of the reaction-time will differ, according as the subject directs his attention principally to the sense-impression or to the movement he is to carry out in response to it. He will therefore say: "In this set of experiments, attend as closely as you can to the flash, and never mind the movement." And at another time: "Attend to the movement, and do not trouble so much about the flash." If the experimentee is a person accustomed to control and examine his mind, if he is the stuff that psychologists are made of, he will be able to direct his attention as he is told; and the instructor can read off from the electric clock that the attention is going in this direction in this experiment, and in that direction in that. In this way he can sift out the attentive students from the scatter-brained, almost at a glance; and that is no small advantage. On the other side, the student is benefited by reaction-experiments in a way in which he cannot be by experiments on sensation—he has to learn to control his mind very accurately, to

keep a tight rein over his attention, to concentrate himself and not follow up a distraction, to watch closely that he fulfil exactly the conditions of the experiment. No small advantage this to the student. For the reaction is the type of all action. In every-day life one has an idea and acts on it. In the laboratory one has a simple sensation and acts in a definite way upon that. The one case is exact, the other inexact; that is all the difference. To act resolutely, unhesitatingly, without flurry or precipitation, that is what is learnt from reaction-experiments. And that is the second part of psychological drill-work.

It is obvious, now, what the contents of another room in the laboratory will be. There will be instruments which give a sense-impression, at the same time that they close an electric circuit. We have a large pendulum which sends a flash of light in this way; a set of electric hammers for giving sharp, short taps of sound; and instruments for sending a momentary electric current into the skin. Then we have all kinds of apparatus to regulate the movement made in answer to the impression; the reactor may answer by just lifting his finger off an ordinary telegraph key, or by opening out his thumb and finger, or by opening his lips, or by speaking a word into a funnel. And, thirdly, there are the electric clocks themselves, with instruments to test their accuracy, and other instruments to test the accuracy of those testing instruments. All this has to be understood theoretically, and handled practically, by the student who comes to work in the laboratory.

Those are the two sides of elementary laboratory work. The sensation-drill teaches the beginner what it is necessary for him to know about the elementary processes of the mind, the very simplest bits of mind that we can reach; and at the same time gives him practice in handling instruments of precision. The reaction-drill teaches him to get control of his mind, to make it do just what he wants it to do at the moment; it makes him steady and patient and reliable. When the student has got as far as this, he may be allowed to begin experimental psychology.

For so far we have hardly crossed the threshold into the science proper. One would hardly say that the student who had worked through an elementary arithmetic had "begun mathematics;" you do not really begin mathematics till you get to somewhere about the calculus. And it is the same here. The student of whom we have been talking has now obtained a base of operations, from which to attack experimental psychology; but nothing more. We will suppose that he wishes to continue. What will he have to do?

Well! in general terms it is easy to answer that question. His work will be the experimental examination of the more complex mental states. He may take up any kind of problem that he likes: his material may be ideas, and their laws; or feelings, and theirs; or memory; or imagination; or attention; or what not. What department of inquiry he chooses will depend upon his particular tastes, and on what has interested him in the course of his reading and drill-work. There are a certain number of classical experiments upon these higher mental processes which it is the instructor's duty to see that he repeats and understands; but, apart from them, he will be allowed to choose for himself what side of mind he devotes himself to especially. It may be thought that it is a little early for this freedom of choice, the drill-course being only just concluded. But this must be remembered: If our particular student is to get others to serve as his experimental subjects he must pay them back in kind, by letting them experiment on him. And as he will himself require some half-dozen assistants in his own work, he will devote half-a-dozen hours a week of his own time to other investigations. So that there is no fear of his becoming prematurely one-sided.

What are these special problems like? We will take he subjects that I named just now. First of all, ideas. One may work experimentally upon the problems of the association of ideas, as it is called. If I were to write up the word "pin" before a class upon a blackboard, and to ask my audience to read that word, and then to write down the first word that came up in their minds after they had read it, three-fourths of the women would write down "cushion," and three-fourths of the men "needle." Those words are very frequently connected or "associated" in their minds. Now, there are several laws or rules of this association of ideas, and they can only be got at by experiment. Secondly, I mentioned feelings. It is a matter of ordinary experience that we find certain impressions pleasant, and certain others unpleasant. We can make that fact the material of experiment. We can take a long series of colors, for instance, and expose them one by one, asking the experimentee to select those which are pleasant and those which are unpleasant. Or we can take a series of forms—rectangles, or ovals, or crosses—and expose them to the observer, and let him choose out the proportions that he finds most pleasing in them. In this way we shall discover whether there is one universal law—whether all of us like the same forms and colors, and dislike the same, or whether there are differences between one individual and another. That is what is called the serial method of experimenting upon the feelings. Another method, which is only just now beginning to be developed, is termed the expressive method. You present objects to the observer, or you place him in certain conditions, and you register the phenomena of expression, which indicate whether he is pleased or displeased with things. Thirdly, I spoke of memory. We can make a person learn by heart a series of words, or of meaningless syllables, and call upon him to repeat them at some future time. The memorizing must be done by a definite number of repetitions; and the time of recall must be definitely fixed. Then we can tell what the laws of memory and forgetfulness are; what kind of words we remember best, and what kind worst; and by varying our experiments, we can find out why these laws hold. As regards imagination. We can place the observer in a dark room, and tell him that at a particular place upon the black surface before him he will presently see a faint light. We ask him to state when he sees the light, and to describe its form and color. Many a student, sitting in this way in the dark chamber, has seen lights which did not exist outside of his own imagination. And these phenomena, curious as they are, have their laws, like all the rest. Then, lastly, as to attention. We can inquire how many ideas the mind can attend to at one time; or how long it can attend without relaxation to a single idea; or what is the difference between the idea to which we attend, and the idea to which we are inattentive; and what happens to an idea when we distract the attention from it; and so forth.

All these problems require special apparatus; and all this apparatus will be found in a well-equipped psychological laboratory. We have particular instruments to study memory, under all its aspects; and particular instruments to study the attention. As for imagination: not only have we at Cornell an ordinary dark chamber, like the dark chambers that the photographers use, but within that we have built another smaller chamber, the darkness of which is such as may be felt. Until one has been in a chamber like it, one does not know what real darkness is; and when one does go in, one does not wonder that the unfortunate observer placed there should see in his mind's eye very strange things indeed.

That is the kind of work that the experimental psychologist is engaged upon. But as the concrete is always more interesting than the general, I will end by saying a word or two about the three principal pieces of work that we have done or are doing at Cornell. The first is this: We all know that the skin appreciates space; and we know that the eye appreciates space

Now, the two organs do not agree. Think how large the cavity of a hollow tooth feels to the tongue, and how small it looks. Think how large a blemish on the face feels to the finger, and how small it looks. There is a problem. In cases where both organs are involved in a space-judgment, how are the two verdicts of size reconciled? We hope that we have solved that problem; at least, in part. The second is this: When we are reading the page of a book, we overlook misprints. If a letter is wrong, we still read it as right. Within what limits is this right reading of a wrong group of letters possible? Do we pay most attention to the shape of a word, neglecting the letters? Or do we look most at the first syllable, and overlook the rest? That is another problem at which we are working; and we have good hope of settling the questions involved. And the third is this: If we are doing anything under difficulties, if we are forcing our minds upon it in face of distractions, we oftentimes do it better than we should had we been altogether comfortable and undisturbed during its performance. At the same time, if the distraction becomes powerful enough, we do the thing worse than we should have done, had we been undisturbed. Where are we to draw the line? What is the limit of favorable distraction? There again we are working, and working in good hope of an answer.

I hope now that I have made clear in what sense it is possible to experiment upon mind. Strange as the statement seemed when we first made it, it turns out to be perfectly rational and intelligible. The wonder is, as the wonder always is when a discovery is made, that this discovery of the applicability of the experimental method to the problems of psychology was not made till the middle of the present century. However, the psychologists try to make up for the youth of their science by the enthusiasm with which they pursue their investigations. And that students find the subject interesting is vouched for by the fact that, within the last few years all the universities of note have found it necessary to establish "professorships of experimental psychology" and "psychological laboratories."

MEDICAL TERMINOLOGY—ITS ETYMOLOGY AND ERRORS.[1]

By P. J. McCOURT, M.D.,

NEW YORK.

MR. PRESIDENT AND FELLOWS OF THE ACADEMY: Of late, much has been said before this Academy, and much has been written in our journals, advocating the adoption of a common international language for the interchange of professional thought. However desirable such an acquisition may be, the difficulties in the way are so great that we cannot hope for its attainment during the present or even the coming generation. English will be long debarred as a common professional language, by reason of international jealousy. Greek, then, which is the basis of our nomenclature, and also the mother of modern tongues, remains the only valid language for such purpose. But an available knowledge of Greek will demand at least two years' persistent study; and there are many useful men in the profession, as well as many others about to enter it, who could never attain that knowledge. When, however, the effort has been made with apparent success, the student who was taught "Greek" in the universities of English-speaking countries will find, upon visiting Greece, or on coming in contact with scholars from other countries who have learned the language correctly, that he can neither understand nor be understood—that he will not know the pronunciation of one word in twenty. In view of these and other obstacles, it seems a waste of time, for the present at least, to discuss a project so purely Utopian.

It should not be inferred from these premises that a knowledge of such Greek as we can learn in our own country is valueless. On the contrary, it is not only valuable but indispensable. Our terminology is derived primarily from the Greek and secondarily from the Latin. Whatever be the inconvenience of this burden, the rule has been firmly established, and we cannot now alter it. It follows that at least a slight knowledge of these languages is necessary to a comprehension of the words we use. The intelligence and dignity of the profession render this demand imperative. When a new word is required to express a new principle or to modify an old one, we take two or more Greek words from which to construct it. The word thus formed will not give a clear perception of its meaning, save its etymology be figured clearly and picturesquely in the mind of him who employs it. Ruskin long ago entered a sound and eloquent plea for picturesque reading. But many of our terms which have gained a firm hold were formed in this manner by men who were lamentably ignorant of the Greek and Latin languages; and as a consequence the Latinized Greek is often grossly perverted and corrupted. The ancient Greeks, who had not the light of modern anatomy, physiology, and pathology to guide them, gave erroneous names to many parts, functions, and diseases; and these errors have been perpetuated with but slight attempt at correction on the part of the moderns. The same people, especially the Athenians, availed themselves fully of the elastic powers of the beautiful Greek to bestow ludicrous and fanciful names upon persons and things around them; and our language of to-day is affected by the abuse of this privilege. Misnomers must have been coeval with the dawn of our science, if not antecedent to it, since the appellation of "horse-driver" was applied to one of the most gifted of ancient philosophers—a descendant of Æsculapius, the son of Heraclides, the student of Herodicus, and the "Father of Medicine"—Hippocrates, from *hippos*, a horse, and *chrateo*, to govern.

Other difficulties, also, arise in the way of attaining perfection in our terminology. Aside from our yet imperfect knowledge of morbid anatomy, from the difficulty of translating idioms and of finding two or three words in which to describe the characteristic features of a disease, language itself is imperfect and often fails. Even the verb "to be," by which we declare our existence, is an imperfect verb in nearly every language having a grammatical construction. I have compared that verb in twenty-six languages, and in all of these the verb was found to be imperfect.

If, therefore, it be impracticable at this time to adopt a universal medical language, it is both practicable and highly essential to correct and improve that which we now use; and in doing this we must, in order to be understood, follow, to some extent, the erroneous pronunciation taught us. The ignoble defects of our terminology must be manifest to all who have given the subject any consideration whatsoever. Men of no other calling use such irrational and equivocative words when treating of their subjects. It is humiliating to reflect that the cowboys on the plains employ a more intelligent vocabulary for their vocation than we do for ours—one in which men are expected to clothe the highest order of human thought.

The name of a disease must be defective if it does not clearly indicate the pathological change, or the part affected, or both; or, failing these, the characteristic effects of the morbid process—and a vast majority of those in use fail to do any of these. Nor does the evil end here; for a large number of terms delude the student by indicating conditions which do not exist, even in a remote degree. While not a purist in words, or in anything else, I wish to recall to your memory a few among the more conspicuous misnomers in almost

[1] Read before the New York Academy of Medicine, June 6, 1895.

constant use, and to show, by analysis of these, the urgent necessity of reconstructing our terminology.

Acetabulum, Latin *acetum*, vinegar, the vinegar-cup of the ancients, is a silly misnomer for the cotyloid cavity, from *kotyle*,[1] a small cup, and *eidos*, a form or resemblance.

Ague may be from the French, meaning sharp, but far more likely arises from the Gothic root *agis*, to tremble.

Allopathy, allopathist, from *allos*, other, and *pathos*, affection or disease, are terms attached, in derision, to the rational practice and practitioners of the regular profession, to signify that we cannot cure a disease without establishing another disease in its place—which we all know to be an untruth. We should never hear the terms applied without at least correction.

Alopecia, from *alopex*, a fox, instead of calvities, Latin *calvus*, bald.

Anasarca, from *ana*, through, and *sarx*, the flesh; ascites, *askites*, from *askos*, a leather sack; œdema, from *oidema*, a swelling, are all equally childish.

Angina, cynanche, from *kyon*, a dog, and *ancho*, to strangle, is shown by Pliny ("Nat. Historia," viii., 51) to have been applied to sore throat in both dogs and swine. Galen applied the term to laryngitis, while Euripides and Heraclides (Meineke's "Com. Fragmanta") before him had described the disease as *tod anchones pelas:* "'tis nigh as bad as hanging." These generic terms are now happily being superseded by others of more definite meaning.

Aphtha, from *apto*, to kindle, to set on fire—not to inflame, as rendered by Dunglison in his Medical Dictionary.

Apoplexy, *apoplesso*, from *apo*, away, from, or by means of, and *plesso*, to strike, does not tell of hemorrhage on the brain or elsewhere.

Artery, from *aer*, air or spirit, and *tereo*, to preserve or keep, defines a vessel in which air is the last thing contained.

Asphyxia, from *a*, privative or negative, and *sphyxis*, the pulse, describes syncope, but not strangulation, suffocation, or suspended respiration, the proper term for which is apnœa, from *a*, privative, and *pneo*, to breathe.

Atheroma, from *athera*, groats or meal, also gruel, and

Atresia, from *a*, privative—and *treo*, to bore, unbored—both give false ideas of the pathological conditions they are meant to define.

Autopsy, from *auto*, one's self, and *opsis*, the act of seeing, does not necessarily imply, as many suppose it does, self-dissection. Autopsy may, without much strain, signify "seeing or examining for one's self;" but examination of the cadaver is properly expressed by the term necropsy, from *nekros*, a corpse, and *opsis*, from the future, *opsomai*, of the verb *orao*, to behold—not from *optomai*, as given in all our medical dictionaries.

The caprice of naming a disease after the author who has first or early described it is either egotistical or idiotic—egotistical when applied or sanctioned by the author, and idiotic when adopted by others. Such names give no hint of the lesion implied, and can serve only to confuse our students. As results of this folly we have Addison's disease, Bright's disease, Graves's disease, Hodgkin's disease, Ménière's disease, Scrivener's palsy, etc.

Beriberi has been deemed a term of obscure etymology, and is usually rendered from the Singhalese, to imply weakness, intensified by repetition. The verb *beri* (Aryan root *ber*) is pure Hindustani, the Braj Bhasha dialect of the Hindi, which in turn is one of the seven branches of the Aryan tongue still spoken in India. *Beri* means, in both the ancient and modern language of the Hindus, to be fettered or shackled.

Bougie, French, is no longer a "wax candle."

Bronchocele, from *bronchos*, the windpipe, and *kele*, a protrusion or tumor. Goitre, possibly from the Swiss *gutter*, probably from the Latin *guttur*, both meaning throat and equally incorrect.

Bubo comes from *bubon*, the groin, and yet is applied to certain swellings in the axillary and parotid regions.

Cachexia, from *kakos*, bad or evil, and *hexis*, a habit; diathesis, from *diatithemi*, to arrange or dispose; dyscrasia, from *dys*, bad, and *krasis*, a tempering, or temperament: are not all these misleading, incorrect, and vague?

"Cæsarean section" has served to perpetuate an historic fable, since Julius Cæsar was not cut out through the abdominal parietes. The myth had its origin in mistaken etymology: to infants thus born Pliny and others before him applied the term *cæsones*, Latin, from *cæsum*, to cut.

Catalepsy, from *kata*, intensive, and *lambano*, to seize, or to pounce upon, gives not the slightest clew to this condition.

Cataract, from *kataraktes*, to rush down (like a waterfall), might oftener be applied to fluxes than to an abnormal lens condition.

Chemists, it has been complained, are constantly changing their language; but that language is now more accurate than that of any other branch of medicine. It still retains a number of absurdities, however, which ought to be eliminated. Alcohol, Arabic, from *al*, definite article the, and *kahal*, a fine, subtle powder. Alkali, Arabic, from *al*, the, and *kali*, ash (of plants rich in soda); but kali is applied to potassium. From this source we also derive the Arabic-Greek hybrid, alkaloid: literally, "like an alkali," which the alkaloids are not. Cobalt, German, *kobold*, a gnome or demon. Carbolic acid would be better described as an alcohol. Oxygen is not the "acid-generator" which its name implies; many acids contain no oxygen, while all contain hydrogen. Ozone, from *ozo*, a stench. Sulphuric ether—properly ethylic ether, $C_4H_{10}O$—contains no sulphur, etc.

Chlorosis, from *chloros* (the Greek name of the element chlorine), green, is no less senseless than anæmia, from *a*, privative, and *haima*, blood, bloodless.

Cirrhosis, from *kirrhos*, reddish-yellow.

Consumption, marasmus, phthisis, and tabes each mean to waste away, or to consume.

Dengue, Spanish, a short veil.

Diabetes, from *dia*, through, and *baino*, to go.

Diphtheria, from *diphthera*, skin, leather, or membrane: at best, a "disease of the membranes" (formed like the term pneumonia).

Dysentery, from *dys*, difficulty, and *enteron*, a bowel, instead of colitis, from *kolon*, the colon, and suffix *itis*, denoting inflammation of the part designated by the primative.

Embolism, from *em*, in, and *ballo*, to throw; something or anything thrown in.

Epilepsy, from *epilambano*, to seize upon, is quite as silly as *petit mal* and *grand mal* of the French.

Epistaxis, from *epistazo*, to distil up.

Erysipelas, from *erythros*, red, and *pela*, skin. This important term is not derived in part from *erusos*, as Dunglison renders it, since there is no such word in the Greek language, ancient or modern.

In that class of diseases which we may, with some freedom, term eruptive, there is among their names scarce one that has reason in its etymology or suggestiveness in its root. Acne may be a corruption of *akmai*, pimples on the face at puberty; or, better, menstrual dermatosis of the face; but Dunglison follows Cassius in ascribing it to *akme*, vigor—a very unfortunate condition, it must be inferred. Cancer, Latin *cancer*, a crab. Carcinoma, *karkinos*, a crab. Scirrhus, *skirrhos*, hard. Ecthyma, *ekthyo*, to break out. Ec-

[1] Following the course adopted when touching upon this subject in 1880, I have placed the Greek words, like those of other languages quoted, in italics. The terminal *o* in the Greek words given is usually long (*ōmega*).

zema, *ekzeo*, to boil out. Exanthema, *exantheo*, to blossom out. Herpes, *herpo*, to creep. Impetigo, Latin *impeto*, to invade or attack. Lepra, *lepros*, a scaly skin. Lichen, *leichen*, moss. Psoriasis, *psora*, the itch, but applied to scaly tetter—in Europe, to the lepra of the Greeks. Rupia, *rhypos*, dirt, filth. Scabies, Latin, *scabo*, to scratch. Sycosis, *sykoomai*, to become like figs. Variola, Latin *varius*, spotted, etc. What are all these to a careful reader but misleading hints to the diseases they are meant to depict?

Gangrene, from *graino*, to gnaw. Necrosis, from *nekroo*, to deaden, to kill, is fairly accurate; and there is nothing in the latter term to restrict its application to bone tissue.

Gonorrhœa, from *gone*, semen, and *rheo*, to flow, is one of the most palpable misnomers we still tolerate. A better term would be blennorrhagia, from *blenna*, mucus or slime, and *rhegnumi*, to burst forth; or, more strictly accurate, blennorrhœa, from *blenna* and *rheo*. Baptorrhœa, from *baptos*, infected, and *rheo*, would be also admissible.

Gout, Latin, from *gutta*, a drop; podagra, from *podos*, a foot, and *agra*, a seizure, are terms whose derivations are laughable, quaint, and wrong.

Gynecology, from *gyne*, *gynaikos*, a woman, and *logos*, the doctrine of. You will remember that in the Greek and Latin languages *o* is masculine and *a* is feminine. Here we have a term purely masculine to designate a condition purely feminine. The correct term should be gynecalogy. Much akin to this paradox, but still more egregious, is the term "Mariolatry," coined by a bigot of divinity to imply worship of the Virgin—which no church teaches.

Hernia, from *ernos*, *hernos*, a branch or offshoot, is certainly misleading.

Hydrophobia, from *hydor*, water, and *phobos*, dread or fear, so named from one of its occasional symptoms, instead of the condition, which is that of rabies, Latin *rabio*, to be mad or to rage. But the correct term is lyssa, from *lyssa*, rage, madness; also the worm under the tongue of dogs, believed to produce madness (Pliny, xxix, 32).

Hypnotism, from *hypnos*, sleep.

Hypochondriasis, from *hypo*, under, and *chondros*, a cartilage, gives, vaguely, a locality where is an organ which may be, at times, the cause of the condition announced in the misnomer.

Hysteria, from *hystera*, the womb, should have immediately been discarded for a more rational term when well-marked cases were first observed in the male. Yet, in view of this familiar fact, Dr. Barnes has proposed a name nearly as vague as the old one—"oöphoria," from *oon*, ovum, and *phero*, to bear—based upon the hypothesis that the ovaries and not the uterus are the seat of this neurosis.

Hybrid terms, each formed from two languages, were justly denounced by the ancient Greeks as *hybris*, lawless, violence, wantonness. This mode of word-building, at once constructive and destructive, is a vice which even ignorance cannot excuse. As examples of these hybrid terms we have albuminuria, from Latin *albus*, white, and Greek *ouron*, urine. Fibroid, from Latin *fibra*, fibre, and Greek *eidos*, appearance or resemblance. Terminology, from Latin *terminus*, a term, and Greek, *logos*, a discourse or treatise. Tuberculosis, from Latin *tuberculum*, tubercle, and Greek *osis*, denoting formative process, etc. We might with as equal propriety say throatitis as vaginitis.

Idiocy, from *idiotai*, private citizens, not office-holders.

Influenza, Italian, influence (of the stars).

Laparotomy, from *lapara*, the loins, and *tome*, a cutting or incision; properly, incision for nephrectomy, and not abdominal section, the correct term for which is cœliotomy, from *koilia*, the abdomen, and *tome*.

Laryngismus, from *laryngizo*, to shout loud or often. The secondary meaning of spasm sometimes attached to this suffix cannot redeem the error.

Lithotomy, from *lithos*, a stone, and *temno*, to cut. As Campbell naïvely points out, it is the bladder, not the stone, that is cut; and he suggests the correct term, litho-cystotomy.

Lymph, Latin *lympha* (from Greek *lymphe*), clear water.

Malaria, Italian, from *mala*, bad, and *aria*, air, illustrates how a number of diseases have been named from their causes instead of their effects.

Malignant, Latin *malus*, bad or evil, is but little worse than its equivalent, virulent, Latin *virus*, a poison, which, in turn, is derived from Sanskrit *veshas*, a filthy poison.

Mania, from *mainomai*, to rage—akin to *men*, the moon, and equivalent to the Latin *lunaticus*, from *luna*, the moon—are examples of ancient superstitions to which we still cling.

Melancholia, from *melas*, *melanos*, black, and *chole*, bile, is not remarkable for lucidity.

Myopia, from *myo*, to shut, and *ops*, the eye.

Neurasthenia, from *neuron*, a nerve, and *asthenia*, absence of strength—although the nerves would seem to have acquired, or at least transmitted, all the strength and activity of the body.

Nymphomania (see gynecology), from *nymphe*, a maiden, and *mania*, should give place to andromania, from *aner*, a man, and *mania*. *Nymphe* cannot be translated by the word clitoris, as Dunglison has done, and nowhere in history has the noun been so used.

Pancreas, from *pan*, all, and *kreas*, flesh, might have been applied with some excuse to the misnamed prostate (from *pro*, before, and *istemi*, to stand), which contains but little if any adenoid tissue.

Paralysis, from *para*, beside, and *lysis*, from *lyo*, to loosen.

Paresis, from *pariemi*, to relax, or to misdirect.

Phlegmasia dolens, from *phlego*, to burn, or *phlegmazo*, to inflame, and Latin *doleo*, to be in pain; either but poorly describes what ought to be called obstructive phlebitis.

Phrenitis, from *phren*, the mind (properly, the midriff or diaphragm, also the heart, but never denotes the brain), and *itis*. Encephalitis, from *en*, in, *kephale*, the head, and *itis*, has been more generally sanctioned; but meningo-cerebritis is less faulty than either.

To treat of the "physiological" action of drugs upon the body, instead of their pathological, pathogenetic, or toxicological action, is an abuse of language.

Pneumonia, from *pneumon*, the lungs, and terminal *ia*, denoting a morbid condition of the organ named: a "disease of the lungs," should be replaced by pneumonitis, or even pulmonitis.

Polypus, from *polys*, many and *pous*, foot.

Quarantine, Italian, from *quaranta*, forty (days of exclusion).

Ranula, Latin dim. of *rana*, a frog.

Rheumatism, from *rheuma*, a flux, catarrh, or diarrhœa, merely implies an indefinite morbid humor in the body, but gives no intimation of change in muscular, articular, or synovial tissues.

Scorbutus, Teutonic, from *schaar*, torn, and *buuk*, the abdomen.

Scrofula, Latin *scrofa*, a sow with many young; correct only by inference that the disease is common to swine and to those who eat of their flesh.

Surgeon, surgery, from *cheir*, the hand, and *ergon*, work or exploit—although the essence of the "exploit" is brain-work.

Syncope, from *syn*, intensive, and *kopto*, to cut, to cut short.

Syphilis; "etymology unknown" or "uncertain" is the comment of most lexicographers. That given by Blancardus—*syn*, together, and *phileo*, to love—was

for some time accepted by many. But there is little room to doubt that its true derivation is from *sys*, a swine, and *phileo*, as given by the poet-doctor Francastoro in his medical poem, "Syphilidis sive Morbi Gallici," libri tres, Verona, 1530, one of whose characters, a swineherd, contracted the disease. But neither term describes the lesion.

Tetanus, from *teino*, to stretch; so named, doubtless, because the condition is just the opposite, that of muscular contraction. Trismus, from *trizo*, to grate or gnash the teeth, is equally faulty.

Tic douloureux, French, painful twitching.

Nowhere does greater chaos reign than among the names of fevers; but we shall only consider that of typhoid, from *typhos*, stupor, and *eidos*, a form or resemblance; literally, "like typhus," which it is not. Enteric fever, from *enteron*, an intestine, is equally inappropriate. The term suggested by Murchison, pythogenic fever—*pythogens*, from *pytho*, putrid, and *gennao*, to generate, "born of putridity"—while not correct, is the best yet offered.

Zymotic, from *zyme*, leaven, or from *zymosis*, a ferment. Both forms are, like many of the others given, so ambiguous as to call for no criticism.

Let us now compare the foregoing jargon with terms which are technically correct, which clearly describe the lesion implied, and the contrast will be worthy of note.

Endocarditis, from *endon*, within, *kardia*, the heart, and *itis*, denoting inflammation.

Hæmatemesis, from *haima*, blood, and *emeo*, to vomit.

Hydropneumothorax, from *hydor*, water, *pneuma*, air, and *thorax*, the chest.

Retroflexion, Latin, from *retro*, backward, and *flecto*, to bend.

Is it not possible to render the whole, or nearly the whole of our terminology as accurate, beautiful, and explicit as this? It would seem that the time has arrived when such advance can be made, and that the profession is ready to accept it. Scholars and men of science should no longer be forced by ancient rule or modern error to speak in childish prattle, nor to perplex themselves and those who are to follow them by the use of terms which falsify their meaning. The reconstructive process, however, cannot be intrusted to the compilers of medical dictionaries. It is not the lexicographer who makes a language, but the scholars who speak and write it. Hence the reformative effort, to achieve success, must be collective and made in unison, and not merely individual. If this Academy, as the leader of professional thought on this continent, will take the initiative, its action will be readily seconded by medical journals and college professors; and soon our terms will be made to reveal ideas which they now conceal, pervert, or obscure.

From this mongrel tree of philological blunders I have plucked but a few of the withered leaves. I could wish that the office had found one who was also competent to do the pruning. That portion of the work will need for its execution the united efforts of expert pathologists and Greek scholars—and I claim no place among either.

233 West Twenty-third Street.

Russian University Students.—Russia has only 14,619 university students, with a population of 120,000,000, according to the *Russkaya Schkola*, or 120 to a million, while Germany, with 50,000,000 inhabitants, has 25,000 students. Moscow is the largest university, with 3,967 students; St. Petersburg comes next with 2,675. The 1,176 at Warsaw are almost exclusively Poles, and the 1,555 at Dorpat, Germans.

Chloroform vs. Ether.—Professor Gurlt, of Berlin, has found that in 31,803 cases of chloroform narcosis, 23 deaths occurred, and in 15,712 cases of ether narcosis, 5 deaths.

THERAPEUTIC PROGRESS—A SLOWER PACE NECESSARY.

By R. ELLIS, M.D.,

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It is necessary for the medical profession to observe how much medical "hash"—of a poor quality, too—is continually being served to the medical public; hash of so conglomerate and miserable a mixture as to sicken any normal digestive process. The journals in which the hash is served are the best published, edited by the best, and read by the most; yet the pages are full of medical food of so poor a quality as to absolutely prevent any medical growth.

One contributor writes, "Away with ergot," and sums up his conception of its therapeusis by stating it should never be used. Can it be possible, after so many years of ergot use, that we do not all agree as to its therapeutical applications?

Another writer discusses the "eliminative treatment of typhoid fever," while another, after so many have buried and forgotten the "cabinet," writes favorably on "the cabinet treatment after six years of experience."

Why, in the name of Æsculapius, can we not agree as to the therapeutical indications for the cabinet? Why will ninety-nine sell their cabinets for a song, believing them to be of no value, whereas the hundredth, after "six years of experience," speaks highly of it? Can we not advance in a better and more scientific way than this? Can we not agree, all of us, once and forever, as to the therapeutical value of this cabinet, and then go on to another subject, rather than be forced every few years to return to an incompletely explored field abandoned for a new fad? Did the ninety-nine fail to secure benefit through faulty technique? Then let the hundredth man explain his technique to the others until we all agree that in such and such cases such results follow from cabinet treatment—then we are ready for the next step forward.

Another writes of prescribing large quantities of water in typhoid fever, even to six quarts a day. Well, that's an idea! You say you have tried it. On how many cases? If on a goodly number, so that you have the right to take up our time (which you do by presenting the subject to us in the magazine we read), let us take this subject and stick to it until we settle the point, and then let no one ten years from now startle the profession by writing a new article on "Treatment of Typhoid by Giving Six Quarts of Water Daily." Let him begin his investigations from the point where we ended, not take up our time by carrying us over an old abandoned road.

Of recent writers in reference to the treatment of peritonitis, some favor salines, others the Clark method, while still others say "first salines, then opium." Well, now that this important question is open for discussion, let us keep it open until we are ready to shut it, and then let us keep it shut. Can we not do this in ten years, or twenty, or even a hundred years, after observing and recording thousands of cases? Can we not then, after so much study and observation, summarize the treatment so scientifically as to prevent anyone from going back again to the very beginning?

We have used ergot for hundreds of years, and we have been led to believe that we knew how and when to use it; but now we are going back again, and soon many will proudly say, "I never give ergot," then new discussions will arise, and twenty years from now we shall have an ergot era. Can we not once and for all give the therapeutical indications for ergot and then stick to them? If not, then let us agree to this statement, "At present the profession has not yet definitely established the therapeutical indications for ergot," and let the question remain open until we can and do agree.

I notice another writer advises against vaginal examinations in labor, and that several have followed in

his footsteps. Well, that is strange, indeed! Can we not all agree that a vaginal examination *is* necessary, and that palpation is *not* all that is necessary? It would seem so, but here and there one catches the disease and the result is a series of articles against any vaginal examination. If these writers really mean what they say, then let us throw open the question until we can agree, and then let the question remain closed unless someone has something of value to offer—some suggestion proved and of real value.

Again, another writes on determining the sex of a child before birth, and soon a volume is produced explaining how parents may show nature how to produce a male or female child at the pleasure of the parents.

Stuff and nonsense! Have we not lived long enough and developed the science of medicine far enough to know that no one can decide or make sex? Yet how many articles have been written on this subject, everyone of them carrying us back again over the ground thoroughly travelled. What sane man can but believe that the ovaries contain male and female ova, and that no foolish action like a sitz-bath or an excess of maternal passion, etc., can possibly exert any influence on sex? Can we not agree on this question? Well, then let us look into it and settle it once and forever, and then let us not open the subject again because Dr. Curious knows of a case where a woman stood on her head before intercourse, and as a direct result of this all of her thirteen children are boys. Open the question to such an observer, and as sure as fate all over the medical field others will relate their experience, and soon a book will appear—probably a "tome" entitled "The Maternal and Paternal Conduct before a Male or Female Conception." Now a writer, pleased with hypodermatic medication, states candidly: "The time is at hand when direct circulatory therapeutics—the transfusion or injection of accurately dosed assimilable or aseptic remedies—will be deemed alone worthy of the attention of practical physicians, whose aim is to prevent and cure disease without doing injury." Is the time at hand? All but the writer agree it is not; then why did the writer say it was when he himself knew it was not? What right has he to waste our time by presenting to us any such nonsense? Why did the editor of this publication accept any such article when he knew it simply filled space? Better leave blank pages than fill them with medical nonsense.

In the treatment of typhoid fever various writers have recently favored large quantities of water, the dieting plan, the expectant plan, the starvation plan, the bathing plan, etc. Can we not some time, some way, reach definite conclusions in reference to the treatment of typhoid fever, and then stick to them? Why should writers present methods of treatment tried on a few cases, when we all know there are a million things that may be tried? We do not care to read what has been tried in a few cases so much as to read about some one sensible plan tried in many cases.

If the Brand bath treatment shows a mortality of .07 per cent. out of 19,000 cases, is that not enough? Does this large number not furnish sufficient proof to make us all agree to this method. If not, let us keep to this question until we do agree—let us not drop the subject for a few years and then review the whole matter again from the very beginning with fresh details, only to drop it for a new fad and then take it up again.

Can we not agree that starvation treatment, in typhoid fever, is very highly injurious and fatal? No? Then let the writer of this article and others who invest in his stock starve their patients until we can agree, and then let us agree all the time. At present we all agree that no medicine cures typhoid fever, and that therefore we are limited to expectant therapeutics; from this stand-point if we launch out at all, let us follow one path to the end; if 19,000 cases under the Brand bath treatment prove nothing, let us keep on the journey till we have, if necessary, nineteen million cases to prove the value of this treatment. From this vantage-point, if anything new develop, let us follow it out until we reach the end, but pray let us begin with the nineteen million cases and not from the beginning again. Sad it is to see us drift out a few feet on the starvation journey and then return; drift out on the specific treatment by calomel, carbolic acid, and iodine, and then return; drift out at the summons of anyone and again return. Pray let us follow *each path* until we reach the end or are forced to return in confusion; and then let us, as a profession, remember the long journey and profit by our experience. If anyone has an "idea" let it start from the end of a previous journey (if there was one) and not, we pray you again, from the very beginning.

Another writer says in a recent journal: "I can say that a careful trial of forced feeding in certain cases of scarlet fever, diphtheria, typhoid fever, etc., will convince anyone of its very great value." Here is another "idea:" we believe in a simple nourishing diet in all acute diseases, but now we have something new. On what grounds does this writer favor forced feeding? Has he reasonable ground for taking our time as he presents to us his new idea—yes? Then let us stick to this suggestion until we have pressed out all the meat, and then let us keep it fresh before us. We hope the writer will not retrace his steps and then "spring it on us again," but that he will now tell us just what "certain cases" are greatly benefited by forced feeding. Again, in the same journal a writer states that "mycodermic medication by means of hypodermic injections of yeast fungus which continues to live in the tissues and destroys pathogenic bacteria by phagocytosis, are of very great value. Among a large number of tubercular patients ninety per cent. were cured in the earlier stages; sixty-five per cent. of phthisis in the second degree. This result was reached in five thousand cases." Is this statement true? then we who believe there is no specific for phthisis and follow our belief by prescribing only fresh air and good food, are criminally negligent in not using the yeast fungus which cures from ninety to sixty-five per cent. But again I say, is this statement true? We all believe it is terribly false, but we don't know it to be so. If it has been tried in over five thousand cases with such flattering success, I am sure it is our duty to immediately take up this new treatment and stick to it until we know "where we are at."

We must acknowledge that each writer loads his gun with a new idea, hurriedly fires it, and then, without stopping to examine the effects of his first random shot, hastily loads and fires again some new idea. Can we not boast of better soldiers than these—after a medical warfare for centuries? can we not show better marksmen? must we always fire at random and keep on firing without any plan or result?

In the next journal I read that "immunized serum has a true vaccinal action in tuberculosis—in three hundred cases at least a temporary cure was secured." This is the second random shot following the yeast fungus shot. Pray shall we not, after such an effort, give the command "cease firing," and begin to study the effect of these shots, firmly ordering that whoever fires another one shall himself be actually shot?

Another journal advertises "animal extracts" from "cerebrine" to "ovarine"—everywhere these snap shots are being tried, and successfully so, judging by the statements of some writers. One writes that he gave a highly intelligent sterile lady five minims daily of ovarine, and that the menses were "established" in three weeks. He also cheerfully states he will continue the ovarine until the lady is pregnant, making me think of the young son of a friend who, receiving the promise of a watch, replied by letter that he was "extremely delighted with the watch which was to be given to him." Kindly allow me here to fire a shot: I hereby bring to the notice of the profession the following animal extracts—mucine, gelatine, chondrine, elastine, and

keratine. We all know what they can be used for—mucine, for the catarrhal diathesis; gelatine, for bone weakness; chondrine, for cartilaginous irritations; elastine, for that "tired feeling;" and keratine, for loss of hair, thin splitting nails, etc.

Stuff and nonsense! Let us acknowledge that in charging the enemy with animal extracts we have made an over-zealous charge and fired too many random shots. Let us go back again, load up fresh, all of us, with, say, thyroid extract or *some* extract, and then let us keep firing the same gun and the same ammunition until we know again "where we are at."

At the last medical congress in Vienna six methods for treating pyothorax were presented, namely, expectant, aspiration, aspiration and injection, permanent aspiration, simple incision, and resection of one or more ribs; opinions were divided as to the best treatment in the majority of cases—that is what we wish—the question remains open. Many favor free incision, more favor resection—possibly in years to come we may agree, but we are meanwhile studying and heaping up evidence and still clinging to these same forms of treatment, because they are mechanical and "there is nowhere else to go."

In therapeuses it would be well if we were thus mechanically forced to limit ourselves to few measures well tried before taking up new fads; humanity would not suffer if we should do so—it would gain.

Still another writes "that a hypodermic injection of morphia one-fourth grain, one-half hour before giving chloroform, always maintains the heart and respiration." Always? My last journal gives a case of a death under just this condition; therefore the writer will kindly remember one exception to his "always."

In the treatment of gonorrhœa I read of one who recommends nitrate of silver, gr. ij. to gr. lx. to the ounce, applied carefully, care being taken that the bladder is full of urine; another in the next issue of the journal advises injections of from one grain to one-eighth per ounce, and says even very weak solutions are liable to be followed by a violent reaction. This is interesting; the discussion is an open one—let it be so until we can agree.

In diphtheria, we have a new fad—"antitoxin"—let us all notice carefully just how much time and study we are to give this new treatment. We may have a remedy of great value—we hope we have—but let us cling to the new fad until we have squeezed it dry, if there is juice in it. I myself believe we shall be eagerly following a new "idea" in a very few months, possibly weeks.

Recently a monograph, "new and important," in reference to the bacteria of peritonitis, has been published. After a long statement of the different bacteria, the pamphlet sums up by saying: "The number of bacteria found in a single case varied from one to nine; a feature of special interest is the study of thirty representations of the bacillus coli communis with reference to their various cultural peculiarities, number of locomotor organs, and other characteristics; the result shows scarcely any two of them are alike, and we find these thirty representations divided into twenty varieties. Other important and non-pathogenic bacilli were discovered resembling the Klebs-Loeffler bacilli, but another observer states he believes there are as many pseudo-diphtheria bacilli as there are observers."

"No conclusion as to prognosis can be drawn from a bacteriological examination, yet where no bacteria can be demonstrated it would seem that the result is in general more favorable than in those where bacteria are present." In other words, summing up this "new and important" pamphlet from a bacteriological standpoint, in peritonitis we may find bacilli and then again we may not. Such pamphlets should not be published; they accomplish nothing but to weary and disgust their readers; just as if Mr. Stanley in his last book should force us to read a long-drawn-out account of the weight of each stone he passed, the height of every tree, the number of branches to every tree, the exact number of mosquitoes seen, etc. We do not care about such trifling details, we are hungry for facts, and Mr. Stanley gives us facts and leaves out foolish and useless details. Again, in the same journal I read of a report of two cases where, after sodium, calomel, and quinine failed in a treatment of five days, antikamnia and salol were tried, resulting in convalescence in twelve days. From these two cases the author reaches the astonishing conclusion that "salol, as an internal antiseptic, combined with the antipyretic qualities of antikamnia, promise all that can be desired in the treatment of low and continued fevers with bowel complications." All that can be desired! What a statement after an experience with two cases! Just how much does such a statement weigh, and how much does it influence a careful reader? May I not state truthfully that such statements insult careful readers who deny themselves pleasure to gain time to extract meat out of medical journals.

Hello! here's a new treatment for pneumonia! The intra-cellular injection of serum taken from a convalescing pneumonic case. Serum? All right, but let it be serum, until we know "where we are at" with serum. Some praise its use, others assert its influence is absolutely *nil*, among these being a hospital physician, who says, "In the few cases I have seen treated the results were *nil* under serum treatment;" wisely, then, does he advocate "quinine and antikamnia," and criticise the use of large doses of digitalis. These statements of this young interne weigh nothing and accomplish nothing, save to provoke us for the time lost in wading through such useless stuff.

Is it possible that, after years devoted to the study of pneumonia, the profession runs away to the new suggestion "serum"? What right did the serum advocate have to present his newly-born babe to us before it had its clothes on? Why must we be bored and tortured by so many "schemes" and "ideas," when we all know absolutely that we cannot carefully study so many at one time? Why not stick to the old way until someone proves conclusively that he has a new and tested therapeutical measure? While writing these very words, a leading journal which the mail has just brought me introduces me to another new "idea." A physician noting that earth-worms digest mud believes they must possess the property of dissolving urinary deposits; he therefore (without any personal investigation) advises us to select ten or twelve worms which have digested all the mud they can, boil for one-half hour in one-half a pint of water, and give this soup to the patient in one dose. His closing suggestion is, "If this soup is found to be useful, well-known chemists in Europe and America would prepare an extract," for which he proposes the term "Extractum lumbrici terrestris." Horrible and preposterous nonsense! This is not putting the cart before the horse, but attempting to hitch up when there is neither horse nor cart, yet this writer signs himself unblushingly, L.R.C.P.&S.Edin.

Now kindly allow me to present a brilliant idea. Since tape-worms absorb intestinal secretions which are of value in digestion, I propose for intestinal indigestion "Tape-worm soup." If this is found to be of value I would name the extract "Extractum tæniæ solii" and hereby claim whatever credit may arise from this brilliant discovery.

Pray, can we not work in a more scientific way? Should we not do so? Must we not do so if we expect to make any real advance?

We can prepare medicine from every imaginable thing, from everything *conceivable* outside of the body to everything *conceivable* inside of the body, and apply these innumerable remedies for every conceivable disease. We know this to be true, and therefore we should give little credit to anyone for proposing serum in pneumonia; "liver extract" for the diseases of the

liver; "spleen extract" for the spleen; typhoid serum for typhoid fever, etc., to an infinite variety of suggestions.

Anyone can make suggestions, *millions* of them if desirable; but we don't need "suggestions," we sadly need facts; we are nauseated with many "newly hatched, unfledged ideas;" we are starving for tested and proved therapeutical facts.

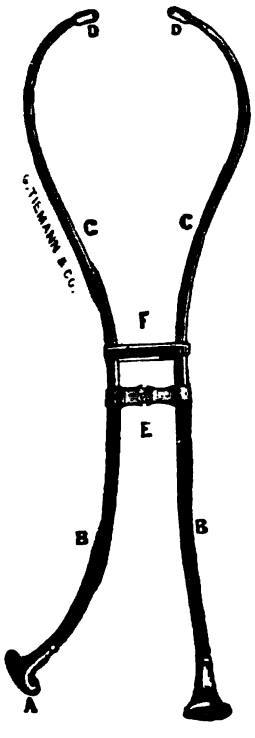
THE USE OF THE DIFFERENTIAL STETHOSCOPE IN THE STUDY OF CARDIAC MURMURS.[1]

BY ANDREW H. SMITH, M.D.,

NEW YORK.

ALTHOUGH usually the auditory impressions made upon the two organs of hearing are blended together and are perceived by the sensorium as one, it is possible, by a little training, to acquire the power of separating them, compelling the sensorium, as it were, to take separate cognizance of the perceptions received through one ear, as distinguished from those received through the other.

To do this, however, the sound waves must reach the drum membranes through different and distinct channels. This is effected by the differential stethoscope, which, in its simplest form, differs from the ordinary binaural instrument simply in having two thoracic extremities instead of one, each connected with its respective ear-piece. This arrangement enables us to hear separately two sounds produced at the same time in two localities more or less distant from each other.



An analogous effect is produced when a piece of cardboard is placed edgewise between the eyes. In this case the visual field for near objects is divided, and though the advantage of binocular vision is lost, it is possible with a little effort to take cognizance of two distinct visual impressions at the same time.

The field in which this stethoscope is useful is a restricted one, but within that field it may render essential service. Its aid as a differential instrument is important in determining the time, rather than the quality, of sounds heard in different cardiac localities. We have no practical difficulty in appreciating even a slight dissimilarity in sounds which are separated by short intervals. We can, therefore, with the ordinary stethoscope change the instrument from one part of the cardiac area to another, and compare satisfactorily the quality of the sounds we hear.

Under normal conditions the difference in character between the first and second sounds of the heart is enough in itself to distinguish them from each other, independently of the element of time. But cases occur not infrequently in which neither the character nor the time of the heart-sounds is available for this distinction. In these cases the quality of one or both of the sounds is masked by the presence of a murmur, or so modified by conditions of vascular tension as to be unrecognizable, while at the same time the intervals embraced in the cardiac cycle, instead of being unequal, have the same duration. This latter condition occurs whenever the heart's action is greatly accelerated, as the increase in frequency is chiefly at the expense of the longer interval. At the same time, with such a rapid action, it is impossible to tell which of the alternate sounds corresponds with the apex beat or the carotid pulse.

Under these conditions it is manifest that, if we find a murmur at the apex, and by shifting the stethoscope we find another at the base, we shall be utterly unable to tell whether the two occur simultaneously or successively. And yet the entire question of how the signs shall be interpreted hinges upon this point. Supposing a lesion at each orifice, then if the murmurs are synchronous, one must be direct and the other regurgitant. If, on the other hand, they are alternate, then both must be direct or both regurgitant.

Now, whatever help it would be to us in the solution of the problem to know whether the two murmurs are produced at the same time, or first one and then the other, that amount of help we can get from the differential stethoscope. If we place one extremity over the apex and the other over the aortic area, we shall know at once what is going on in each locality with each period of systole and diastole. If we hear a murmur with each ear at the same time, we shall know that the two murmurs are produced by the same act of the heart. If we hear a murmur alternately with the right and the left ear, we shall know that one occurs with systole and the other with diastole.

I have seen lately two cases of combined mitral insufficiency and aortic stenosis in which the differential stethoscope showed that the murmur at the apex preceded that at the base by a very appreciable interval. The systole, therefore, was well under way before the blood began to flow through the aortic orifice. This is easily understood when we consider that the ventricle must contract sufficiently to occasion a pressure within it in excess of that in the aorta, before the blood will move in the direction of the latter. The leakage through the mitral orifice opposes this result and delays the moment at which the intra-ventricular tension reaches and exceeds the pressure upon the semilunar valves. During this interval of delay we have the murmur of regurgitation, but not the stenotic murmur. As the delay is proportioned to the amount of blood flowing back into the auricle, the interval between the murmurs is an accurate measure of the incompetency of the mitral valve.

Reduplication of one or other of the cardiac sounds is of frequent occurrence, and has been explained in a variety of ways. A favorite theory has been that it was due to a want of synchronism in the action of the ventricles. This point could be determined by simultaneous auscultation of the tricuspid and mitral, or of the pulmonary and aortic areas.

Within the past week I saw a case which the day before had presented well-marked reduplication of the second sound as observed by the physician in charge. This was no longer present, but the differential stethoscope showed a marked lagging in the contraction of the left ventricle as compared with the right. At the same time, the aortic second sound was sensibly later than the pulmonary. An exaggeration of this condition would have constituted reduplication.

The successful use of the differential stethoscope requires a fairly acute and well-trained ear, with no difference in the hearing-power between one ear and the other. Some practice in this special form of auscultation may be necessary to acquire the power of giving separate yet simultaneous attention to the impressions which each ear receives.

[1] Read at the meeting of the Association of American Physicians, May 30, 1895.

Among Educated Germans no less than sixty-seven per cent., so the statistics say, have imperfect or defective eyesight.

Clinical Department.

REPORT OF CASES IN BRAIN SURGERY.[1]

By DOUGLAS C. RAMSEY, M.D.,

MOUNT VERNON, IND.

PRESIDENT INDIANA STATE BOARD OF HEALTH; MEMBER AMERICAN MEDICAL AND PUBLIC HEALTH ASSOCIATIONS, AND MISSISSIPPI VALLEY AND INDIANA STATE MEDICAL SOCIETIES.

CASE I.—A. O——, aged twenty-five. Residence, Mount Vernon. April 7, 1891, was grinding a moulder's knife on an emery wheel making over two thousand revolutions per minute, when the wheel burst, striking him in the left frontal region and causing an extensive laceration of the soft parts, a compound comminuted fracture of frontal bone, and tearing away brain tissue the size of my thumb. I was called to see him at once; found him at a planing-mill, where he received the injury. He was propped up in a chair, having recovered consciousness. I placed a clean towel over the wound, ordered him carried to his boarding-house, four squares distant.

Assisted by Dr. J. W. Powell, I then proceeded to treat the injury antiseptically, cleansing the hands and injured parts with a hot bichloride solution, sensibility being sufficiently stunted to dispense with an anæsthetic. I removed detached brain matter the size of my thumb, twenty-five spicula of bone, some driven into the brain over an inch; elevated some depressed bone; removed comminuted portions of supra-orbital arch; one-half of same, an area of about two and one-fourth by one and one-half inch of bone, was removed. The very considerable hemorrhage was controlled by pressure and packing. I then closed the soft parts with catgut, sublimate gauze, and cotton, with sublimate gauze bandage over all, leaving dura open—so much being destroyed it was impossible to close gap in same—and leaving catgut bundle for drainage at lower angle of wound. The brain pulsated at site of wound. Wound healed by first intention. Drains were removed, one at a time, until last were removed on the sixth day, and wound closed complete by tenth day without any rise in temperature. Patient was out on the street thirteenth day. There was loss of sight in eye on side affected. Aside from this a perfect recovery ensued. He is now a carpenter and contractor in active service.

CASE II.—R. C——, aged thirty-four. Residence, Mount Vernon. Presented himself, August, 1893, with the following history: Was injured fourteen months previously by being struck on head with a brick, which produced unconsciousness and was followed by epileptic seizures. He was trephined by his attending surgeon, some depressed bone elevated, and a small portion of brick removed, with improvement for two weeks' time. Epileptic convulsions then returned, occurring several times weekly and frequently several times daily. When I saw him he had distinct tremor of left arm.

August, 1893, assisted by Dr. Dixon and others, I trephined (button of bone removed being one-fourth inch thick, probably due to inflammatory changes) on right side of head at site of injury, and with rongeur removed all bone which could not be elevated into proper position, removing bone to extent of about two by one and one-half inches. Wound united in five days without suppuration or any rise in temperature. Dressing used: Catgut sutures in scalp, dusted line of sutures with iodoform and bichloride gauze, and sublimate cotton with sublimate gauze bandage over all. No drainage. Has never had any return of epileptic seizures, and is in robust health.

CASE III.—H. F——, aged nineteen. Residence, Poor Infirmary. When seen presented the following history: Four years before was injured in head by a falling tree. One year after that was re-injured by being hit on head with a club. Had epileptic seizures from time of first injury, several a week, and sometimes two or three daily. Was trephined by a surgeon in Missouri shortly after last injury was received, without benefit. Site of this operation, left side of the head. Had distinct tremors of left arm.

September, 1894.—Assisted by Dr. S. H. Pearse, I made a crescent-shaped incision on right side of head and trephined near site of injury. Found a very large area of depressed bone, which was with difficulty elevated into position. Then removed some depressed spicula with forceps. Operation was done antiseptically, all oozing checked by pressure and flaps stitched with catgut. Dusted line of sutures with iodoform and bichloride gauze, dressing with sublimate cotton and sublimate gauze bandage over all. No drainage. Thirty hours after temperature rose to 103½° F., with intense headache. Gave 5 grains antikamnia and ¼ grain morphine. Temperature fell to normal within two hours and never rose above same again. Wound healing by first intention in five days. No return of convulsions for three weeks, at and since which time he has had from time to time hard epileptic seizures. I do not believe this patient has been benefited by the operation, for the reason, perhaps, that there was at time of receipt of wound irremediable injury to the brain substance.

Deductions.—Case I. is illustrative of how little permanent disability for performance of manual labor may result after serious injury and considerable loss of brain matter.

Case II. shows the good results that trephining will sometimes accomplish when performed for traumatic epilepsy.

Case III. indicates how little relief is sometimes obtained in trephining for traumatic epilepsy.

[1] Read before Indiana State Medical Society, June 7, 1895.

IRRIGATIONS IN ACUTE GONORRHŒA.

By W. A. DAVISON, M.D.,

FORT BENTON, MONT.

IN an extract from a lecture in the MEDICAL RECORD of June 1, 1895, Dr. Rantier says: "When the gonorrhœa is in the acute stage I would advise not to interfere. Tell the patient to wear a suspensory bandage, to take an alkaline bath every three days, and in about ten days afterward to come back, and then you will cure him." This might do in great medical centres in France, and possibly even in the medical metropolis of the United States, but the medical man in this section who prescribed such a course in the treatment of his cases of acute gonorrhœa would most assuredly treat very few cases of this disease. My plan is to treat gonorrhœa at any stage. Why not? If we will adapt our remedies to the stage, physical condition, and individual peculiarity of patient, I fail to see why we should leave nature to struggle single-handed with her adversary until she had well-nigh conquered. We do not hold our hands in the acute stage of inflammatory affections of other organs, and why this? I think the hot-water irrigations equally adapted to the acute stage. I begin them the very first day the case presents itself, and know of no treatment better than the action of hot water. I use a good-sized fountain syringe well filled with hot borated water—well filled, for thus the heat is retained during the entire time necessary to make a proper application. To the pipe attach a glass tube, and over the end of this for two inches draw a soft rubber catheter; anoint well with carbolized vaseline or oleate of cocaine, if the parts are very much irritated, or better only sensitive; and here one may easily overestimate the amount of hyperæsthesia, for one may often pass this catheter, causing very little pain. Introduce

the catheter carefully one inch, turn on the hot borated solution, and after you are satisfied all is clean as far as you have gone, very gently and gradually push your catheter into the deeper urethra, and even into the bladder, if one's judgment deems it advisable, allowing, all this time, the water to flow out all around your catheter. The object is to thoroughly cleanse the urethra as you enter. Your fountain should not be elevated more than two feet above the patient. These irrigations should be repeated at least daily, and at least a quart of the hot solution consumed; often two quarts is better. Follow these irrigations after two hours' time with some soothing mucilaginous sedative injection of not more than half a drachm thrown gently in, and repeat each six hours in the acute stage; but in the subacute or chronic I like the morphia and zinc better than anything I have yet tried.

℞. Morphia sulph..... ʒ iv.
Zinc acetate..... gr. j.
Aqua..... ʒ iv. ad vj.

I have pursued this plan of treatment for several years, and with commendable success. The patient will pass out of his physician's hands with a grateful heart and free from stricture.

A CASE OF ACUTE LARYNGITIS.

By M. E. HUGHES, M.D.,

ADAMS, MASS.

It was only on noticing an account of Dr. Charles S. Dickinson's case of the above complaint, as related in the Record of June 1st, that I decided on narrating the experience I was then having with a similar case.

June 3d, I met, socially, Mrs. R. B——, aged twenty-nine years. She complained of a cold contracted two days before. The symptoms at that time were a dry cough and some hoarseness of the voice, which latter, she stated, had been first noticed that morning on arising. She also stated that, from her knowledge of the course of previous attacks, she believed the hoarseness would become more and more pronounced quite rapidly. Generally, she felt about as usual.

About two hours later, on taking my leave, she said that she experienced some difficulty in breathing, and that she believed that this too would increase rapidly in severity. It was now evident that her prediction regarding the hoarseness was quite true. This was about five o'clock in the afternoon (5 P.M.) I left her, saying that I would return later and endeavor to relieve her.

At 9.30 P.M., on my return, I found her sitting on the edge of a couch, her hands down by her sides and pressing firmly against the couch, body bent slightly forward, eyes bulging, face wearing a pinched, anxious expression as if in fear of some great danger against which she was utterly powerless, and suffering from great dyspnœa. There was no cyanosis.

I was told that at times, since I had left her in the afternoon, she had suffered from exacerbations of this dyspnœa which an attack of coughing would relieve somewhat, but not so decidedly as when the coughing was followed by the expectoration of a thick, mucous-like substance. Pulse very rapid. Temperature in axilla 100° F.

I at once sprayed the throat well with a four per cent. solution of cocaine, cautioning her against swallowing the least particle, if possible. In spraying I endeavored to force as much as possible into the larynx. In ten minutes there was a very noticeable relief from the dyspnœa, in thirty minutes the breathing was perfectly normal, not the slightest evidence of distress, and the face had assumed its wonted expression.

I then ordered ♏j. of the tinctura aconiti radicis every hour.

She retired at 11.30 P.M. and slept nearly the whole night. The spray was not again used, nor was there any occasion for it.

The next day the only evidences of any past trouble were a very slight, scarcely noticeable hoarseness, and an occasional cough, neither of which existed when I called twenty-four hours later.

The only objections to the use of cocaine in such cases of which I am aware are, first, the possibility of the patient swallowing a poisonous dose, or second, if the spray were left in the hands of a person not capable of using it intelligently, or at such times only, and in such quantities only, as are necessary, the possibility of the absorption of such quantity as might work badly with a patient such as mine, for instance, a nervous, sensitive lady, very susceptible to drugs of all kinds, and poor in health at her best.

INCUBATION PERIOD OF CHICKEN-POX DELAYED BY MEASLES, AND PAROTITIS FOLLOWING CHICKEN-POX.

By HOBART CHEESMAN, M.D.,

NEW YORK.

In reading the case of mumps *versus* measles, by Dr. Beverly Robinson, in the Medical Record of June 8, 1895, I was reminded of a case which occurred in my own family several years ago, in which the period of incubation of chicken-pox was protracted by an exposure and attack of measles taking place between the time of exposure and that of the attack in the former disease. An elder sister, about ten years of age, while attending school, was attacked by chicken-pox. A younger sister, about six years of age, not attending school, and at home, was exposed daily to the chicken-pox during the time the elder sister was down with it. While the latter was convalescing she was attacked with measles, which she must have also contracted while at school, before the chicken-pox broke out. The younger sister was exposed to the measles also, while the elder was sick with it. About twelve or fourteen days subsequent to the breaking out of the measles in the elder, the younger sister was attacked with measles. This was eighteen or twenty days after she had been first exposed to chicken-pox. The measles proved quite a sharp attack, but ran the usual course. About the time the last trace of the eruption was disappearing, an eruption of chicken-pox came out. This appearance was from twenty-seven to thirty days subsequent to the beginning of the attack of chicken-pox in the elder sister, when the younger was first exposed to it, a longer time than the longest period of incubation of this disease mentioned in text-books.

Another case, but of a different nature, and which happened recently in my practice, may be of interest because of its rarity. There are three boys in the family in which the case occurred, aged respectively thirteen, nine, and five years. The first and second attend school, the younger stays at home. While attending school, the second boy was attacked with chicken-pox. About nine or ten days thereafter, the youngest boy came down with it, as did also the eldest a few days later. The disease ran in each case the ordinary course. About a week after the attack began in the youngest boy and after he had nearly recovered, an inflammation in the left parotid gland developed, which resembled every way a mild case of mumps. The shape and site of the swelling were exactly the same, there was moderate tenderness, and the skin over it was perceptibly reddened. The pulse-rate was increased, and the temperature went up to 100° F. for about thirty-six hours. A few drops of lemon-juice and water

put in the mouth of the patient caused him to wince and clap his hand over the swollen gland. The swelling subsided in three or four days. The second boy was in the same room all this time with this patient, but did not contract mumps, neither did the eldest, who was also exposed. The latter, so far as I could learn, had never had mumps, although he possibly had it before I knew him; but the second boy I know has never had the disease, for I have attended him since his birth; and besides, there had been no possibility of exposure to mumps for at least three weeks previous to the development of the parotitis. Although this is a sequel, mentioned as not very infrequent, to the exanthematous diseases in children, I do not find it referred to in this relation in connection particularly with varicella, nor have I ever seen it before in connection with this particular disease, nor has anyone whom I have questioned regarding the matter. Presumably, therefore, it is a somewhat rare condition.

328 West Fifty-seventh Street.

EPISTAXIS.

By JOHN B. RICHARDSON, M.D.,

Louisville, Ky.

I presume no apology is necessary for reporting an extreme case of the above nature, with treatment employed.

May 2, 1895, was hurriedly summoned to attend Miss F——, aged thirty-eight years, suffering with violent nose-bleeding. Nearly four years since, waited upon this same patient, when it required ten days or more to entirely relieve her, so profuse and troublesome was the hemorrhage.

She came of a family of "bleeders," her mother, maternal uncle, and her brother having on several occasions had bleedings from the nose difficult to control. Nothing specific in family history discoverable, upon critical questioning, along that line.

Cleansing the nasal cavity as quickly as possible, I applied a small piece of absorbent cotton, which had well rubbed into its meshes finely pulverized alum, to the bleeding point, using firm pressure for several minutes, hoping thereby to effect the formation of a clot, and thus check the bleeding. This was accomplished, but only lasted for a few hours. Two days elapsed, when a message reached me she was bleeding to death. I found her pulseless at the wrist, with sighing respirations, and a stream of blood (arterial) running from her left nostril and down pharynx, being swallowed, and a moment afterward she fainted. Upon returning to consciousness, she vomited many ounces of blood.

Employing reflected light, the nasal cavity was cleared of blood-clots and flowing blood; the eroded and broken wall of the vessel was found to be located at the junction of the floor of the right nares and septum of the nose, three-fourths of an inch posterior to its external orifice.

Preparing a piece of absorbent cotton which, when well compressed, would be somewhat larger than would be received by the posterior nasal orifice, I secured to its centre a double asepticized waxed cord, also a second single cord for the subsequent removal. I placed this posterior plug in position by means of Bellocq's cannula. I then moistened a small piece of absorbent cotton with the iron solution and passed it in the clasp of an ordinary pair of nasal forceps to the ruptured side of the bleeding vessel, and retained it there for some minutes—upon this procedure I wish to lay stress—placing other small compressed pledgets upon the first one applied (after the manner, when properly done, we proceed in tamponing the vaginal canal in cases of uterine hemorrhage), finally introducing the larger anterior plug, pressing it compactly and well filling the anterior portion of the nasal cavity with it, and securing in position by tying over it in single-bow knot the double cord passing out of nostril from posterior plug.

Prior to using small pieces (as last described), I was troubled, at the end of twelve or fifteen hours after each replugging, with slight recurring bleedings caused doubtless by failure in clot-forming at the immediate point of hemorrhage; these recurring bleedings, slight at first, continued and increased until it became necessary to remove both anterior and posterior plugs and apply others.

General treatment consisted of hypodermic injections of ergotole pro re nata; cooling and acid drinks; nutritious fluid food in small quantities at short intervals; with perfect quietude of body and mind; for my patient was almost exsanguinated.

Twelve hours later oozing of blood began from the left nostril, the blood finding its way between the posterior plug and nasal septum, thence into the left nasal cavity and out of the left nostril; also downward through the pharynx, large quantities of which were swallowed. This increased very rapidly several times during the following week, necessitating replugging. These hemorrhages seemed to come in regular cycles of from twelve to fifteen hours' intervals, the blood-pressure requisite to produce them seemingly requiring that length of time to be re-established. These oft-repeated rebellious hemorrhages, notwithstanding the most careful, deliberate, and painstaking manner in which both anterior and posterior plugs were applied, recalled to mind a formula I had administered in many cases of intractable hæmoptyses and metrorrhagiæ, the *modus operandi* of whose action I have never perfectly understood, and yet know it to be very effective. This I prescribed, and after its employment in conjunction with "plugging" there was no further hemorrhage. The formula is as follows:

℞.	Hydrarg. bichlorid	gr. j.
	Acid. muriat. dil	℥ ij.
	Tr. cannabis ind	℥ ij.
	F. E. ergotæ	℥ iij.
	Syp. simp	℥ j.
	Inf. quassia	℥ vijss.

M. Ft. and sol. Sig.: Tablespoonful in water t.i.d.

Before concluding I desire to mention a practical point, viz.: Prior to the final removal of the posterior plug from its position, secure a second double (fresh) cord to the one attached to the posterior nasal plug (from which it passes through the nasal cavity, out through the anterior orifice); as the old one is removed let the new double cord trail after it, thereby placing it in the position for immediate use should occasion again arise for further plugging, thus obviating the need for a second introduction of Bellocq's cannula; which latter cannot be accomplished without attendant danger of disturbing the "temporary clot." More than six weeks have now elapsed since the removal of what I term the "guard-cord," and patient has had no evidence of a return of her bleeding, and has almost regained perfect health and strength.

Foreign Medical Students in France.—French medical students have been crying out against "the invasion of foreign students," and the *Progrès Médical*, one of the most sensible and fair-minded medical journals of Paris, has undertaken to show that there is nothing to fear from that source. In 1894, for example, out of 249 hospital internes, only 14 were foreigners. "In face of the efforts made by other countries to attract the largest number possible of foreign students, the complaints and recrimination in France on the subject are astonishing," says the editor, Dr. Bourneville. "Indeed, to accord the right to students of all nationalities to study in the French universities on the same terms as Frenchmen, and to take part in competitive examinations, will do more good than any number of military expeditions."

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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TONSILLAR TUBERCULOSIS.

ALTHOUGH the functions of that collection of lymphoid tissue encircling the oro-pharynx, and called at different points the pharyngeal, faucial, or lingual tonsils, are still in dispute, it is well known that it is a site of infection from various pathogenic germs. The different catarrhal affections to which it is subject impair the integrity of its epithelial investment, and though phagocytosis may occur at these points to some extent, the resistant force is frequently overcome by the invasion from without. Of recent years much attention has been paid to the question as to whether the various tonsillar areas are not the channels through which the tubercle bacillus may gain entrance to the system. Where this has seemed to occur, it is believed that some one of the microbes of suppuration has carried the outpost, and opened up a way of entrance for the bacillus itself.

Tuberculosis of the pharynx and naso-pharynx may appear in the course of an acute or chronic pulmonary tuberculosis with characteristic local lesions and symptoms. Dieulafoy has recently called attention[1] to another form of the localized affection, which he believes to be very common. It presents neither granulations nor ulcerations, and it is not, as a rule, at all painful. Functional troubles may arise at times, but they are so slight as not to suggest the real cause; but the condition should be recognized, as it may be the starting-point of a general systemic infection.

This latent tuberculosis has its favorite seat in the adenoid (more properly lymphoid) tissue of the naso-pharynx. It manifests itself most obviously as a mere enlargement of this tissue, without at first sight any peculiar characteristics. This form Dieulafoy styles "latent" tuberculosis of the tonsils. To put it in another way, he believes that if tonsils removed from either the pharynx, fauces, or tongue are submitted to careful examination, they will be found to contain tubercular foci far more commonly than has generally been supposed. In fact, out of 61 examinations of supposed simple hypertrophic tonsillar tissue, he found the bacillus in 8 cases. Out of 35 cases of naso-pharyngeal adenoids, the bacillus was present in 7. In the first group, bits of tissue were introduced under the skin of guinea-pigs, and all succumbed: six with local tubercular nodule and general tuberculosis; 2 without local deposit, but with pulmonary lesions; 49 without any appreciable lesion or without an autopsy having been made; and 4 with the lesions of septicæmia. In the second group 3 died with nodule and general tuberculosis; 4 with tuberculosis without nodule; 3 with septicæmia; and 25 without apparent lesions.

The patients from whom the tonsillar tissue was removed were nearly all children under ten years. None of them presented any of the local or general evidences of tubercular infection. Dieulafoy supposes that they all possessed what, for lack of a more exact term, we call the tubercular "predisposition," and that this lymphatic soil was first inoculated by some of the bacilli which are found at times in probably every healthy nose. Again, the experiments of Chauveau, Orth, Baumgarten, and Cadéac conclusively prove that the swallowing of material containing tubercle bacilli can infect both the faucial and pharyngeal tonsils. Dieulafoy does not believe that the penetration of the bacillus into the tissue requires a preceding erosion or wound. This statement, however, cannot be supported in the light of our most recent knowledge, as hereinbefore suggested.

The inoculation of the lymphoid tissue by the bacillus is followed by a functional super-activity—a multiplication of lymphoid cells which gives to the tonsillar masses a considerable volume. This is the first step of the process. Later, after months or years, the phagocytic action fortunately predominates in many instances, and fibrosis ensues. The tissue lessens in volume, and here, as in many cases of tuberculosis, a cure or cessation of the process is accomplished without any systemic infection. In other cases this happy result does not follow, and the second stage is manifested in the appearance of submaxillary and cervical glandular enlargements. The lymphatic channels are probably the route through which the infection travels. The course of this extension is always anatomically downward. The ganglionic tuberculosis may be arrested, but the danger is that the advance-guard of the enemy will sooner or later appear before the pulmonary outposts. Even here all is not lost, for the pulmonary structure can defend itself to a certain extent, and it responds, according to Dieulafoy's view, to the bacillary attack by hemorrhage, which he terms one of defense (*hémoptysie de défense*).

The foregoing views in general are not essentially new. Over a year ago Lermoyez reported two cases in which the removal of adenoid vegetation seemed to be the signal for a general tubercular invasion. In the second case, that of a child of six years, a second operation was necessary, and the tissue then removed was examined and bacilli found.

A therapeutic suggestion in these cases is afforded by the experience of Fyffe,[1] who injected the sputum of a tuberculous patient into guinea-pigs. The more creosote the patient took, the less virulent the sputa seemed to become. Finally creosote was injected into the animals before they were inoculated with bacilli, and it seemed to greatly hinder the progress of the disease. In cases of tubercular adenoid disease it might be that, if creosote were given early, it would greatly lessen the probability of the affection going beyond the first stage.

[1] Bulletin de l'Académie de Médecine, No. 17, 1895.

[1] Lancet, September 22, 1894.

DEATH IN THE AURAL TYMPANUM.

EVERY now and then the publicity given to the death of some prominent person from inflammation of the drum of the ear calls attention to the subject. Much valuable time is often lost in the futile efforts made for its relief at the beginning, not to mention any bad effects of meddlesome treatment afterward. Cases of this kind are by no means rare, and it may be said of most of them that recovery would not have been impossible but for their neglect or unwise treatment.

The danger in these cases lies either in the extension of the morbid process arising in the tympanum to the adjacent cavities of the mastoid, with which a free communication exists, or to intracranial regions by means of communicating vessels. Most suppurating middle-ear affections will get well spontaneously if the simple rules of surgical drainage be observed. But, as Dr. Sexton remarked before the Practitioners' Society, in commenting on a paper on sinus empyema by Dr. Abbe, and reported elsewhere in the present issue of the MEDICAL RECORD, it is generally found, in these and other fatal cases of ear disease, that we have to deal with a run-down subject, and that the patient has been over-zealously treated and without the observance of ordinary aseptic precautions. Thus a mild case of otitis media, by the unskilful use of an unclean knife carrying infection into the drum and setting up profuse suppuration there, or by infection from syringing the ear with foul water, may speedily be converted into a grave one. Or, the pernicious practice of inflating the drum in such cases with the air-bag may convey septic secretions from the naso-pharynx to the ear, and also distribute the morbid contents of the drum to various regions of the pneumatic system of the middle ear.

The profession once had a precept, "Let the ear alone," which has been, wisely or unwisely, abandoned for the sometimes excessive meddlesomeness of enthusiastic aurists. Indeed, it may well be questioned if the former method was not attended with less evil than the latter.

THE STATE LUNACY COMMISSION.

THE State Lunacy Commission is having its innings in its controversy with the medical superintendents of this State. In a recent report of the committee of the State Legislature on the work of the State Lunacy Commission, and upon the general condition of the State Asylums for the Insane, a large part of the contents is devoted to showing that the salaries of the superintendents of the State hospitals are too large, and that the gentlemen who receive these salaries live a joyous and sybaritic life, rolling about in carriages at the expense of the State, living in houses whose annual rental is worth $2,000, and altogether wasting the money of the State in a manner which is most shocking. We find it also stated in the report that the function of the manager of the State hospital is not a very important one, and that it should be made, if anything, still more restricted, until the work done by these managers becomes more and more perfunctory. The result thus aimed at will be to place the asylums in the direct control of the superintendents, who are so much overpaid, under the special direction of the State Lunacy Commission. This commission, the report adds, has done a great deal of good in the way of saving money for the State; and the legislative committee, on the whole, seems to be very much pleased.

We have, at other times, expressed our views upon this subject. There can be no doubt about the fact that the commission has done excellent work; but from a medical stand-point it seems as though they cared very little about securing more efficient work, or promoting scientific work in any way. The main object of the commission seems to have been to reduce the expenses and to get all the State hospitals in a very useful, machine-like condition.

BLOOD PLATELETS IN FUNCTIONAL NERVOUS DISEASES.

IT seems impossible for persons, even the most seriously minded, to undertake the study of the blood without discovering something new and extraordinary, which no one has seen before and which few others are ever persuaded to see. The history of the anatomy and pathology of the blood is a history of all kinds of now exploded discoveries and theories, from the fourth corpuscle to the yeast germs. We note that a St. Louis physician, Dr. Bremer, has also been investigating the state of the blood in several hundred cases of neurasthenia. The result of his investigations, of course, has been to discover certain changes by which he is able to diagnosticate cases of neurasthenia from a blood examination alone. Dr. Bremer's diagnostic sign is, we believe, the enormous production of blood "platelets." Naturally it is Dr. Bremer's view that neurasthenia is not only a nervous affection, but also a disease of the blood. Curiously enough, Dr. Bremer finds that, despite this pathology, bromides, which are blood-destroyers, are the best things for neurasthenia, the salutary effects, he thinks, being perhaps due to the production of sleep.

Half a Million for a Brooklyn Dispensary.—The memory of the late Henry D. Polhemus is to be perpetuated by the erection of a dispensary building in connection with the Long Island College Hospital in Brooklyn. It will be the gift of Mr. Polhemus's widow, who has purchased three city lots for the purpose. The building will be five stories high, and will be known as the Polhemus Memorial Dispensary. The estimated cost of the structure, with its furnishings, is $250,000, and in addition to this Mrs. Polhemus will present the dispensary with an endowment fund of $250,000 for its maintenance.—*British Medical and Surgical Journal.*

A Gentleman who has Lately Become an Inebriate asks in *The Lancet* for a home. He is eighty years of age and has an income of £60 a year.

Baroness Possauer, of Vienna, has presented a petition to the Austrian Government, praying that women, if properly qualified, be allowed to practise medicine and surgery in that country.

News of the Week.

The Bicycle and Medical Practice.—The use of the bicycle has expanded and developed from a salutary athletic exercise into a great social obsession. It has seized upon every class of society, both sexes, all ages, and every condition of life. It is taken up by the well because it makes them feel better, by the invalid because it makes them feel well, by tired people because it rests them, and by the rested because it makes them feel tired. The fat ride to get thin and the thin to get fat. It has displaced the horse, and in women has, in a measure, replaced the uterus. It has made the simple and ancient custom of walking most unpopular; it has cut down the function of the steam-car, and competes successfully with the suburban trolley. The doctors have taken it up and expressed their approval of it, and we are far from saying a word in opposition. The bicycle has come to stay, though not with quite the omnipresent activity which it now enjoys. Already we notice grave and reverend seigniors in our profession riding along the cobble-stones in their golf suits instead of lying comfortably back in their victorias. Time that used to be spent in serious scientific pursuits at the hospital, in the laboratory, and at the desk is now shortened in order to enjoy a ride up the Boulevard. The bicycle has cut down the scientific activity of the New York profession at least fifty per cent. already.—*The Post-Graduate.*

Dr. John T. Nagle, Register of Vital Statistics of the New York City Board of Health, has been retired upon his own application. Dr. Nagle was appointed a health inspector in 1869, and has been a most efficient officer of the department. He is succeeded by Dr. Roger S. Tracy, himself a member of the Health Department for more than a quarter of a century.

Professor Johann Mikulicz, of Breslau, has been called to the University of Bonn, to take the chair of surgery formerly held by Professor Trendelenburg.

Dr. Charles C. Hendricks, of Hoboken, has been appointed Health Inspector of Hudson County, N. J., to succeed the late Dr. Saltonstall.

The U. S. Custom-House in New York is reported to be in a very dangerous sanitary condition, with leaking drain-pipes and defective ventilation. The building is also reported to be structurally unsafe, and in danger of collapsing. The Treasury Department has been repeatedly notified of these defects in the Custom-house, but nothing has yet been done to protect the lives and health of the government clerks.

A Righteous Verdict in a Libel Suit.—Drs. A. E. Davis and B. F. Parrish, of this city, secured verdicts on July 15th against the *National Police Gazette*, each for $25,000, for a libel published two and a half years ago. This was the same libel for which the plaintiffs secured verdicts of $2,500 against the *Sun* Publishing Company, about two months ago. We renew our congratulations to Drs. Davis and Parrish, who have so effectively punished their slanderers.

The Late Dr. Stephen E. Fuller.—At a meeting of the Kings County (N. Y.) Medical Association, held June 11, 1895, the following resolution was adopted:

Whereas, Dr. Stephen Edward Fuller, an old and highly esteemed member of this Association, has been removed from our membership by death;

Resolved, That this Association, while bowing to the inevitable and mourning its own great loss, tender to the widow and family our sincere sympathy and heartfelt condolence in their affliction.

GEORGE A. OSTRANDER, M.D.,
THOMAS M. ROCHESTER, M.D.,
Committee.

Obituary Notes.—DR. JAMES CALEB JACKSON, who nearly forty years ago founded the Jackson Sanitarium at Dansville, N. Y., died at his home in that town recently, in his eighty-fifth year. Dr. Jackson was an active co-worker with Lloyd Garrison and other anti-slavery agitators, and edited several newspapers at different times in support of his political beliefs.—DR. A. H. BURBANK, of Yarmouth, Me., died on June 27th. He had practised in Yarmouth for nearly fifty years.

The Czarewich has Consumption.—It is announced that Dr. Leyden, of Berlin, and Professor Nothnagel, of Vienna, have been called to see what can be done for the Czarewich, who is said to be suffering from phthisis in an advanced stage.

Professor Ludwig Traube.—A memorial bust of the celebrated physiologist Traube has recently been erected in Berlin.

The Value of a Good Name.—The *Berliner klinische Wochenschrift* says that if Dr. A. Jacobi's name were not attached, one would not believe in the statement that he had had a patient with a temperature of 65° C. Such a case was reported, however, by Professor Jacobi at a meeting of the Association of American Physicians this year. In the discussion Professor Welch reported another case of 77° C., or 171° F. Professor Welch has also a good name, but it would not stand many more degrees centigrade.

A Hospital for the Colored Race.—A new hospital organization has been incorporated in this city under the name of the McDonough Memorial Hospital Association. The new hospital will be managed mainly by colored persons. It will be on the west side in New York, at some point between Twenty-third and Seventy-second Streets, within some district largely populated by colored people. A site is now being looked for, and the work of erecting a suitable building will be begun as soon as one is selected. It is expected to maintain the hospital by voluntary contributions, and already assurances of substantial contributions have been made—one wealthy friend of one of the incorporators having promised to fit up the dispensary department of the new hospital and another the department of surgery.

Dr. Frederick W. Smith, of Syracuse, has been appointed by Governor Morton to succeed Dr. Florence O. Donohue as a member of the State Board of Health.

Dr. Thomas S. Hagan, assistant physician at Hart's Island, was found dead in his room on Wednesday

morning, with his throat cut. There were deep gashes in his throat and on his left wrist and a number of slighter wounds and contusions on other parts of his body. No knife was found in his room, and it is thought one of the lunatics on the island may have committed the fatal assault.

Dr. John B. Murphy, of Chicago, was tendered a reception at the residence of Dr. Thomas H. Manley, of this city, on Friday evening of last week. He sailed for Europe the following morning.

Buffalo Bill and the Sick Children.—During the late visit of Buffalo Bill and his "show" to this city the grounds upon which the show was held were very near the Children's Hospital. The music of the cowboy band, the sound of the gun-shots in the attack on the settler's cabin, etc., attracted the children's attention, and when they were told that the noises were made by Indians their grief at their confinement increased in proportion to their desire to see a real live Indian. One of them asked the visiting surgeon if there was no way in which this could be brought about, and the surgeon suggested that he write a letter to Buffalo Bill and ask him. The boy wrote the following letter:

"DEAR MR. BUFFALO BILL: We are a lot of little children lying on our backs in the hospital and we cannot move. We want to see an Indian very much. We have *never* seen one in our lives and cannot get out. Will you please send us one, so that we can see him?"

Buffalo Bill was evidently touched by this appeal, for presently six Indian braves, a squaw, and a papoose visited the hospital and walked about the wards in full regalia, greatly to the delight of the children. The Indians were about to execute a war-dance for the children in one of the wards, when the chief demurred on account of the waxed floor, which he thought was too slippery for a proper performance of the ceremony. —*Boston Medical and Surgical Journal.*

True.—That very progressive medical journal, the MEDICAL RECORD, of New York City, is about to increase still further its facilities by adding to the number of its pages. Dr. Shrady and his staff have succeeded in bringing up the small journal which was started many years ago to be the leading medical journal of the world.—*Maryland Medical Journal.*

Prejudice and Exaggeration.—About a month ago our New York correspondent related particulars of two cases of diphtheria, which terminated fatally after the use of antitoxin. Most of our readers must have felt that the cases, as given, were not conclusive in respect to the allegation that the injections were responsible for the result, in spite of the statement of the physician administering them, who is reported to have said that some mistake must have been made in the preparation or bottling of the remedy. Indeed, in one of these cases it is clear that the patient was obviously dying from diphtheria itself when resort was had to antitoxin. The record has, however, been seized upon by Mr. Ernest Bell, who has disseminated it broadcast in a letter which has been inserted in a large number of provincial papers, and this writer has the effrontery to say that "similar fatalities" are being heard of "from all sides." We venture to affirm that there is no justification at all for such a sweeping assertion, but, on the contrary, that already there is abundant proof that this remedy has had a surprising influence in diminishing the mortality from diphtheria. The attempt to excite prejudice by such exaggerated statements cannot be too strongly reprobated, and we can only express astonishment that they should have been accepted without demur by those who are responsible for the guidance of public opinion.—*The Lancet.*

Cholera in Japan.—It has been reported that cholera was raging in many parts of Japan, but advices received by the Marine Hospital Service show that these reports were exaggerated. There were but fifteen cases at Osaka and Hiogo up to June 15th, and none at all at Nagasaki and Yokohama.

Yellow Fever in Brazil.—The captain of a vessel recently arrived from Santos says that when he left that city yellow fever was raging. According to his possibly somewhat overdrawn description, men were dropping dead in the streets, dying by scores in the city and on the vessels in port. Some of the vessels had their flags at half-mast day after day for weeks, as man after man of their crews succumbed to the scourge. The death-boat was rowed about the harbor day and night, from vessel to vessel, collecting the dead and taking the bodies ashore for burial. Some of the vessels had only one or two men left of their entire crew, and many of them were unable to get away owing to lack of men. As we have before suggested, Dr. Domingo Freire has here an opportunity to demonstrate the worth of his preventive inoculations of yellow fever that, believing as he does in their efficacy, it seems little short of madness to neglect.

Erythropsia (Red Sight) of Ten Minutes' Duration.—Dr. Hilbert, of Gensberg (*Memorabilien*), reports the case of a woman sixty-three years of age, quite neurasthenic, who became exceedingly alarmed by the announcement of some unpleasant news. She suddenly saw everything red, and objects continued to have uniformly the color of blood for at least ten minutes. The symptom then gradually disappeared. A few other cases of erythropsia or red sight have been reported by Borel and others. The symptom is a very curious one, and when complete is due, it is believed by Hilbert, to a central disturbance.

Leprosy is Increasing in Iceland in an alarming manner, according to the Jesuit missionary, Father Sveinsson. Last year a Danish physician, sent by the government, examined one-third of the island and found one hundred and forty-one lepers.

On the Occasion of Prince Bismarck's Birthday the German Emperor conferred the title of "Medical Privy Councillor" on the statesman's physician, Dr. Schweninger, of Berlin.

Wholesale Ice-cream Poisoning.—In Odessa recently over two hundred persons were poisoned from eating ice-cream. Seven of the number died. The authorities suspected that the poisoning was intentional and made numerous arrests, but could not substantiate the charges brought, and finally let the matter drop, and attributed the disaster to tyrotoxicon.

Reviews and Notices.

THE PHYSICIANS' GERMAN VADE-MECUM. A Manual for Medical Practitioners for Use in the Treatment of German Patients. By RICHARD S. ROSENTHAL. Vols. I. and II. Chicago: The Rosenthal Publishing Co.

THE popularity of this work is shown by the fact of its having attained its eleventh edition. It is particularly adapted to those medical men who have but a superficial knowledge of conversational German and a very limited acquaintance with medical technicalities in German. To one wholly unacquainted with the language the book is of little value; in fact, would be dangerous to use, for mistakes might happen which would be very misleading to the physician.

FONCTIONNEMENT DE LA MAISON D'ACCOUCHEMENTS BAUDELOCQUE. Clinique de la Faculté dirigée par le PROFESSEUR ADOLPHE PINARD. Pp. 100. Paris: G. Steinheil. 1895.

PROFESSOR PINARD, since 1882, when he first was connected with the Maternity de Lariboisière, and afterward with the Clinique Baudelocque, has published each year the results of his service. Each year he says he has proven a constant diminution of deaths of the mothers and the children. Of the two thousand one hundred and thirty-seven women at the Clinique Baudelocque in 1894, the total mortality numbered only seven. He attributes his success not so much to the methods employed as to the fact that he does not change his interns, his assistants, or his nurses. The tables and classifications of the more than two thousand cases will prove of great interest to the obstetricians, and are models of accurate and careful scientific investigation.

THE DISEASES OF PERSONALITY. By PROFESSOR TH. RIBOT. Pp. 163. Chicago: The Open Court Publishing Co. 1895.

THE second revised edition of the authorized translation of Professor Ribot's interesting psychological study in diseases of the personality will find great favor with American readers. The work was first published in 1884, at which time the ideas of the physical basis of the mind had not been so widely accepted as at present.

In the preface to the last French edition in 1891, after remarking on the wide study of the subject of disorders and alterations of the personality which has taken place since he first wrote, he comments on the experimentations made with hypnotism, styling them provoked alterations of the personality; the others are spontaneous alterations. While recognizing the value of investigation of the provoked and artificial disorders, he believes that the spontaneous alterations still remain the most solid data for the study of morbid manifestations of personality.

Those who have not already read the book in the original will find a most excellent translation of this valuable and instructive psychological work.

THE DISEASES AND DEFORMITIES OF THE FŒTUS. An Attempt Toward a System of Anti-Natal Pathology. By J. W. BALLANTYNE, M.D., F.R.C.P.E., F.R.S.E., Lecturer on Midwifery and Gynecology, etc., School of Medicine, Edinburgh. With plates. Vol. II.

CONGENITAL DISEASES OF THE SUBCUTANEOUS TISSUE AND SKIN. Pp. 264. Edinburgh: Oliver & Boyd. 1895.

IT is two and a half years since the first volume of this series was published. The delay has been occasioned by the researches necessary to the obscure subject. The present work is an elaborate description of scleroma neonatorum, subcutaneous abscess, ichthyosis, and other congenital cutaneous affections.

These volumes, with the others which are to follow, will fill a place in medical literature which has not yet been worthily occupied.

ON SOME SYMPTOMS WHICH SIMULATE DISEASE OF THE PELVIC ORGANS IN WOMEN: AND THEIR TREATMENT BY ALLO-PIESTO-MYO-KINETICS (MASSAGE), AND BY AUTO-PIESTO-MYO-KINETICS (SELF-MOVEMENTS OF MUSCLES UNDER PRESSURE). By A. RABAGLIATI, M.A., F.R.C.S. Ed., Honorary Gynecologist, Late Senior Honorary Surgeon Bradford Infirmary. Pp. 95. New York: William Wood & Co. 1895.

THE profession will take great interest in Dr. Rabagliati's brochure, as it deals with a class of cases which is the most puzzling to physicians, and which tax their ingenuity to the uttermost—neurasthenic women. The writer thinks that too much stress has been given to the nervous origin of these troubles, called neurasthenia; that while in some instances the nervous system is involved, in many the primary seat is in the muscles and muscle sheaths, and that also the nerve sheaths and the periosteum or bone sheaths, the joints, true and false, are also affected in these cases, which are probably of rheumatic character. He says that many times disease of the uterus and its appendages have been simulated by this trouble, even to such an extent as to have occasioned the removal of ovaries.

He regulates the diet of these patients and initiates them into a series of self-massage, the modus operandi of which is well illustrated by a series of beautiful photographs.

A TREATISE ON THE NERVOUS DISEASES OF CHILDREN FOR PHYSICIANS AND STUDENTS. By B. SACHS, M.D., Professor of Mental and Nervous Diseases in the New York Polyclinic, etc. New York: William Wood & Co., Publishers.

THE advent of a book such as the one before us shows the tendency toward specialism of medical science at the end of the nineteenth century. Within a generation ago, a text-book, or a volume devoted exclusively to nervous diseases, would have been a novelty, but to-day the requirements of the times are such that excursions into the realms of science must be done so well and thoroughly that it is beyond the capabilities of individual man to do them satisfactorily without a division of labor. That such division of labor is advantageous can be readily seen by an examination of the present treatise, which fulfils in a most satisfactory way the promptings that led to the writing of the book, which the author states in the preface to have been the making of a treatise "which would give both the physician and the student fuller information regarding these diseases than is to be obtained from text-books on pediatrics."

The book is contained in an introduction and two parts. The first fifty pages are devoted to a consideration of the modes and methods of examination which will lead most reliably to a diagnosis. By the judicious use of tables and illustrations, the author has succeeded in presenting a really massive amount of information, and that of the most useful kind, in this chapter, which, especially to the student and to one unfamiliar with the intricacies of neurology, must be of paramount importance.

Part I. is devoted to the general nervous diseases and Part II. to the organic diseases of the nervous system. The author has departed from the usual custom by presenting first the functional disorders; and we are told in the preface that he did so advisedly, not alone because they are of the greatest practical importance and constitute fully one-half of the nervous diseases observed during early years, but that several of these disorders, such as convulsions, epilepsy, and hysteria, have an important bearing on the life of the child and are so closely related to many organic nervous diseases of the nervous system that it seemed absolutely necessary to explain these functional troubles before proceeding to a discussion of structural disease. This arrangement will probably commend itself to the practitioner. It is of the utmost importance to keep in mind the intimate relationship between convulsions in children and epilepsy, and when they are presented sequentially, as they are in this book, the momentousness of this matter is impressed upon the reader. The chapters in Part I. that call for special commendation are those devoted to epilepsy, hysteria, and migraine. The pathology of epilepsy, both inferential and determined; the clinical manifestations of the disease; that extremely important matter, the management of patients afflicted with epilepsy, are put down in a masterly and convincing manner, and after reading it one feels that both the faddist and the nihilist in the treatment of epilepsy have had their claims weighed and not allowed.

In his conception of hysteria the author is inclined to take the most advanced and substantiated view of it, which places it more properly among the mental than the purely nervous disorders, using the latter term in its colloquial and every-day sense. We are sure that his positive statement, that hysteria is a rare disease, in this country, at least, not only in the adult but extremely so in children, will be concurred in by everyone who has seen much of nervous diseases, and it should go a long way toward throttling the impulse which prompts some to label every nervous manifestation which they do not understand as "hysterical" and therefore to be sneered at.

The chapters devoted to chorea and the choreiform diseases, as well as those treating of tetanus and tetany, are

characterized by the elimination of antiquated theories, by the absence of padding and the presentation of facts in a scientific and readable form. The concluding chapter of Part I. is devoted to the vasomotor and tropho neuroses, under which terms the author describes for sake of convenience, exophthalmic goitre, Raynaud's disease, myxœdema, angio-neurotic œdema, facial hemiatrophy, etc.

In Part II. the diseases of the peripheral nerves are first considered, and especially interesting is the chapter on multiple neuritis, a condition which, with the exception of the polyneuritis occurring after diphtheria, has been considered to be extremely rare in children, but which the author believes to be more often mistaken for anterior poliomyelitis than has been heretofore recognized.

The diseases of the spinal cord are introduced by a brief up-to-date consideration of the anatomy, physiology, and pathology of this part of the body, which is illustrated by a helpful colored plate taken from Flatau's recent work.

The chapters here which we would especially commend are those devoted to the hereditary or family diseases of the spinal cord and to the progressive muscular atrophies. Our conception of both of these types of disease is, at the present time, going through a very important evolutionary stage, and although it may even yet seem to the mind of the uninitiated and the casual observer that the facts concerning these two conditions are in a very chaotic state, his mind will be relieved of such erroneous ideas by the perusal of these chapters. They show a grasp of the conception of these diseases, a practical familiarity with them as they come before the physician, and a knowledge of the literature of the subjects which does credit to the author, and which will well repay the student's careful study.

The part of the book devoted to diseases of the brain is built on the same plan as the part which treats of the spinal cord. The illustrations and diagrams to illustrate these chapters have been judiciously selected and carefully executed. Meningitis and epidemic cerebro-spinal meningitis are considered from a modern pathological point of view. We are sorry the author did not present more exhaustively the subject of encephalitis, for it is hazarding a very safe prophecy to say that there is more of encephalitis Simon pure, and in combination, than books have taught us heretofore.

The infantile cerebral palsies, a subject to which Sachs has made some of the most important contributions in the literature, are particularly instructive. The same may be said of that extremely important subject, abscess of the brain and thrombosis of the intracranial sinuses, a subject on which we cannot have too much light or the reflexion of personal experience.

The closing chapters are taken up with a discussion of the common forms of diseases of the mind as seen in childhood, and the subject of idiocy and imbecility. An appendix of a few pages contains special reference to such measures as the rest cure, hydrotherapy, etc., and will, no doubt, be found useful by those who would know the detail of application of these procedures.

The mechanical part of the volume, particularly the printing and the illustrations, leaves nothing to be desired.

In conclusion, it may be said that, as a text-book of the nervous diseases of children, the book before us compares favorably with those which have already become, or are fast becoming, classics—Dana, Gowers, Oppenheim, Marie—and is a credit alike to the author, to pediatrics, and neurology.

THE SPIRIT OF COOKERY. A Popular Treatise on the History, Science, Practice, and Ethical and Medical Import of Culinary Art, with a Dictionary of Culinary Terms. By J. L. W. THUDICHUM, M.D., F.R.C.P., London. London and New York: Frederick Warne & Co. 1895.

THIS treatise contains a system of general rules on the principles of cookery, and enables the mastering of the most important culinary operations. The medical profession will find in this work many materials to assist them in dietetic disquisitions, and in the synthesis of meals to give into the hands of patients or their providers.

INDIGESTION. An Introduction to the Study of the Diseases of the Stomach. By GEORGE HERSCHELL, M.D., London. Second Edition. New York: G. P. Putnam's Sons. London: Baillière, Tindall & Cox. 1895.

THIS book is an excellent guide for the study of diseases of the stomach. The author has succeeded in being concise, clear, and practical. The treatment of hyperchlorhydria is described on page 208 as follows:

"Everything that can irritate the coats of the stomach must be interdicted. The diet must consist mainly of nitrogenous food, both because it is easiest digested, and also for the reason that it possesses the advantage of entering into combination with HCl, and thus alleviating the pain by diminishing the quantity of free acid in the stomach. Any kind of meat may be taken, even such as possesses the reputation of being difficult of digestion; but it must in all cases be plainly cooked, either roast, boiled, or grilled. Eggs and milk should form an important part of the dietary, as they are rich in albumin, and are thus very effective in masking pain. Indeed, patients usually find this out for themselves, and are in the habit of taking a beaten-up egg or a glass of milk two or three hours after a meal to dull their pain. The eggs must be very lightly boiled and the milk sipped very slowly. The reason why the milk must be taken in sips is in order that it may be curdled in fine flakes, and not in a solid lump. This would certainly happen if a glassful were taken at a gulp. In these patients the milk-curdling ferment is always in excess, and consequently the curdling of the milk is very energetic. This fact will possibly explain the assertion of many sufferers from hyperchlorhydria, 'that they cannot take milk, as it always disagrees and makes them bilious.' I find that patients usually describe an attack of acute dyspepsia as 'biliousness.' Therefore, when we are told positively by a patient that milk does not agree, we must not attach too much weight to the statement and exclude it from the dietary until we have tested the effect of taking it in sips. Another point of great importance is to regulate the amount of salt taken. The quantity used in cooking and taken with the food must be reduced to a minimum, for the obvious reason that from it is derived, eventually, a large proportion of the acid of the gastric juice. All substances, such as pickles, spices, and strong sauces, that excite the secretion of gastric juice, must be absolutely avoided. As the absorption in the stomach is normal, and since there is, as a rule, no dilatation, the patient need not be restricted in his drink, and may take milk and water *ad lib.* Moreover, we must bear in mind that a certain amount of fluid is of a distinct advantage, both because by diluting the hyperacid gastric juice, it will help to diminish pain, and also because it will favor the process of peptonization, which is retarded if the stomach contents are concentrated beyond a certain point. Instead of milk, a little red or white claret may be added to the water, or kumyss may be taken if relished by the patient. All strong wines, spirits, liqueurs, tea, and coffee are to be absolutely avoided. As the object of treatment is to secure as much functional rest for the stomach as possible, only three meals a day should be taken, and nothing whatever between them, however much the patient may be tempted to do so to relieve his pain."

CONSIDÉRATIONS SUR LES RUPTURES DE L'UTERUS ET DU VAGIN PENDANT L'ACCOUCHEMENT. Extrait du Mémoire présenté au Concours de Médecine en Chef au Service de Gynécologie par le DOCTEUR C. I. ANDRONESCO, Médecin Adjoint à la Maternité de Bucharest (Roumaine). Imprimerie de l'Indépendence Roumaine. 1895.

THIRTY-FIVE cases of this fortunately rare occurrence have been brought together by the writer. He emphasizes the difficulty of determining whether the peritoneum, which is incredibly tough and unyielding in such cases, has been torn through in the escape of the child into the abdominal cavity. Where such is the case laparotomy is by far the best method of treatment. Laparotomy is indicated also where there is hemorrhage which cannot be controlled. In cases where the parts are irregularly torn and the rupture so extensive as to render the repair of the uterus impossible, Porro's operation should be resorted to.

UNTERSUCHUNGEN ÜBER DIE RESPIRATION UND CIRCULATION, bei Aenderung des Druckes und des Sauerstoffgehaltes der Luft. Von DR. A. LOEWY. Berlin: Verlag von August Hirschwald. 1895.

THIS monograph contains an extensive experimental study on the conditions of respiration under different atmospheric pressure. Most of the experiments have been done in the pneumatic cabinet of the Jewish Hospital in Berlin. If the atmospheric pressure was gradually decreased (not suddenly) it could be done so until it was reduced to half the figure without any bad effects to the person breathing therein. There appeared only at times subjective complaints of a nervous nature, slight dizziness, tired feeling, and uncontrollable sleepy sensation. But even these symptoms could be relieved by exercise. The author comes to many valuable conclusions, of which a very important one

is that the respiratory exchange of gas in the lungs is in a high degree independent from the composition of the inhaled air.

BÄDER-ALMANACH. Mittheilungen der Bäder, Luftkurorte und Heilanstalten in Deutschland, Oesterreich, der Schweiz und den angrenzenden Gebieten, für Aerzte und Heilbedürftige. Sechste Ausgabe, mit Karte der Bäder, Kurorte und Heilanstalten. Berlin: Druck und Verlag von Rudolf Mosse.

THIS book contains a complete description of the numerous watering-places of Europe. It states the curative effect of the various waters and bathing establishments. It also gives the names of the resident physicians and the prices of the hotels.

Society Reports.

THE PRACTITIONERS' SOCIETY OF NEW YORK.

Stated Meeting, May 3, 1895.

SAMUEL SEXTON, M.D., PRESIDENT, PRO TEM.

Large Chancre of Lip; Disappearance under Mercurial Treatment.—DR. ROBERT ABBE first presented a patient illustrating recovery from sinus pyæmia, the history of which was read later, and then presented the woman shown at the meeting of February 1st, with a large chancre of the lip as seen in the photograph. The tumor had disappeared almost entirely under mercurial inunctions continued for three months, a drachm being used twice a day, while an eighth of a grain of biniodide of mercury was given internally three times a day. There had been no ptyalism, and the patient was in good health. Her husband, to whom she had been married six weeks before Dr. Abbe saw her, had mucous patches on his lips. She had been under treatment three weeks for supposed cancer by another physician, who leeched and lanced it, and then sent her to the Cancer Hospital to have the tumor removed. At that time there was a macular rash on the body. The interest of the case related to the very large size of the chancre, rather than to its situation, which was somewhat rare.

Phthisis Following Chancre.—DR. W. H. DRAPER recalled a case of chancre of the lip which he had seen a good many years ago. Had caused it to disappear under mercurial treatment, but the patient developed disease of the lungs with all the physical signs of tuberculosis, and died within two years. One author had stated that pulmonary phthisis was a frequent consequence of syphilis.

DR. SEXTON recalled a case of chancre of the lip caused by a friend of the family taking the child up and kissing it. He asked a question which he said was not exactly pertinent to the subject, namely, whether any of the members had observed communication of gonorrhœa to the rectum.

DR. PEABODY replied that Dr. Cutter had had a case of gonorrhœa in the mouth at the New York Dispensary, and he supposed that under favorable conditions any mucous membrane might become infected.

DR. ABBE believed that gonorrhœa of the rectum was one of the things mentioned in the text-books as occasionally met with. Personally he had never seen a case.

Pregnancy Associated with Diabetes.—DR. E. L. PARTRIDGE read a paper on this subject. (See p. 109.)

Nervous Excitement and Diabetes.—DR. BEVERLEY ROBINSON said he had nothing to contribute bearing directly upon the subject of pregnancy associated with diabetes. He might mention one or two facts which had an indirect relation. For instance, the influence of the nervous system upon the amount of sugar in the urine in diabetic patients was manifest in the case of a man under his care who, when involved in business cares in the city, had about four per cent. of sugar in his urine, and none at all when in the country amusing himself on his farm. Regarding the condition of the blood of persons dying of diabetes, in one case in which he had had it examined its appearance was that of a soup, and it was extremely acid. He did not mention this as something new, for it was not, but simply as a personal experience. He thought he had warded off comatose symptoms in certain cases of diabetes by administering alkalies freely.

Too Much Dieting?—The other point to which Dr. Robinson would call attention was the need, in his opinion, of allowing diabetic patients a more liberal diet than seemed to be taught in the books. He even regarded farinaceous food as less pernicious than was generally believed. Of course it was known to increase the amount of sugar in the urine, but whether it injured the patient was a different thing. He would like to hear an opinion expressed upon that question.

A Substitute for Sugar.—DR. PEABODY said, in reply to Dr. Robinson's query, that he had noticed that patients who had been doing badly on a rigid diet frequently improved in a decided manner when given some latitude in diet. He thought each case had to be judged of by itself with reference to diet and general treatment. He had had some experience with the article sold under the name diabetin. It was sweet, and was a sugar in its physiological effects, increasing the nutrition, but it did not act like sugar in increasing the amount of sugar in the blood or urine in patients with diabetes. In other words, it supplied the patient with a form of sugar which he was able to digest and assimilate. It was obtained from the vegetable kingdom.

Diabetes May or May Not be a Serious Complication of Pregnancy.—DR. W. H. DRAPER had had but one personal experience with diabetes in pregnancy, and he could only say that in that instance no disastrous consequences followed; the woman passed through normal labor at term. He thought, however, that the question of treatment presented, as Dr. Partridge had stated, many difficultes. It seemed to him that diabetes might be a very serious complication of pregnancy, and it might not. To determine the question would be more difficult than might at first sight appear. Sugar sometimes appeared in the urine, and was called diabetes, but more properly should be called glycosuria, simply from over-indulgence in the carbo-hydrates. He thought the personal history of the patient, and the family history, would be important factors in determining the question whether this or a more serious form of diabetes existed. Sugar appearing in the urine of a pregnant woman in whose family there had been diabetes should excite apprehension.

Primipara More Liable to Nervous Influences.—DR. ANDREW H. SMITH inquired of the reader of the paper what proportion of the cases had occurred in primipara or multipara, and in married or unmarried women

DR. PARTRIDGE replied that the impression which he had received in reading the histories of the cases was that all had occurred in married women. It had not been stated just what number of Duncan's cases had occurred in women who had previously borne children, but he thought at least two-thirds were multipara.

DR. SMITH said the point which he had in mind was whether mental influences had had anything to do with the association of diabetes and pregnancy in these cases. All knew that diabetes sometimes arose from great mental shock. Also, that protracted mental strain sometimes produced an effect similar to sudden mental shock. An unmarried woman, finding herself pregnant, would, of course, have distress of mind, and a primipara of nervous temperament would experience greater anxiety than a multipara of stolid habit. He believed that a considerable degree of glycosuria of

transient character occurred much more frequently than was generally supposed. Owing to the fact that the sugar appeared in the urine for a while and then disappeared, it was likely to be overlooked unless examinations were made regularly for a considerable period.

Codeia in Diabetes.—Dr. Robinson said he supposed most of us had little faith in the drug treatment of diabetes, yet as he had used codeia, or codeine, to a considerable extent, after it had been recommended in a paper by a member of the Society some years ago, he would like to know what might have been the experience of others with it. There was no question in his mind but what it diminished the quantity of sugar in the urine, and could be given in considerable doses for some time without apparently affecting the patient unfavorably. He had thought that, possibly, it had done the patient a good deal of good, but the final end of grave cases was always the same.

Dr. Draper replied that for many years he had been in the habit of treating grave cases of diabetes with opium, in one form or another, and of late years with codeine. He remembered a case at Roosevelt Hospital in which he had given large doses of codeine, as much as twelve grains a day, with manifest benefit. He did not think it was necessary in the milder form of the disease, and did not use it. But where diabetes did not yield to dietetic treatment and to alkalies, he thought there was no remedy equal to opium. The disease prevailed to a considerable extent in India, and it had been the practice of the people there for many years to use opium in its treatment. The drug had one advantage—namely, that it enabled these patients to do work which they were unable to do without it on account of exhaustion.

Dr. Andrew H. Smith asked Dr. Draper if there was any other drug which would replace opium, and being asked for an example, suggested small doses of antipyrine.

Dr. Draper said he thought that this and similar derivatives of coal-tar were beneficial in diabetes to a certain extent, but especially in the mild form. He had not obtained much benefit from them in the grave form.

Dr. Smith said he had entertained the theory that possibly the circulation of sugar in the blood acted as a direct irritant upon the diabetic centre in the fourth ventricle, and that treatment calculated to lessen the irritability of this centre, or to diminish the amount of sugar in the blood, would tend to break the vicious circle. The more sugar in the urine, the more irritation; the more irritation, the more sugar.

Dr. Draper. Do you think these agents tend to diminish the influence of the diabetic centre in the production of diabetes?

Dr. Smith. It seems so to me.

Sinus Pyæmia and Jugular Thrombosis.—Dr. Robert Abbe made some introductory remarks, and then read the histories of four cases of sinus pyæmia, one being that of the patient whom he had already presented, and who had recovered from sinus pyæmia after irrigation of the jugular vein and lateral sinus.

Sinus pyæmia, he said, is a very grave complication of certain conditions, being especially liable to occur in inflammations of the middle ear. This fact and the value of surgical treatment by the Ballance operation should be more widely appreciated among general practitioners. Whenever, in the course of middle-ear suppuration, the pus has reached the lateral sinus, a form of pyæmia is set up of such gravity that it has always been regarded as a fatal malady. The sinus becomes thrombosed with a septic plug, which spreads down into the jugular vein, breaks down, and the purulent matter is carried onward into the circulation. The patient experiences violent chills, septic foci form in the lungs or other parts of the body, and death takes place from some one of the phases of sepsis. Now Ballance has shown that many of these cases can be cured; for, while not a great many have been reported, yet there have been a sufficient number to prove the great value of operative interference.

The essential features of the operation consist in ligating the jugular in the neck below the infective thrombus, so as to prevent the passage of any of the purulent material entering the circulation, then opening the lateral sinus and jugular above so as to give exit to the foul, infective matter. Now it has been found that, as soon as the jugular has been tied, the chills cease. The patient, who had been having two or three violent rigors a day, has remained free, and the natural inference has been that the chills were due to the entrance of septic matter from the jugular vein into the general circulation.

Since reading Ballance's paper in 1891 I have had a good many cases of abscess of the mastoid which I have trephined and cured in that manner. Of cases involving the lateral sinus and jugular, with thrombosis of these vessels, I have had four. In one of them I did not do the Ballance operation in its complete form—that is, I did not tie the jugular, but I uncovered the lateral sinus, introduced the needle, and drawing off only clear blood, I treated the case simply as one of mastoid abscess. But the man continued to do badly, and died on the seventh day of septic pneumonia. I have always regretted not having done the complete Ballance operation in this case, for it is probable that the septic thrombus was in the upper part of the jugular, and not in the lateral sinus itself, and had I tied the jugular below and opened it above to let out the septic material the patient might have recovered.

Dr. Abbe then read the histories of his other cases.

Case I. *Sinus Pyæmia and Jugular Thrombosis; Ballance's Operation; Recovery.*—Miss G——, aged thirty-two, trained nurse. The patient was in perfect health until two weeks before the operation; she then had an acute purulent nasal discharge and consulted Dr. O. B. Douglas, who thought she had ethmoidal necrosis, as she had one-sided frontal headache with purulent discharge. This lasted ten days and was improved, though an earache had been progressing meanwhile with continued headache.

On Saturday, April 6th, perforation of the drum with discharge of pus from the left ear, occurred spontaneously. A few hours later a violent chill took place, with a temperature of 105° F. She was then seen in consultation by Drs. Douglas, Nicoll, Pomeroy, and McNutt. The mastoid area showed no pain, tenderness, redness, or œdema. Her temperature ranged from 104° to 105° F. for three days. With recurrence of chills, delirium set in, and headache continued. Hebetude increased into semi-coma.

On Tuesday, April 9th, Dr. Andrew H. Smith was consulted and advised surgical interference, and I was asked to take charge of her. When seen she was in semi-coma and could scarcely be roused to any response. Respiration shallow; pulse thready, 120; temperature, 105° F. The mastoid still showed no external change, nor was it tender on pressure. No œdema extended backward from it under the occipital line, as has been spoken of. Along the jugular vein, however, from the tip of the mastoid down the front of the sterno-mastoid muscle two-thirds of the distance to the sternum, pressure gave the patient sharp pain and roused her somewhat from her hebetude. This evidence of jugular pain had been found wanting in the morning. A little tumefaction along the upper part of the same area was now noticeable.

Diagnosis.—Sinus pyæmia and jugular thrombosis; immediate operation. Assisted by Drs. A. L. Fisk, and J. E. Nicoll. The first incision to ligate the jugular about its middle, encountered several enlarged lymphatics adherent to the jugular and fixed to it by extensive periphlebitis. The vein was not readily recognized, owing to its half-flaccid and thickened walls. A hypodermic removed from it a little dirty septic

fluid. No further attempt to deal with it until the sound vein should be ligated below.

Another incision was made low down in front of the tendon of the muscle—and the common jugular readily tied between two ligatures and cut across. The mastoid process was now freely trephined and no suppuration found. The bone was unusually hard, and its cells contained only gray granulation tissue. No foul bone odor was present. The lateral sinus was carefully uncovered for an inch and a quarter. It seemed full and had a transmitted pulsation, but its coats were thick and inflamed. Again the hypodermic withdrew from it dirty septic fluid instead of dark blood. It was therefore incised its full length, and the upper jugular vein was now also incised for an inch and a half, and free irrigation from one to the other with sublimate solution 1 to 1,000, and then with salt solution, was done. The jugular was split down to the clotted lymph plug just above the facial vein entrance. The upper limit of the thrombosed sinus was just at the margin of the trephine opening, and a probe pressed through it let out a gush of fresh blood, which was at once checked with iodoform gauze. All the wounds were then plugged with iodoform gauze.

The patient rallied well. Temperature fell to 99° F. within two hours; pulse to 90. The mind was clear by the following morning. No further chills or bad symptoms occurred. Some difficulty in deglutition showed itself next day owing to the pain about the tonsillar region, but with stomach-tube feeding for two days she was soon free from pain.

Daily irrigation of the jugular and sinus with bichloride and peroxide of hydrogen, followed by iodoform gauze packing, resulted in rapid improvement. The vein walls of the lateral sinus and jugular sloughed away, owing to the intensity of the septic process in which they had been involved, and the space was filled with granulation.

The patient sat up on the eighteenth day, and was shown at this Society on the twenty-fifth day after operation.

CASE II.—*Sinus Pyæmia and Jugular Thrombosis; Ballance's Operation; Death.*—Young woman, aged twenty. Operation, February 9, 1893, in the New York Eye and Ear Infirmary. Suppurative otitis, one year.[1]

Two weeks since had symptoms of mastoid abscess. Trephined two days ago by Dr. John L. Adams, very small quantity of pus from eburnated bone, no benefit. Subsequent chill; temperature, 102½° F.; head symptoms. Studied by Drs. Bull, Gruening, Starr, and Vought.

Diagnosis.—Cerebral abscess of temporo-sphenoidal lobe; advised operation. Symptoms: pupils even; retina, choked disk; mental lethargy; pulse slow; no external swelling; headache; no tenderness on percussion. I suspected thrombosis, but accepted diagnosis of Dr. Starr and Dr. Vought, who had been watching the case, and trephined by their invitation. Dr. Gruening also thought the rapid fluctuations of temperature and early choked disk indicated sinus thrombosis. Used a one-inch trephine, one and one-fourth inch back, and one and a half inch above meatus; enlarged this backward to avoid large dural veins; opened the dura by three-fourths inch crescent, and punctured the apparently normal brain in every direction without discovering pus. Sutured the dura and closed wound. Then turned to the mastoid and exposed the lateral sinus after hard chiselling. The sinus presented thick walls, lightly pulsating and dusky. Hypodermic needle drew a half drachm of fetid plum-colored blood. I then at once cut in the middle of the neck for the jugular, and tied it at the entrance of the facial, which I also tied; I then cut open the jugular, and free venous blood came slowly from the cut end, showing that the petrosal vein had not yet been plugged. The vein was therefore again tied. The lateral sinus was split open and curetted out. It was filled with putrid clot, very foul smelling. The upper limit of the clot was at the back of the trephine opening, where a probe let out clean blood. Iodoform tamponade of the lateral sinus and jugular wounds completed the operation, which had taken about two hours.

The temperature fell from 103° F. to normal in a few hours, and for four days fluctuated between normal and 100°. On the fifth day she had great pain in her head, became comatose, rapidly failed, and died, with rapid accession of temperature, 107° F.

Autopsy showed a limited purulent meningitis covering the right half of the cerebellum—near the end of the diseased lateral sinus, where an opening had perforated from the mastoid cells and communicated also with the lateral sinus.

CASE III. *Sinus Pyæmia with Jugular Thrombosis—Ballance's Operation—Septic Pneumonia—Death on the Fifth Day.*—J. C——, aged forty-three, on March 23, 1891, was taken with the ordinary symptoms of grippe, rested a few days, and resumed work, but was taken on returning home the first day with violent earache. Abscess broke through the drum and gave relief, but repeated gathering and discharge took him to an aurist. Dr. Huntington Richards enlarged the drum opening and later trephined the mastoid. Temporary relief followed. After a week or two of diminishing discharge, a violent chill occurred, accompanied by fever and followed by sweating. These were repeated daily for four days, when he was referred to me for further surgical procedure. Other bad symptoms had come also, malaise, nausea, vomiting, loss of appetite.

He was admitted to St. Luke's Hospital, May 27, 1891, with a temperature 102⅘° F. The mastoid wound was discharging a little pus. Slight swelling and great tenderness existed along the front of the sterno-mastoid muscle from the skull half way to the sternum. Slight œdema also existed behind the jaw and somewhat in the temporal fossa. His urine showed fifteen per cent. of albumin and casts.

Operation.—May 28th. The mastoid process was gnawed away and the lateral sinus uncovered. Aspiration of it by a hypodermic needle drew a little purulent fluid. The sinus wall was hard and showed thrombosis. The jugular vein was then opened in the middle of the neck, at the junction of the facial vein, where both were found to be sound. These were ligated, and the jugular cut across above the ligature. A few drops of blood escaped. The end of the vein was then stitched to the wound. A probe passed upward pressed against a slight barrier, which yielded, and two drachms of pus flowed from the vein. Irrigation from the lateral sinus now ran freely through the jugular, which had failed prior to the probe breaking up the thrombosed clot. Sublimate irrigation was then practised upward and downward, and the neck wound closed below the jugular, which opened on the neck. Iodoform gauze packing in the sinus completed the operation.

The patient had no further chills after the operation, but he did not do as well as I had hoped. Continued evidence of his profound poisoning showed in his irregular fever, in the sloughy septic look of the wound, in his bad pulmonary condition, and continuance of his septic pneumonia. He died five days after, with temperature ranging from 103° to 105° F.

CASE IV. *Mastoid Pyæmia—Jugular Thrombosis* (?) *—Mastoid Trephined—Lateral Sinus Explored—Jugular not Tied—Death from Septic Pneumonia.*—F. A. W——, aged thirty-seven, formerly a healthy man, came under my care with grave septic condition from suppurative otitis. Urine showed albumin four per cent. and casts. I at once trephined the mastoid and removed stinking pus and foul necrosed bone from the attic and middle ear, with caseous matter. The lateral

[1] Case reported in detail by Dr. Adams in the Archives of Otology, vol. xxii., No. 2, 1893.

sinus was fully uncovered, and though it looked suspiciously inflamed, pure blood, free from pus corpuscles, was drawn from it by hypodermic needle. It was therefore not laid open, nor did it seem justified to ligate the jugular. Wounds irrigated and packed.

In the evening chest pains increased, and precordial friction sounds, with right apex consolidation, showed themselves. Respiration, 40; temperature, 103° F. Patient had occasional chills.

On the third day after a very hard chill occurred, with increased evidence of pleuro-pneumonia, and a small amount of fluid was aspirated from the chest. The lung symptoms increased and he died on the seventh day after operation.

My impression has always been that if I had ligated his jugular vein, I would have given him a better chance to recover, by cutting off infection from what I now believe to have been a high jugular thrombosis without consolidation of the mastoid portion of the lateral sinus.

Dr. Robinson thought a good deal of emphasis should be placed upon the fact, as illustrated by the cases reported by Dr. Abbe and others, that there might be suppuration in the jugular and lateral sinus when the symptoms over the mastoid indicated nothing. Only the other day he had felt the anxiety which physicians were constantly experiencing lest in cases of middle-ear disease mastoid complication should arise. In this particular case he had been debating whether to call an otologist or a general surgeon, for it was not certain but what either mastoid trouble or pus in the lateral sinus might be present, but fortunately the case cleared up without any form of operative interference.

Dr. Charles S. Bull thought the cases were not rare in which sinus thrombosis occurred from suppuration of the middle ear, and without the presence of mastoid symptoms. He recalled two cases which he had seen in consultation during the winter of 1893–94. They were cases of acute suppurative ear trouble, and in one all the symptoms of sinus thrombosis which Dr. Abbe had described were present, while there were no external signs of mastoid trouble. An operation was done, the mastoid was found entirely free from pus. There was sinus thrombosis, but unfortunately meningitis had already developed prior to the operation and caused the patient's death. Nearly similar symptoms were present in the second case. There were no external symptoms of mastoid trouble. He advised an operation for sinus thrombosis, but the parents would not permit it and the child died. Autopsy proved the existence of thrombosis of the lateral sinus and jugular vein. There had been, he repeated, no external evidence of mastoid trouble in these two instances. He believed such cases were not uncommon.

Dr. Robinson inquired whether under such conditions it was desirable to make an incision simply down to the periosteum over the mastoid? Would it prove of any benefit to the patient? would the appearance of the periosteum reveal anything of the condition beneath? or, if surgeons would recommend any interference whatever, would it rather be a complete operation?

Dr. C. S. Bull replied that in his opinion one should go down to the abscess, and if none were found, open the lateral sinus.

Dr. W. H. Draper mentioned a case of suppurative otitis media in a child seen this winter in which there was singular absence of pain, but very high temperature. The drum membrane showed some congestion, but not much tension, and Dr. Buck hesitated to open it, but did open it and there was a very slight discharge. The temperature continued high, 105° F., which Dr. Draper regarded as an important symptom in these cases. There was no œdema over the mastoid, and scarcely any tenderness. Dr. Buck operated and found in the antrum a noticeable amount of pus. The child did perfectly well.

He had seen a case like Dr. Abbe's at the New York Hospital the past winter. There was no marked tenderness over the mastoid, but extreme tenderness along the course of the jugular vein, and some swelling. He had the woman transferred to the surgical ward, but the surgeons did not operate and the patient died with brain symptoms. He had noticed in a recent number of *The Lancet* two cases in which Milliken, of Manchester, had done Ballance's operation successfully, one case being acute otitis, the other chronic.

Dr. A. H. Smith said he had been very much interested in the last case reported by Dr. Abbe, as it was the one which Dr. McNutt had consulted him about and they had sent to Dr. Abbe to operate. He had been impressed with the history as it had been related to him by Dr. McNutt—recurring chills, sweating, excessive pain, symptoms of brain implication—and told her that it was probably a case of thrombosis of the jugular. He saw the patient two or three hours later, and noticed at once the swelling along the line of the jugular vein—longitudinal, cylindrical, excessively tender. Being told that it had not been present that morning, he inferred that it had taken place during the day, and suggested that Dr. Abbe be requested to come at once, prepared to operate. He had been very much gratified at the result. He believed that had the operation been deferred until next morning it would have been too late to save life, as the thrombus was rapidly extending downward, and would soon have reached a point below which it would have been impossible to secure the vein.

Dr. Smith referred to the danger, in moving these patients, of causing the septic material in the vein to break down and enter the general circulation, and said he had cautioned the nurses not to move this patient until Dr. Abbe arrived.

Meddling With the Ear.—Dr. Sexton wished to give a warning to practitioners not to treat cases of acute catarrhal trouble of the ear so rudely as was often done, judging by his personal observation. It was very difficult, it was true, to desist from doing something when called to these cases, but the patient would be better off with no interference whatever than with that which was out of place. The doctor was likely, for instance, to inflate the ear with the politzer bag and drive the purulent matter, if any were present, in every direction. Violent and unnecessary syringing would convert a simple case into a grave one. To use an unclean knife to evacuate purulent or sero-purulent matter might set up a much more virulent condition.

Dr. Abbe, in closing the discussion, said: A point of interest in the case of the nurse is the fact, as it seems to me, that it was the direct result of grippe. One other case seemed also to have been the result of grippe occurring in 1891. How many more of the cases seen by different men have resulted from that, I am unable to say. The fact that Dr. Nichols and Dr. Pomeroy had examined this patient on the morning of operation for mastoid disease and found no swelling, either over the mastoid or along the jugular vein, opens up the interesting question, how rapidly perivascular inflammation and extension of thrombus may take place. For in this case the thrombus at night was found to have extended well down in the jugular. Aside from the testimony of such able men as Drs. Nichols and Pomeroy, I would have inferred in dissecting the parts that the inflammation had been present at least three days. The case shows how constantly symptoms of sinus thrombosis should be watched for during an attack of supposed mastoid disease. Chills are most important as pointing to sinus thrombosis. In a case of simple ear trouble you may have a temperature of 105° F., without meningitis and without sinus thrombosis—simply with confinement of pus. You do not take a succession of chills. If there is a succession of chills, sweating, high temperature, I believe the evidence of pyæmia is absolute, and that the pyæmia must be the result of a septic process in which

the large venous channels are suddenly and repeatedly invaded.

One can produce a temperature of 105° F. within two minutes after injecting two grains of mixed toxins of erysipelas. So I think a succession of chills in these cases means only one thing, namely, pyæmia through the venous channels. Take this in connection with tenderness along the jugular and you may discard, as necessary to your diagnosis, tenderness over the mastoid, as this is sometimes absent. Chill and tenderness together, I believe, call for operation, else it means death.

Regarding Dr. Smith's remark as to moving these patients, Ballance warns against moving them until the jugular has been tied below so that none of the thrombus may be driven into the general circulation. In one of Ballance's most brilliant cases, he first tied the jugular, then transferred the patient and operated. It has been shown that the poison does not work backward from the sinus, but infects the patient by passing down the jugular.

Replying to an interrogatory by Dr. Peabody, Dr. Abbe said the operation was an easy one when you knew how to do it.

Case of Small Aneurism Obliterating Left Bronchus by Pressure, and causing Consolidation of Left Lung, with Symptoms and Physical Signs of Empyema.—Dr. Peabody showed specimens from a man whose symptoms and physical signs were those of empyema, and whose lesion was a small aneurism obliterating left bronchus by pressure, and causing hemorrhage into the air-vesicles and interstitial pneumonia throughout the lung. The aneurism, which was about the size of an English walnut, was on the descending thoracic aorta and compressed the left primary bronchus just below its origin. It has ruptured and filled the bronchi below with blood, but no blood reached bronchus above or trachea. Sections of the lung under the microscope showed the air-vesicles filled with blood, and their walls greatly thickened throughout and filled with young cells. The lung was much tougher and firmer than in ordinary lobar pneumonia, but in other respects resembled that condition to the naked eye.

Dr. Peabody pointed out the impossibility of making an accurate diagnosis under these circumstances, the close resemblance of the case to one of empyema, both in its history and in its physical signs, and also the light that it shed upon the causation of bronchial breathing. This sign was absent, in spite of the consolidation of the lung, and its absence was explained by the occlusion of the bronchus, which prevented the transmission of the respiratory sounds from the trachea.

The history of the case was as follows: J. B——, aged fifty; Ireland; widower; harnessmaker, was admitted to the New York Hospital, March 15, 1895. His father died of hasty consumption. Last winter he had pneumonia. He is of temperate habits. Says that since his pneumonia last winter, he has not been perfectly well; denies syphilis; he has taken cold easily, and for a long time has had a dry, hacking cough, but has been strong enough to keep about his work. Two weeks ago he contracted cold, and since then has been coughing badly. He has been short of breath, and has had pain in right side of chest. He has been sweating much at night for the past three nights. There has been no loss of flesh, nor have there been any gastric or intestinal symptoms. His appetite is good; his bowels are constipated. His chief complaint is the cough.

On admission, his temperature and respiration were normal; his pulse 92. With the exception of numerous râles at both apices, crepitant, sonorous, and sibilant, a physical examination was absolutely negative in result, both as to chest and abdomen. His tongue was moist and slightly coated; his general condition was good. His urine contained a small amount of albumin, but was otherwise negative. His cough continued very distressing, and after nine days he complained of pain in the back, chiefly on the left side; and on this day it was discovered that all over the left chest posteriorly there were dulness and absence of vocal and respiratory sounds. This led to the suspicion of fluid; and an exploratory puncture withdrew a minute quantity of whitish, thick fluid, which was proved by microscopic examination to be made up of pus. His temperature rose gradually to 102° F., and from this date until his death was usually somewhat above the normal, and occasionally as high as 103° F. His pain over the left chest continued; his cough was not improved by treatment; his appetite failed, and he gradually sank and died exhausted on April 4th, at 7.40 A.M., a little less than two weeks after the development of the first thoracic signs.

Case of Thrombosis of Basilar Artery due to Arterio-Sclerosis.—Dr. Peabody also showed a case of thrombosis of the basilar artery with softening of pons and arterio-sclerosis with peri-arteritis in a woman thirty years of age.

The basilar and other arteries of the brain, particularly the small arteries, showed the lesions clearly. There was quiescent old tubercular infiltration of one apex, but no other lesion of chest or abdomen. A history of syphilis could not be obtained.

Dr. Peabody had seen and published two other cases of thrombosis of basilar artery due to arterio-sclerosis. The patient was a German woman, thirty years of age, married, the mother of several living children, the youngest being an infant six months old, who is since dead.

She was comatose on her admission to the hospital on April 1, 1895. From her friends it was learned that she had always been a healthy woman prior to her present illness. One week before her admission she had complained of numbness and tingling in the right arm with distinct impairment of its power. Two hours before her admission to the hospital coma suddenly developed. Syphilis is denied.

Her husband stated that she had been under a strain of much care and worry about her child.

Physical examination revealed rigidity and partial loss of power in right upper and lower extremities, loss of power and sensation in right side of face, dilatation of right pupil. Heart sounds were feeble, but there were no murmurs. Urine was normal. After four days her temperature rose to 101° F. It remained without much change for several days, and then steadily rose to 106° F. on April 6th, when she died.

Dr. Kinnicutt presented the photographs of a case of general lympho-sarcoma. The case had been under his observation in the wards of the Presbyterian Hospital, and an autopsy had been obtained. The first symptoms had appeared two years before the patient's death, and the glands had been attacked in the classical order—first the cervical on one side, then the axillary and inguinal groups on the same side successively; a year later the cervical glands of the opposite side had been attacked, followed by the involvement of the axillary and inguinal.

On admission to the hospital, the superficial glands throughout the body were enlarged, the anterior and posterior cervical groups enormously so, and there were the physical signs of implication of the glands in the anterior mediastinum and of the bronchial group. A large mass could also be palpated in the umbilical region, which, it was believed, represented the retro-peritoneal glands. The liver and spleen were also enlarged, the edge of the latter being palpable three inches below the costal arch.

The differential diagnosis between a lymphatic leucæmia and a general lymphadenoma was determined in favor of the latter by a study of the blood, which showed the absence of an excess of lymphocytes: a moderate leucocytosis was present.

The autopsy by Dr. Thacher confirmed the correct-

ness of the physical signs noted during life. Aside from the involvement of the superficial glands throughout the body, a large mass filled the anterior mediastinum, the bronchial glands of both lungs were greatly enlarged, and the retro-peritoneal group formed a large tumor made of numerous nodes welded together. The spleen was greatly enlarged, weighing forty-two ounces, and its normal tissue was replaced almost wholly by lymph nodes, several measuring three and a half inches in diameter.

In the lungs, several nodules were present near the periphery, in addition to the masses about the roots. Just beneath the pericardium in the heart muscle two small nodules also were found. Sections of the heart, liver, and kidney tissues showed areas of invasion of lymphoid tissue. Sections of the various nodules showed a very similar structure, essentially a round-celled sarcoma. There were, however, "many large cells, irregularly distributed, round or angular, some with many nuclei." "The nodules appeared to the naked eye to be sharply outlined, but on microscopical examination were found to have no capsule or sharp demarcation from the surrounding structures, and tissues of invaded organs were sometimes found within the tumors."

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, June 6, 1895.

JOSEPH D. BRYANT, M.D., PRESIDENT, IN THE CHAIR.

Medical Terminology; its Etymology and Errors.—DR. P. J. MCCOURT read the paper (see p. 115).

DR. CHARLES A. LEALE opened the discussion. The subject of medical terminology, its etymology, and errors, he said, offered to the mind material for apparently unlimited work. Scientific men of all nationalities had at various times endeavored to solve the problem. At the International Congress the learned men of the profession, speaking in a great variety of languages, had utterly failed to convey their ideas to one another. Nothing caused a deeper sense of individual humiliation than for a scientific man to sit and listen to the observations of another in his own profession without being able in any way to comprehend his meaning.

There was a great difficulty in the way of ever attaining a universal language, namely, the great variety of nations, of climate, soil, and surroundings. Experience had shown that where a people having a comparatively pure language had been transplanted to a place where the surroundings were entirely different and complete isolation prevented communication, the language formerly spoken underwent a change, which in three or four generations became in large measure incomprehensible to the people of the mother country. The people of the different provinces of one great country often failed to understand one another. An example was seen in China, where the troops from different provinces could not understand even ordinary military orders when brought under one command. Dialects prevailed among the two hundred and forty thousand American Indians so that one tribe could not understand another. The language of signs, gestures, looks, came more nearly to being universal than any other among uncultured people.

With regard to the best international language for the interchange of professional thought, he still believed that English would year by year gain the ascendency, simply because of its becoming more widely diffused and being the means by which wealth could be more readily acquired. International jealousy, under the pressure of overwhelming power, faded as a mist before us. Might made right in dealing with barbarian people.

The spelling and pronunciation of words in the same language varied in different localities. One could often tell from which college a man came by his pronunciation of such words as bronchitis, cerebritis, etc. There were still other difficulties in the way of a perfect terminology, which it seemed impossible to overcome at present. If it were based on the pathology of to-day, our knowledge to-morrow might make it absolutely inaccurate. Moreover, morbid anatomy might manifest itself in different ways under different surroundings. He could not agree with the essayist in the statement that it was humiliating that the cowboys of the plains could use language which more accurately conveyed their impressions than ours did for us. Descending to the lower orders, one found the lion, the dog, the bird, giving utterance to sounds which fully conveyed their intended meaning. It was even supposed that in inanimate nature there were harmonies which defied the understanding of man. Chemical terms were supposed to be much more accurate than those in use in other branches of medicine. We were supposed in chemistry to be dealing with exact known quantities, yet it was only a few months since a new element had been discovered in our atmosphere. Thus it would be seen that there was no end to knowledge, and that being the case, the necessity would always exist for changing our etymology or terms to make that advancing knowledge comprehensible.

Dr. Leale thought the suggestions made by Dr. McCourt were well worthy the consideration of the Academy.

DR. DANIEL LEWIS spoke next. He said he would fully confess at the outset his inability to properly discuss a paper of this character. The first impression which he had received while listening to it was the great care, labor, and energy which Dr. McCourt had expended in its preparation. The importance of the question he could not, of course, question.

It seemed to Dr. Lewis that it would be impossible to adopt a terminology to-day which would apply next year in all cases. Some palpable defects could be remedied, which remedies would be permanent, but in the field of nervous diseases, of skin diseases—in fact, of all the departments of medicine—the new pathology which developed from year to year, the diversity of opinion among pathologists themselves, would make it almost impossible, it would seem, to adopt any method of treating this subject which would relieve it of the many absurdities made apparent by the reader of the paper. Yet he would like to see Dr. McCourt continue his studies in that direction. But, after all, when one went right back to the principle of the thing, it would be recognized that if language expressed an idea which we understood, it was as good language as we needed. If he knew what was meant by the term cancer, for example; if he got a clear understanding of the idea which the speaker intended to convey, that language was just as effective, just as useful, just as instructive to him as it would be if it were strictly, in its primary etymology, scientific or accurate. If we should carry out the line of investigation started by Dr. McCourt this evening and apply it in other directions, we would find our language in all departments filled with terms, words, expressions, which had their origin—we had not studied to find where, but doubtless in some term quite as irrelevant as cancer or other medical words whose etymology had been criticised in the paper.

Objects to Naming Diseases after Symptoms.—DR. W. H. THOMSON appreciated both the learning and the motives of the author. Yet the question was hardly one which we could discuss verbally—the question of reconstructing our medical terminology so that we could get rid of the faulty ideas and delusions of former generations. Medical terminology resembled very much some rocks in geology, having been formed drop by drop and preserving many fossils. But was it necessary to change or discard these terms because the ideas

which they were once intended to convey had become fossil? We had not discarded the term calico notwithstanding the fact that calico was now manufactured elsewhere than in Calicut, yet everybody knew exactly what the word meant. Dr. Thomson did not see any practical gain in changing medical terminology in the sense of the purist. We would all get at loggerheads if we attempted it.

Then should we attempt to establish a terminology for newer names based on pathology? Here we were met at once by difficulties already alluded to by Dr. Leale and Dr. Lewis. We could not get our pathology to stay good: we had not the pathological facts. But were we entirely helpless? He thought we could have some principles to go by. One, in his opinion, should be to eliminate from our terminology all names of diseases based on symptoms. They were always misleading. An example was given in locomotor ataxia, for in this particular instance the patient had all the evidences of that disease except ataxic gait. Then there was exophthalmic goitre. He could not recall the number of cases in which he had seen this disease when there was neither exophthalmus nor goitre.

We ought to adopt the term infectious for all diseases dependent upon the entrance of a micro-organism into the body. But he had known the most dreadful cruelty practised upon unfortunate patients with pulmonary tuberculosis from the spread of the idea, first coming from the medical authorities, that tuberculosis was a contagious disease. It ought to be settled in one paragraph as to what constituted the difference between an infectious disease which was communicable, and one which was non-communicable. Another fault which might be corrected was that of having a number of terms for one disease.

But Dr. Thomson would not disturb names whose signification was perfectly distinct and universally received simply because of their mistaken etymology or derivation. The reason was that, like in disturbing anything which had become settled by usage, we would probably introduce more confusion than would be offset by the advantages. But where terms unquestionably led to mistakes in our understanding of disease they should be carefully revised, and he saw no better way than for the Academy to accept the responsibility and appoint a committee which might act with similar committees in other countries as well as in our own. There was one in England which was doing some good work, although it was going slowly, as was characteristic of English conservatism.

Then there should also be some court of adjudication for new terms, so that they might be given some definite signification. This need was especially felt in neurological work. The term neuron, which was only three years of age, being under discussion before the New York Neurological Society, was found already to have six different meanings, or five other than the meaning attributed to it originally by Waldeyer.

Dr. Achilles Rose mentioned as one instance in which he thought it was proper to name a disease after the prominent symptom, the one recently christened "achylia gastrica" by Dr. Einhorn, for in this disease there was deficiency of the juices of the stomach, the cause of which could not always be discovered. Dr. Rose also thought that a great many errors could be avoided in using the Greek for medical terminology, if one would acquire a knowledge of the living Greek. There must be mistakes where one went alone by the dictionary. For instance, a great many disputes had arisen over the spelling of the word "polyclinic." Yet one with a speaking knowledge of Greek could not make the mistake of spelling it with an "i" instead of "y."

Dr. McCourt closed the discussion. He had endeavored to be critical, not hypercritical. He had not attacked any term which he thought it appropriate to retain. He thought long usage was no excuse for perpetuating wrong terms. Many of the terms now in use could not be employed in court without explaining them or doing violence to our conscience. Regarding pronunciation, this was a delicate and difficult feature to deal with, especially in connection with Latin. The Italians came nearest to giving the correct pronunciation of this language. With Greek it was easier, as it was a living language. But our college professors presumed to give the Greeks themselves points in the pronunciation of their own language. They ought to be better informed or more considerate.

Dr. McCourt said he was very glad Dr. Thomson had pointed out the advantage of referring new terms to a committee which should pass upon their propriety and exact meaning before they came to be generally adopted, thus avoiding new errors.

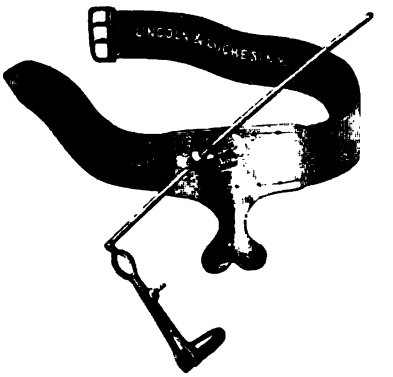
The President stated that the Academy and its sections now adjourned until October; that the library would open only during the day from June 15th to August, and that during August it would be closed for refurbishing.

New Instruments.

A SELF-RETAINING NASAL SPECULUM.

By W. W. DEES, M.D.,
NEW YORK.

The accompanying illustration represents a self-retaining nasal speculum which, in some cases, I have found almost indispensable. The speculum proper is of the ordinary spring variety, controlled by a set-screw. At the back of the spring is brazed or welded



a slotted nib, hinged to a bar which in turn runs to a ball-and-socket joint, fastened to the head-piece of an ordinary forehead mirror. The hinge-joint permits the speculum to be used on either side. The bar can be regulated to any length. The ball-and-socket joint allows any necessary lateral motion. It is fastened to the patient's head by a band, and is easily adjusted to any case. The instrument was made by Messrs. Lincoln & Luchesi, New York.

352 West Twenty-second Street.

Getting Ready for Cholera.—When cholera prevailed in France two summers ago, the health authorities sent word to the mayor of a village in the threatened district to prepare for the disease. After a while he reported that he was ready, and upon inquiry being made as to what precautions had been taken, it was learned that a sufficient number of graves had been dug in the cemetery to bury every man, woman, and child in the village.

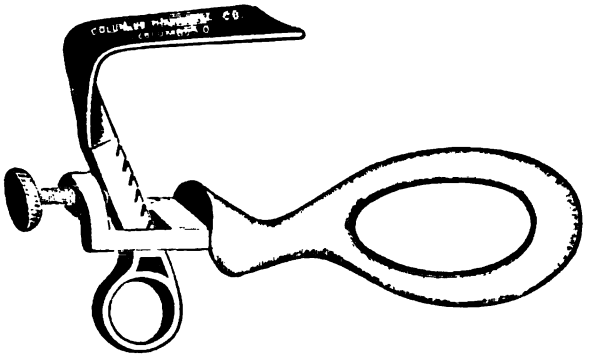
The Bulletin General de Therapeutique, which was for twenty-three years edited by the late Dr. Dujardin-Beaumetz, is now under the editorial management of Dr. G. Bardet. The journal was founded by Dr. Miquel in 1831.

A NEW SELF-RETAINING PERINEAL RETRACTOR.

By D. TOD GILLIAM, M.D.,

COLUMBUS, O.

THIS retractor is for the dorsal position. It consists of two parts: the retractor proper, and the holder. The retractor has a short blade and a short handle. The handle is notched on its outer aspect, and has a ring at the extremity. The holder has a large ring



at its upper extremity to embrace the hump at the lower end of the sacrum. Below this is a saddle which conforms to the curve of the coccyx. At the lower end of the holder is a device for coupling to the retractor. It consists of a rectangular slot which opens on the left side. Near the upper end of this slot, and running transversely across the same, is a steel pin which fits into the notches on the handle. A thumb-screw at the extremity of the holder, which regulates the inclination of the blade, completes the mechanism. The accompanying cut will give a better idea of the instrument than is possible by a verbal description. It must be understood at the outset that it is not a speculum, as it will not, as a rule, expose the cervix unless the anterior vaginal wall be lifted up, or the cervix pulled down. A retractor should have a short blade, that the parts may be drawn down within easy reach. It should not have broad flanges at the vulvar extremity, as this interferes with the free use of fingers and instruments. The experienced operator will at once see the advantages of this arrangement, while the beginner is apt to be disappointed because he cannot at once see the cervix, or because the vulva, in a measure, closes in and obscures the view. In proportion as a retractor is made with long blades or broad flanges, it is spoiled for operative purposes.

Directions: Have patient on her back with buttocks projecting a little beyond the end of the table, push the holder up under the sacrum until the saddle is arrested by the coccyx; the weight of the body anchors it firmly. Introduce the retractor as you would any other, noting the position of the cervix. With one or two fingers of the left hand on the blade of the retractor, and the thumb under the end of the holder, approximate them by pressure. The index-finger of the right hand in the handle ring now guides it into the slot and applies the teeth to the pin. By increased pressure of thumb and finger, the desired degree of retraction is obtained and held by the notch and pin. The inclination of the blade is changed at will by the thumb-screw. The cervix or other parts are now caught by a bullet forceps and drawn down toward or outside the vulva. The instrument is simple, efficient, and inexpensive, and takes up but little more room than the ordinary bivalve speculum.

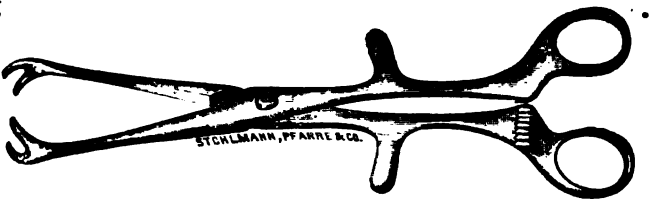
A Natural Feet Society.—Some English ladies, residents in China, have started a society to put a stop to the practice of binding the feet of young girls. Chinamen, who resent the impertinence, ask the members of the new society to join them in the formation of a Natural Waist Society, to put an end to tight-lacing.

A UTERINE VOLSELLUM FOR USE IN VAGINAL HYSTERECTOMY.

By HOMER I. OSTROM, M.D.,

NEW YORK.

DURING the past six months, I have performed forty-three vaginal hysterectomies. Some of these were done for the removal of the diseased uterus, others for uterine fibroids, still others for suppurating tubes and ovaries.



The operation has been greatly facilitated by the use of a volsellum which Messrs. Stohlmann, Pfarre & Co. have made at my suggestion. The cross-bar of the instrument permits any necessary degree of traction, and the broad flat handles, which rest in the palm of the operator's hand, make complete rotation of the uterus possible during its separation from the vagina, broad ligaments, and peritoneum. A further advantage is found in the shape of the teeth, which when fixed, close the os uteri, thus shutting off a frequent source of infection.

42 WEST FORTY-EIGHTH STREET.

A TRACHEAL TUBE-GUIDE, OR EMERGENCY TRACHEAL WOUND DILATOR.

By FRANK LEMOYNE HUPP, A.M., M.D.,

ATTENDING SURGEON TO THE CITY HOSPITAL, WHEELING, W. VA.

ANYTHING which might lead to a complication of the simple methods of opening the trachea, or any multiplication of the already too numerous instruments for this emergency procedure, is to be condemned. Yet Dr. Lewis S. Pilcher[1] more than thirteen years ago observed that the surgery of the trachea, in many instances, would be made more certain, more facile, and more productive of good results, if the special conditions which it presents were more carefully studied and met.

One of the most distressing experiences we, as physicians, are called upon to meet, and an experience which comes with almost startling frequency, is that of a child afflicted with laryngeal diphtheria.

During the past year I have had occasion to open the trachea six times for the relief of the stenosis coming with this dreaded disease, and in nearly every instance I have recognized the need of an instrument which could be so quickly and efficiently introduced into the windpipe, that relief would be immediate and that the cannula could be safely and accurately placed.

If the first sign of danger has been appreciated and an early interference has been brought to bear in the case, all will go well and relief will be certain. But, on the other hand, if the tracheotomy has been delayed or the medical attendant has not seen the case until it is in articulo mortis, then whatever is done must be done expeditiously, or life will be extinct.

It is particularly for this latter class of cases that I wish to call the attention of the medical profession to an instrument which may be used where the little sufferer is in immediate danger of suffocation, and where the introduction of a cannula is of supreme importance.

The tube-guide is fashioned like a miniature Sims speculum, as may be seen by the engraving, terminat-

[1] Care of the Trachea after its Incision for the Relief of Croup, MEDICAL RECORD, p. 342, 1882.

ing in a probe point, grooved on its convex side like the speculum, but having the two sides converging toward the probe point. When the tracheal rings have been quickly divided and difficulty is encountered in placing the cannula, the probe-pointed guide may be quickly and accurately carried down along the finger and gently forced through the severed rings, and traction made in a direction toward the sternum.

If there be no cannula at hand, and no other cutting instrument but a penknife, with the aid of this instrument a child can be kept alive almost indefinitely until the tube arrives, there being no interference to the ingress of air.

The tube-guide will also facilitate the cleansing process and the removal of membrane, and care in this direction, so urgently insisted upon by Dr. Pilcher,[1] has certainly had much to do with diminishing the percentage mortality after opening the trachea.

The instrument is made by George Tiemann & Co., and is so constructed, and of such a size that it may be carried in the vest-pocket. I have had a three-pronged retractor placed at the other end of the guide for convenience instead of a simple handle.

Let me briefly relate two failures which might have been averted had an instrument of this kind been at hand:

CASE I.—W. M——, aged two, laryngeal diphtheria of thirty-six hour's standing—stenosis almost absolute. With the assistance of Dr. R. M. Baird a tracheotomy was performed; just as the rings were divided the child quit breathing. Retractors and tenacula were used to hold open the severed rings, yet when the cannula was placed, every effort was made to resuscitate the patient, but all to no avail.

CASE II.—K. R——, aged four, diphtheritic croup, suffocating dyspnœa. Younger child in same room with tube in neck. Assisted by Dr. James Schwinn, the trachea was speedily opened—an instrumental effort was made to separate the rings and to introduce the cannula; but the edges of the wound in the trachea were so inverted and the child so far gone, that life was extinct before the cannula was placed.

61 FOURTEENTH STREET.

The Hygiene of the Future.—The great problems in medicine to-day are hygienic, not therapeutic, though therapeutics seems to be getting the better of diphtheria. The most desirable thing in the affairs of man is, first, the making of people healthy, and, second, the making of them happy. The dyspeptic Puritanism which whines over the necessity of suffering as a means of grace can have no place in a superstition-free and scientifically enlightened philosophy. What we want, and what hygiene is yet to give us, are comfortable homes for all mankind, aseptic alike of the germs of zymotic disease and of the taints of the common vices, where noble and healthful men, noble because they are strong and healthful, and sweet and beautiful and healthful women, beautiful and sweet because they are healthful, shall rear their little families of disease-unblighted children, happy because healthful, and giving promise of future attainment in the good, the beautiful, and the true—promises which shall not be broken because hygienic medicine has made the keeping of such promises possible.—PROFESSOR H. A. COTTELL, University of Louisville.

[1] Loc. cit.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

DEATH OF PROFESSOR HUXLEY—THE PRINCE AND PRINCESS OF WALES AT HOSPITALS—KNIGHTHOODS FOR THE PROFESSION.

LONDON, July 5, 1895.

HUXLEY is dead. Many of your readers may have expected this from what I have written as to his illness. As he prefixed an autobiographical sketch to the recent edition of his works, many of the interesting events of his life will also be known to, and recalled by, your readers at this juncture. Though he actually practised the profession for a short time, it is as a scientific worker, and especially as a biologist, that he achieved the great position he held so long, and which makes his death seem to leave so great a blank in the scientific world. His influence with the public was largely due to his great ability as an expositor of science. His literary taste and skill induced many to approach problems they would have shirked under the guidance of many able men. His oratorical gifts, too, were of a high order and very attractive to cultured minds. He has himself stated that his writings cost him hard work, that he thought nothing of writing a sentence three or four times before committing it to the press, and so he cannot be said to have been a born writer or speaker, but like so many more conquered success by industry. Yet his finished and charming style, as well as his labor in producing it, must be considered as proving that he was endowed with excellent literary taste and critical acumen. He would doubtless have succeeded in any walk of life demanding intellect and industry, as those who know how manfully he worked his way to his great position along the rugged road of science will be the first to acknowledge. The profession was proud of him as one of its members, and he wielded great influence in maintaining and promoting scientific culture in our ranks—the more so, perhaps, that the biological sciences claimed so large a share of his attention.

In 1883 he became President of the Royal Society. In 1892 he was made a privy councillor, a distinction conveying the title Right Honorable, which is, I think, unique as a recognition of scientific services, being chiefly earned in political strife. University degrees and Academy fellowships had, of course, been previously showered upon him from all quarters.

Theological problems seem to have had a strange attraction for him and led him into warm controversy. In this he displayed his courage whoever might be his opponent, and did not hesitate, as will be remembered, to close with so redoubtable a master of logomachy as Mr. Gladstone himself. Possessed of tenacity of purpose amounting almost to obstinacy, he had to be driven from any position he had taken up before he would relinquish it, thus illustrating the quality on which the English have been rallied, of not knowing when they are beaten. He originated the term "agnostic," thinking it the antithesis of the Gnostics of the Church, who professed to know so much. Attempting to apply scientific methods to the Bible in all its parts was sure to be unpopular, and some of the controversy he thus kindled was perhaps as useless as it was bitter. Moral or religious problems cannot be solved by mechanics or mathematics. In the new number of the *Westminster Review*, which, by a coincidence, appeared as the professor lay dead in his house at Eastbourne, there is an article by a writer who proclaims himself an agnostic and devoted disciple, which nevertheless consists of a statement of difficulties in understanding the views of the great agnostic. This seems at least to show that Huxley's clear style and direct argument

failed sometimes to make his philosophical opinions comprehensible to some of his ardent admirers.

Huxley's friends were a multitude, and they are vying with each other in extolling his constancy, simplicity, modesty, love of truth, and other virtues; while the medical friends who attended him through his last illness were charmed with his patience, cheerfulness, and consideration for them. He died on Saturday, and yesterday his remains were committed to the grave at the Finchley Cemetery, where two of his children are buried. At Charing Cross Hospital, where he was a student, there is already a movement to raise a memorial to him in a form to benefit the school.

The Prince of Wales and the Crown Prince of Denmark went to St. Bartholomew's Hospital on the occasion of the consecration of a new Masonic lodge, named after Rahere, the founder of the hospital. The Prince of Wales is Grand Master of the English Masons, and the Prince of Denmark of the Danish Masons. The Rahere lodge will be another strong link between doctors and Freemasons.

The Prince of Wales displays a good deal of interest in medical institutions. Quite lately H. R. H. helped the bazaar for St. Mary's Hospital, and next Monday he is to lay the foundation-stone of the new buildings of the Royal Medical Benevolent College, and is to open the new buildings of the Royal Free Hospital on the 22d—on this occasion being accompanied by the Princess. He has accepted the office of Chancellor of the University of Wales.

Three knighthoods have fallen to the profession. Edinburgh has one in the person of her distinguished Medical Officer of Health and Professor of Medical jurisprudence—Dr. (henceforth Sir H. D.) Littlejohn. Dublin has two: very proper, no doubt, from a fallen Home Rule government, but both are worthy recipients, viz., Mr. Thornley Stoker and Dr. Christopher Nixon.

OUR PARIS LETTER.

MEETINGS OF THE ACADEMY OF MEDICINE—HOSPITALS MEDICAL SOCIETY—SURGICAL SOCIETY—BIOLOGICAL SOCIETY.

PARIS, July 6, 1895.

THE last meetings of the four leading medical societies of France are fraught with interest to the general practitioner as well as the specialist. At the Academy of Medicine a discussion on the prophylaxis of diphtheria was introduced by Professor Dieulafoy, who demonstrated that a clinical examination alone was insufficient to make a positive diagnosis between herpetic and diphtheritic angina; such an examination was likewise incapable of giving us information regarding the duration of bacillary virulence. One means only permits us to separate surely and unerringly diphtheritic angina from others. One means only permits us to know whether the bacilli persist in a state of virulence in the mouths of patients. That means is the bacteriological examination.

M. Cadet de Gassicourt requested the Academy to formulate a petition to establish in Paris laboratories directed by trained specialists, and to which physicians could send for examination fragments of false membranes and mucosities taken from individuals suspected of having diphtheria or convalescing from that disease.

M. Rochard pointed out the danger to the public health caused by alcohols called superior, and by the essences with which liqueurs, as dispensed in cafés, are made. The consumption of alcohol has doubled in France during the last few years. At the same time the average of crime has increased with alarming rapidity. It was proposed, in order to counteract this, to limit the number of shops, to demand a good moral character of wine-sellers, to increase the duties on alcohol, and to prosecute vigorously frauds of all kinds. The question of the influence of alcohol in the production of phthisis was next discussed, and it is noteworthy that at Rouen and Havre, where the quantity of alcohol consumed per capita annually is 14 litres, there are 402 and 522 deaths from phthisis in 100,000 inhabitants; while at Toulouse, where the quantity used is 2 litres a head, there are only 290 deaths.

M. Bordaz read a paper on the use of permanganate of lime as an excellent non-caustic antiseptic. It is, however, doubtful if it is better than the permanganate of potash, which possesses also microbicide properties.

At the Société Médicale des Hôpitaux M. Gallard reported a case of acute thyroiditis, terminating in resolution. The patient was a woman of forty, nervous, thin, and physiologically miserable, having tumefaction of the thyroid body consecutive to the grippe. There was great pain in the right cervical region and difficulty of swallowing, accompanied by fever and an enlargement of the base of the neck. On a level with the right lobe of the thyroid body, there was a tumor about the size of a hen's egg, redness, and pain; on the left side the tumefaction was less accentuated. Belladonna ointment was applied to the swelling, with antipyrine and purgatives internally, beginning on March 23d. On the 26th, amelioration, less pain, less difficulty in swallowing; pulse, 96, temperature, 38.5° C. On the 27th, pulse, 100, temperature, 37.5° C.; the right lobe of the thyroid body is reduced to the size of a horse-chestnut. On the 29th, *restitutio ad integrum*, no fever, no trace of thyroid swelling. There were, however, several attacks of palpitation and tachycardia subsequently, the heart beating from 128 to 140 per minute.

M. Legendre reported the case of a child suffering from generalized eczema complicated with obstinate gastro-intestinal trouble. The patient was five years of age; the eczema, which at first seemed to yield to good hygienic measures, began after a few weeks to spread rapidly, and soon extended over the entire integument; the child lost flesh and diarrhœa set in. All the antidiarrhœa treatments were tried without success, including hypodermic injections of physiological serum. The child continued to waste steadily. The first nurse, an alcoholic with acne, had been discharged; the second got off with an abscess of the mammary gland; the third with an erythema of the breast. Virulent stomatitis now made its appearance, the temperature rose suddenly to 40° and even 41° C., and the child died without cardiac or pulmonary complications of what M. Legendre calls bucco-intestinal septicæmia.

At the last meeting of the Surgical Society M. Richelot continued the discussion of a new method of vaginoabdominal hysterectomy.

At the last meeting of the Biological Society, Professor Hanot reported a case of acute miliary tuberculosis in a man sixty-one years of age. The tubercle, unique, rounded, firm in consistency, about the size of the head of an ordinary pin, and projecting slightly into the lumen of the vessel, was situated in the superior portion of the pectoral aorta. The cuts showed an absence of blood-vessels, the presence here and there of the bacillus of Koch, and a few giant cells, the centre being in a state of caperification; all of which attest rapid formation; the rest of the aorta was free from lesion, as regards the internal and middle tunicas; on the external tunic was a small inflammatory nodule of no particular pathological importance. It is well known that the tubercular bacillus enters the circulation in two ways, generally: by the lymphatics and by the veins; the entrance by the arteries is probably much more frequent than is known; in fact, Koch, Mugge, and Cornil have each reported cases of tubercular deposit in the vessels of the bronchial ganglia, the internal tunic of the pulmonary artery, and the meningeal arteries, respectively.

M. Langlois had studied with M. Atanazio, the action of the salts of cadmium on cold-blooded animals.

In injecting into a frog seventy centigrammes of the sulphate of cadmium by kilogramme of weight of the animal, they caused a state of stupor in which the excitability of the nerves remained intact. They concluded from their experiments that cadmium acts upon the ganglionary system of the heart.

M. Lapicque affirmed that he had found an iron hydrate mostly of colloid form in the liver of a diabetic patient, and M. D'Arsonval related a number of experiments proving that ozone has no antiseptic power.

A NEW INTRODUCTOR AND EXTRACTOR FOR INTUBATING THE LARYNX.

To the Editor of the Medical Record.

Sir: In describing my "New Introductor and Extractor for Intubating the Larynx," in the issue of June 15th of your journal, I did not at the time consider it necessary to mention that the instrument had been ordered in February. The extractor and tube with wire rim attachment were ready for use in the beginning of March. The publication of the instrument was delayed because the introductor had to be altered many times before reaching its present state of perfection. I hope you will, in justice to me, give these few lines space in your valuable publication.

Yours respectfully,
David C. Lewinthal, M.D.

CRANIOTOMY AND THE LAW.

To the Editor of the Medical Record

Sir: The article on "The Catholic Church and Obstetrical Science," Medical Record, June 22d, is interesting from the fact that it defines in full the attitude of a powerful religious organization on a question of public policy. Professor Sabetti's able article places the four ecclesiastical decisions on the question of the justification of craniotomy in the best possible form from the stand-point of the body he represents. "The admission therein contained, that craniotomy is one of those surgical operations which are and must be called *directe occisivæ*, truly murderous, precludes every other abstract and otherwise possible interpretation of the *tuto doceri non posse*, except the practical one, *i.e.*, that craniotomy is unlawful, morally unlawful always, and intrinsically unlawful. . . . And to speak of 'science' and 'necessity' that we may connive at such a crime is, to say the least, ridiculous. Science is advanced only by truth, and necessity, however great, cannot be admitted as an excuse for crime."

These conclusions of Professor Sabetti are theological. They are significant in this: that good theology may be bad public policy, and also that ecclesiastical deliberations are not always in harmony with Anglo-Saxon law.

The question is a legal one *per se*, against which any conflicting view is untenable. The subdivisions under which the common law takes consideration of craniotomy are answers, in themselves, to the conclusions quoted above, under the unfortunate necessity which demands the operation.

The standing in law of an unborn child is definite, his civil rights are on an equality with those guaranteed him after birth. He inherits; may take under marriage settlement, or specifically under a general devise as a child, and may obtain injunction to stay waste. He is a citizen under common law, his destruction by craniotomy is therefore homicide at common law after quickening. The law provides specific defence for justifiable homicide, a part of which, leading up to the special form we are discussing, is classified as follows:

Repulsion of felonious assault, *vim vi repellere licet*, a cardinal principle of Roman law.

Prevention of felony, in which a *bona-fide* belief that a felony is in process of commission, justifies the homicide of the felon.

The execution of malefactors by an executioner, under the law, in furtherance of public justice.

Superior duty. It has been observed that there are cases in which a surgeon, when called upon to determine whether a critical operation is to be performed, may undertake such operation, though the prospects of success are slight, if the alternative is certain, miserable death in the natural progress of the disease.

The law of necessity. The same law which lies at the basis of jurisprudence in this respect justifies the sacrifice of the life of one person, when actually necessary for the preservation of the life of another, when the two are reduced to such extremities that one or the other must die. This is the *necessitas non habet legum*. It is, however, strictly limited under the law; canon jurists hold that the right can only be exercised in extremity and in subordination to general rules of duty, to which such a necessity as the one under discussion must be subordinate.

The plain reading of the general law is: "It is a defence that the destruction of the child's life was necessary to save that of the mother." The Ohio statute, declaratory of the common law, was enacted in protection of physicians who are confronted with this dire necessity. It provides that craniotomy may be performed when necessary to save the life of the mother; hence, when the question is between an unborn infant's life and that of the mother, the mother's is to be preferred.

This doctrine of the common law is carried intact into other contingencies of life, *i.e.*, as between a sailor and a passenger; supposing there are more than enough sailors for navigation, the passenger must be preferred. Upon the authority of Lord Bacon, it has always been held in law and in fact that, when two shipwrecked persons get on the same plank, and one of them finding it not able to save them thrusts the other from it, whereby he is drowned, it is justifiable homicide.

These citations on justifiable homicide are a part of the criminal law of the United States, except where modified by legislation. To this authority of law for the operation of craniotomy sound principles of public policy, too universal almost to need mention here, would dictate that: a physician, from his general experience in obstetrics, and from his special knowledge in a particular case, aided by the counsel of one or two other reputable physicians to whom he has communicated all he knows about the case, and who, from an examination of the patient and in full possession of all the facts, give a concurrent opinion, that in order to save the life of the mother the life of the child must be sacrificed, the soundest principles of public policy demand that the mother shall be saved. The physician has but one proposition before him: to save one life at the expense of the other. He is morally inadeqate and intrinsically unworthy if he fails to do so, when there is no other recourse. The duty he owes to society at large in saving the mature and useful life of the mother as against the life of the child, which in its useful relations to the social body is yet immature, is above and beyond adverse legislation. He is justified under the plain reading of the law; under the law of necessity, and under the law of superior duty, all of which have their foundation in the overwhelming sentiment in the human family, that the operation is intrinsically and fundamentally right. As to the moral lawfulness of this vexed question, it is one which in the nature of the case cannot be settled by an ecclesiastical body, however great its services to humanity may be or may have been; it is a question beyond its jurisdiction and may be submitted in the following broad application: Two wrongs do not make a right, one comes nearer it.

The letter of the common law and the universal protection man gives to the life of his mother leave the physician no room to escape the operation when the unfortunate necessity confronts him, *i.e.*, when symphyseotomy cannot give the necessary outlet, and the physical condition of the mother prevents Cæsarean section. It is intrinsically lawful by this principle: every condition in life is dependent on the possession and preservation of life. On this point theological law ought not to be at variance with the *sina qua non* in common law.

WILLIAM A. GALLOWAY, B.Sc., M.D.
XENIA, O., July 1, 1895.

BICYCLING FOR WOMEN.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: One is loath to offer an objection to anything which attracts women to physical exercise, yet one should not be blind to the dangers attending it. Much has been written upon the subject of bicycling for both sexes; but in the case of women, after the opinions of some old fogies on its propriety have been aired and rejected, the main discussion has been upon the toilet. Garments of the bifurcated plan have been much in evidence, as they concerned the style as well as the comfort of the cycler.

In all the discussions, the physical effects of the wheel have held a minor place. Some have experienced a gain in weight, others have lost, and many victims of obscure "nervous" conditions have reported themselves improved by the moderate use of the wheel.

It is yet too early to judge of the benefits or injuries due to cycling, but positive danger should be clearly indicated and removed. One danger is the saddle, which is physically and morally injurious to women. Everyone is familiar with the general form of the ordinary saddle, and knows how entirely inadequate is the support given to the body, which needs a surface at least wide enough to receive the tuberosities. Otherwise the support is thrown upon the soft parts never intended for that purpose, while the arms and legs transmit a portion of the weight.

The saddle of a bicycle has been compared to a saddle for a horse. A woman in a saddle astride a horse has proper support for her body and offends neither modesty nor common-sense though she shock conventionality. But on a bicycle with the present form of saddle, while conventional, she offends her physical nature. For the saddle presses upon the soft tissues which form the pelvic floor, finding its first bony rest at the pubic arch and the coccyx, compressing the soft parts which cover them. This means that these sensitive tissues are subjected to a pressure the evil results of which cannot yet be estimated. Moreover, the impingement and vibration of the saddle can and do act as a sexual excitant. It would seem better for the medical profession to face this fact than to leave it a food for the evil-minded or a subject of jokes. That it is a fact may be verified by a little observation. To this, however, two difficulties present themselves. One is that the psychical sexuality of women is an unknown quantity even to medical men, because of the disinclination of women to analyze or discuss their sexual feelings. The other difficulty is the indelicacy of interrogating women on such a subject, besides the risk of sometimes inducing a dangerous consciousness. Moreover, it would scarcely be expected that women who keep up the practice would be inclined to make such an admission.

The form of the saddle is probably one reason why women ride more gracefully than men, for the position of a "scorcher" would be decidedly painful, if not impossible, for a woman.

In these days it is at least in order to look for signs of degeneration or sexual perversion, and the bicycle may prove a sign. Yet it is far from the intention of the writer to intimate that the large number of women cyclers are in either condition. The only object of this paper is to point out a danger which a proper saddle would remove from a most healthful form of exercise for women.

THERESA BANNAN, M.D.
503 WARREN ST., SYRACUSE, N. Y.

BICYCLING FOR HAY FEVER.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: For the past sixteen years I have had annually an attack of hay fever, beginning about the 20th to the 27th of May, and lasting until about July 15th. In all this time there has been scarcely any variation in the severity of the attacks, the symptoms being violent paroxysms of sneezing with intense itching of the roof of the mouth, extending well into the throat, and inflammation of the eyes, causing severe pain and itching. Occasionally some cough, but never any asthma. I have tried, during these years, all kinds of treatment with no good results, the only thing giving me any relief being a stay at Fire Island, and then only when the wind blew from the sea. Going into the country, or a walk through Central Park even, would bring on paroxysms of sneezing and all the other symptoms.

In March last I learned to ride the bicycle, and becoming very fond of the sport, began in April riding about ten miles a day, until in May I was able to indulge in long country rides of twenty to forty miles. I noticed that the wheeling was improving my general health, although this has always been good. I was looking forward to my annual attack of hay fever this year with more than usual regret, for I fully expected that I would have to abandon my wheeling during this particular period. I determined, however, to keep it up as long as possible, and I noticed after my attack had begun that I never sneezed while pedalling. I rode through Central Park every day with no bad results, but I was still afraid to attempt rides into the country. One extremely hot Sunday I was feeling particularly miserable, and woke up in the morning sneezing. Much against my judgment, I was induced to accompany some friends on a ride around Staten Island, feeling morally certain when I started that I should have to return as soon as I reached the country. There was no sea-air that day, the wind, what little there was of it, being from the southwest, and the most aggravating to my condition. There were also lots of dust, but through it all I rode without a single sneeze, until we stopped at a roadside inn to rest. Just as soon as I got off my wheel all the symptoms of my hay fever manifested themselves in a most marked manner. I suffered intensely for quite awhile, until I mounted my wheel again, when immediately every symptom disappeared. This same experience was repeated three times during that particular ride. So marked indeed was the difference in my condition when wheeling and not doing so, that I kept on experimenting and observing all during the period that I am troubled with the disease, and every subsequent ride confirmed the results herein noted.

It has been evident to me that wheeling has absolutely controlled all the symptoms of my attack, such as the sneezing and itching in the mouth and eyes. It has done so when exposed to all the exciting causes, such as dust, foliage, heat, and sunlight. It is a fact, too, that just as soon as I was off my wheel all the symptoms returned, and I suffered as I have done in previous years, that is, when exposed to the exciting causes. I should say, moreover, that my condition in

the city was also much improved, and that I did not suffer nearly as much as in former years, for which I thoroughly believe bicycle riding is responsible.

Very truly yours,

AN OLD HAY-FEVER SUFFERER.

NEW YORK, July 17, 1895.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending July 20, 1895.

	Cases.	Deaths.
Tuberculosis	58	79
Typhoid fever	21	10
Scarlet fever	36	3
Cerebro-spinal meningitis	4	4
Measles	190	17
Diphtheria	194	27

Accidents and Ambulance Organization in Berlin.—In Berlin the ambulance organization has been, till recently, very deficient. If, for instance, a person is run over in the street by a carriage the proceedings are as follows: At first a great many people assemble round the victim to give their opinion of the matter. Then several run to the houses of the surgeons in the neighborhood, who probably are not at home. Finally, a policeman, with the assistance of some of the more intelligent of the crowd, place the injured man in an ordinary four-wheeler, and take him to a hospital. Very often this want of ambulance organization has led to serious results, numerous examples of which I could narrate. For night accidents, it is true, there are the Sanitäts-Wachen dressing-rooms in several quarters of the town, where from 10 P.M. to 6 A.M. a medical man and an assistant are on duty. These are maintained by the contributions of the inhabitants of the quarter, and their medical officers have to attend casualties in the waiting-room or to go into the houses if their help is wanted. Their necessity has been often disputed by the profession, for in the night medical men are usually at home and can be found without difficulty. Besides, very often people go to the Sanitäts-Wachen who have not met with an accident, but have some other complaint for which they hope to be treated free of charge. As in the night all the manufactories are closed, the sufferers from really grave accidents derive no advantage from these waiting-rooms, and the *habitués* are principally rowdies who have been wounded in night rows. Notwithstanding all this, the Sanitäts-Wachen have existed nearly twenty years, and now get an annual subvention from the town council of forty thousand marks. They are rather insufficiently furnished with litters, and have no ambulance carriages; but not even the great general hospitals possess ambulance carriages. The only ambulance carriages that exist belong to private undertakers, who also transport sick people, and are in emergency cases difficult to obtain. During the past year a great improvement has been made in this matter by a private society. This society has established at different points of the town Unfall-Stationen (accident stations). There are four principal stations and eight branch stations. At the principal stations there are newly constructed horse ambulances which are ready to start immediately in case of alarm; the principal stations are connected with accident wards of thirty or forty beds, where the injured can be attended till they recover. The branch stations consist of a dressing-room with the necessary instruments and dressing materials, and a room with one or two beds where the wounded can rest some time. At all the stations surgeons and assistants are on duty day and night. They have telephonic communication, so that in cases of accidents the ambulances and surgeons can easily be called. The new organization has already been found to be of the greatest practical use.—*The Lancet.*

The Study of Heredity.—In his address before the Abernethian Society, Sir James Paget drew attention to the great gaps which exist in our knowledge of the laws of heredity. Some of the broad facts of heredity are familiar enough, and are, indeed, too palpable to be overlooked even by careless observers. That gout, cancer, rheumatism, tuberculosis, and insanity, to take a few examples out of many, are often inherited is a well-recognized and certain fact, but, says Sir James Paget, "it has never been studied carefully what may be the result when one parent has one transmissible disease and another has another; what comes if one parent is a member of a cancerous family and another a member of a tuberculous family. Do these two diseases in any respect disturb one another? Are they mutually exclusive, or do they mingle together? We know that acute tuberculosis and acute cancer never make rapid progress together; they seem in so far as that to be antagonistic. But what comes of it when they are mingled together by inheritance? Of that, I think, we certainly know nothing." This is only a specimen of numerous questions which might be put in connection with the subject of heredity, but are for the present without any certain answer. Is heredity more usually through the male or the female? If a son or daughter strongly resembles the male or female parent, will he or she be likely to develop the diseases occurring in the corresponding stock? Why does disease sometimes "skip a generation" only to reappear with increased virulence? Why does the epilepsy of the parent become insanity in the child, or *vice versa?* How comes it that the female transmits the tendency to hæmophilia, but is herself exempt, while the male who suffers does not usually propagate the disease? We might multiply these queries a hundredfold, but they are sufficient to show how much darkness still envelopes so patent and all-important a fact as the inheritance of disease.

Some of the laws of heredity are approximately known, although often their *raison d'être* is inexplicable—as, for example, the law that disease often skips a whole generation and reappears in the generation that follows. This fact has long been observed and is known as "the law of atavism." It seems to involve the assumption that an individual apparently quite healthy may contain in his organism the seeds of disease—*e.g.*, tuberculosis or cancer—and transmit the tendency to such diseases to his offspring, although he has never presented any symptom of them himself. This may be so, but if such a theory be correct it intensifies our conception of the mystery of pathological processes. If it could be shown in such cases that the "latent" seeds of disease (we are compelled to use figurative language in this connection for want of better) remain latent until certain favoring conditions combine to bring them to maturity, the mystery would be materially lessened, but in many cases we have no evidence that such is really the true explanation. It may, however, be regarded as often a probable hypothesis.

The commingling of different and possibly conflicting pathological strains presents, as Sir James Paget points out, a curious and almost wholly neglected field of inquiry. The whole subject of the influence upon each other of different morbid processes is a very obscure one, and many theories on the subject once confidently advocated have had to yield to the hard logic of facts. It was once thought that valvular disease of the heart was almost a safeguard against pulmonary tuberculosis. It is now known that the conjunction of the two diseases, though uncommon, is not excessively rare. So careful an observer and so acute a reasoner as Walshe lent the weight of his authority to the old

idea that habitual exposure to the poison of malaria was an efficient protection against phthisis. This notion is almost certainly erroneous. It was long regarded as doubtful whether two of the specific fevers could coexist. Most observers have seen cases which have inclined them to an affirmative opinion, but the sources of fallacy are many, and at all events such a conjunction is extremely rare. As to the influence upon the offspring of two conflicting pathological strains, we must be content to confess, as Sir James Paget affirms, that "we certainly know nothing." But the subject is not inscrutable, and only needs careful and minute observation in order that some light may be cast upon it. The relations of hereditary cancer and tuberculosis, or gout and syphilis, might be worked out if sufficient attention were drawn to the matter.

A great deal of work still remains to be done in connection with the heredity of phthisis. It is generally asserted that from thirty to forty per cent. of the cases arising in practice occur in infected families, but it is striking how various are the figures given by different observers. Owing to the great frequency of the disease and the probability of infection, it is evident that many cases of apparent inheritance might be otherwise explained. It would be a great gain to practical medicine if we had decisive evidence as to the influence of heredity upon phthisis on the one hand and the frequency of infection on the other. We are still without any quite satisfactory theory to harmonize the apparently certain facts that pulmonary tuberculosis is due to a specific bacillus and that it is frequently transmitted by inheritance. Some French observers published a few years ago evidence tending to show that the actual bacillus of tubercle was conveyed to the offspring through the ovum, but this view has not been generally accepted. Many believe it to be more probable that the parent transmits simply a constitutional delicacy or some peculiarity of the pulmonary tissue which renders the individual more liable to become the subject of bacillary infection; but it cannot be said that we have any certain information on the subject.

Problems of heredity should appeal more especially to the cultured and philosophic of the large body of general practitioners. Hospital work and consulting practice certainly afford an imperfect field for the elucidation of these interesting and important problems. The hospital or consulting physician seldom sees the beginnings of disease, and he has very rarely the opportunity of observing the disease record of an entire family. The general practitioner has such opportunities, and it would be much to the advantage of our art if those opportunities were thoroughly utilized.—*The Lancet.*

Twin Tubal Pregnancy: Retention of Fœtus for Fifteen Years.—According to the Paris correspondent of *The Lancet*, M. Folet, of Lille, has communicated to the Academy of Medicine details of the above extraordinary case. His patient is a woman now aged forty-nine, who, having previously given birth to four children at full term, became, sixteen years ago, again pregnant. When the pregnancy had reached the ninth or the tenth month symptoms simulating labor occurred, blood and membranes being expelled, and the hemorrhage persisting for six weeks. This strange occurrence led to the belief that no pregnancy had really existed. The abdomen remained, however, voluminous, but for fifteen years nothing further happened to disturb her until a year ago, when repeated attacks of peritonitis determined her admission into the Saint-Sauveur Hospital, Lille, where laparotomy was decided upon. The operation was laborious on account of the presence of numerous adhesions of the fœtal sac to the intestines. The sac was, nevertheless, excised almost entire, the too adherent fundus only being left *in situ* and stitched *en collerette* to the lower part of the abdominal incision. Recovery was complete in six weeks, no accident having occurred to retard it. The sac contained two fœtuses—one which had at its death attained the age of two or three months, and the other which had reached the full term of nine months—a phenomenon which is so extremely rare in tubal gestation that only six or seven examples are recorded. The fœtus exhibited at the Academy by M. Folet was not a lithopædion. Its tissues were supple, non-calcified, but were, nevertheless, as dense as cooked bacon. With the exception of certain alterations undergone, the tissues had retained their structure, recognizable by the naked eye and under the microscope.

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THE DOMINANT INFLUENCE IN THE MEDICAL PROGRESS OF THE NINETEENTH CENTURY.

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To anyone who gives thoughtful consideration to the history of the nineteenth century, it must be evident that in it we have the final triumph of scientific realism over speculative philosophy. Whatever the field to which we direct our attention, we cannot but be impressed with the influence upon its progress of the application to it of scientific principles. The many conveniences of living which this process has introduced have clearly demonstrated the practical usefulness of the study of science, and what, a hundred years ago, was regarded as theoretical, delusive, and of but insignificant benefit to mankind, has come to occupy a position of acknowledged usefulness among all classes of the community. Science is supplanting literature and metaphysics in the curricula of our universities, and scientific schools are undergoing an almost unprecedented development to meet the demands for education in those departments of knowledge which have been found of such utility.

When we search out the influence which has disclosed the scientific principles from which all these practical deductions have been made, we find it to have been preeminently the application of the inductive method of reasoning to the study of the problems of science. Though employed by Copernicus and a few of his associates in arriving at their magnificent generalizations, the general applicability of the inductive method to all departments of scientific investigation, and its inestimable value, were first appreciated by Bacon, at the beginning of the seventeenth century. Under the influence of his teaching physical and astronomical science attained a wonderful development, culminating in the Newtonian principle of universal gravitation. During the greater part of the eighteenth century, however, society was dominated by an idealistic tendency, which pervaded all classes of the community, undervalued the benefit to be derived from the inductive method, and materially impeded the progress of scientific discovery. Fortunately, in the general upheaval incident to the French Revolution, a return took place to the inductive method, and in it we find the controlling influence in the scientific advancement of the nineteenth century.

Since the inductive method has been thus potent in the development of general science, and since, as we shall presently see, the progress of medicine during this century is directly traceable to the application of that method to the study of disease, we may be permitted to pause for a moment to consider its essential characteristics.

Inductive reasoning, as the term implies, is the inference of general laws from a consideration of the phenomena which are governed by those laws, and which are susceptible of observation and study. Thus, in physiology, the discovery of the circulation of the blood was the induction of a great natural law as the result of study of the structure of the heart and blood-vessels, and of many of the phenomena of the circulation which were open to observation and experimental investigation. It will be noted that two distinct processes are essential to the inductive method, the observation of phenomena and the accumulation of facts relative to them, and the reasoning from these accumulated facts up to the general law by which they are governed. Fact accumulation and generalization, then, are the essentials of the inductive method.

When, now, we turn from these more general considerations to an analysis of the progress of medicine dur ing this century, we cannot but be impressed with the fact that this century marks the general adoption of the inductive method in the study of disease, the fundamental consideration in medical science. The necessity of the application to pathology of the method of investigation which had been so prolific of results in the natural sciences was indeed impressed upon the minds of John Hunter, in England, and of Morgagni, in Italy, as early as the middle of the eighteenth century, and both these observers collected a multitude of facts relative to the various phenomena of disease. But so out of touch were they with the idealism of the age in which they lived that neither of them attracted a large following, and it is to the French school of the beginning of this century that we must attribute the chief agency in the introduction of the inductive method into medicine.

The magnitude of the change which has been thereby brought about can only be appreciated after a glance at the state of medicine at the end of the last century. At this time we find medicine dominated by all manner of absurd philosophical notions as to the nature of disease, and as to the methods which should be employed to combat it. The natural result of this was the elaboration of innumerable systems or schools of medicine, each presenting its own metaphysical conception of the phenomena of disease. No clearer evidence of their lack of any broad foundation in fact could be desired than the great diversity of the hypotheses which were made the bases of these systems by their inventors. The fundamental doctrine of one of the most widely diffused of these systems was that health depended upon a proper neutralization of all the acids and alkalies of the body. Let acid or alkali preponderate, disease resulted. Diseases were then classified in two groups, according as they were due to excess of alkali or acid, each group being in turn treated by its appropriate acid or alkali. According to another of these systems, diseases depended upon excess or diminution of the vital energy; they were therefore sthenic or asthenic. For the cure of the one the vitality of the patient must be depressed; for the cure of the other it must be stimulated. Homœopathy, the wildest extravaganza of them all, is the only one of these systems which can in any sense be said to have survived to our day. It is from such a state of chaos that the nineteenth century has elevated medicine to a worthy position beside the exacter sciences.

I have already said that the one great factor in the accomplishment of this change has been the application of the exacter methods of scientific research to the study of the phenomena of disease. Whatever the department of medicine we consider, we find the

same persistent effort of its devotees to observe every minutest detail of the diseases with which they deal, in the hope of gaining some knowledge of the nature of the perverted processes which underlie them. The work of this century has, then, been the study of pathology, for this is the science of disease. And as we look back at it we are impressed with the fact that, with the single exception of the introduction of anæsthesia by ether, every material improvement in medical practice has been distinctly traceable to this study. The investigation and elucidation of the structure and functions of the various tissues and organs of the body in health have, indeed, prepared the way for the proper interpretation of the changes of structure and function incident to disease, and without such study much that has been accomplished by pathology would have been impossible; but it is only indirectly and through the medium of pathology that these departments of biology have influenced medical practice, and we must therefore consider their influence as subordinate to that of the study of disease itself. It is, accordingly, to the development of pathology that we must look if we would correctly estimate the influences which have brought about the medical progress of our time.

It has been said that it is to the French school of the early years of this century that the chief agency in the introduction of the inductive method into medicine is to be attributed. The central figure in this school is easily François Xavier Bichat, who, though dying at the early age of thirty-one, has been pronounced by Buckle "the most profound thinker and the most consummate observer by whom the organization of the animal frame has yet been studied." His devotion was pre-eminently to the study of human anatomy and physiology, his object being so to investigate the organization of man as to rise, if possible, to some knowledge concerning the nature and origin of life. It was soon evident to him that, before any conception of the processes underlying life could be arrived at, it was imperatively necessary that there be an exhaustive acquaintance with the structures of which living beings are composed. Cuvier had, indeed, pointed out the immense aid to classification to be derived from study of the internal organs of animals, but Bichat went much further and insisted upon a study of the tissues composing those organs. It is herein that his greatest service to natural science and to medicine lies. From Bichat's time to our own the study of the tissues of plants and animals has absorbed the attention of all biologists.

The immediate corollary from this great generalization of Bichat, of inestimable importance to medicine, was that no true conception of disease was possible without the most minute study of the changes in the tissues which were a part of the disease. "You may observe diseases of the heart, lungs, abdominal viscera, etc.," he says, "night and morning by the sick-bed for twenty years, yet the whole furnishes merely a jumble of phenomena, which unite into nothing complete. But if you open only a few bodies you will see the obscurity speedily give way, a result never accomplished by simple observation if we do not know the seat of the disease." He furthermore established the fact of the tendency of similar tissues to similar forms of disease. "As every tissue has everywhere a similar disposition, since, wherever it may be, it possesses the same structure, the same properties, etc., so it is clear that its diseases must be everywhere the same. Whether the serous tissue belongs to the brain as the arachnoid, to the lungs as the pleura, to the heart as the pericardium, to the abdominal viscera as the peritoneum, it takes on inflammation everywhere in the same way; everywhere dropsies occur in the same way," etc. Bichat was thus the creator of general pathological anatomy, and the untiring nature of his researches may be inferred from the fact that in a single winter he examined more than six hundred bodies. He was also the first to claim for medicine the distinction of an exact science. "Medicine," he says, "will have the right to be associated with the exact sciences, at least as regards the diagnosis of diseases, as soon as we shall everywhere have united with the most thorough and rigorous observation the investigation of those changes which our organs suffer." Thus Bichat, at the very threshold of our century, insisted upon the application of the methods of the natural sciences to the study of disease. If medicine has to-day any just claim to a recognized position among the sciences, it is because of its development along the lines thus indicated.

While Bichat was thus pointing the way for the acquisition of a true conception of the nature of disease, the first of the means of physical examination which so materially aided in the clinical study of disease was being investigated by Corvisart. In 1761, Auenbrugger, a Viennese physician, had published in a small volume a description of a "new invention" for detecting the hidden diseases of the chest by means of percussion. Though based upon most careful and accurate observations of the sounds emitted from the chest when gently tapped with the fingers, both in health and under various conditions of disease, and though received with favor by Stoll and a few others of his associates, the method passed into disuse and the little book was forgotten until unearthed by Corvisart, about 1790. During the following twenty years Corvisart carefully tested the accuracy of Auenbrugger's observations, verifying them by post-mortem examinations as Auenbrugger had also done. In 1808, convinced of the value of percussion as a diagnostic sign, Corvisart made public a French translation of Auenbrugger's book, adding in the form of notes many observations of his own. Percussion almost immediately became a recognized aid in diagnosis among the French physicians of the time, being alluded to by Bayle as early as 1810, in his celebrated work on pulmonary consumption. It was but a step further to auscultation, which by 1819 had been elaborately tested by Laënnec whose great work placed it thenceforth among the indispensable aids to diagnosis.

Thus grew up in Paris the great French school of pathological anatomy and physical diagnosis, which was the guiding star of medicine for nearly half a century. In the development of physical diagnosis the necessity of verifying by post-mortem examinations the conclusions arrived at from the study of physical signs infused a practical interest in pathological anatomy which had been unknown so long as the solution of merely theoretical problems was all that was looked for from its study.

And, similarly, the proof of the accuracy of the information to be gained from physical signs, which was imparted by pathological anatomy, served greatly to increase confidence in the new methods of clinical examination, and to encourage other efforts to adapt physical and chemical principles to the needs of diagnosis. In this way medicine advanced during the first half of the century, the chief aim of its devotees being to obtain, by careful observation of the changes in structure and perversions of function incident to disease, some conception of its nature which should be of practical value in its detection and cure.

When, now, we turn to the past forty years and analyze the influences which have shaped the progress of pathology during that time, we are at once impressed with the pre-eminence of two great generalizations—the "cellular pathology" of Virchow and the conception of the causal relationship of micro-organisms to the infectious diseases.

The underlying principle of the cellular pathology, "*omnis cellula e cellula*," was a scientific induction of the most brilliant nature, based upon a critical study of the cell in its relations to the various tissues. So clear was the demonstration, and so masterly the manner of its presentation, as to have found for it an almost

immediate acceptance, and from the delivery of Virchow's lectures elucidating it, in 1858, until the present time, the cell has been regarded as the ultimate living factor in the production of the tissues of all living beings. The attention of those engaged in the investigation of the changes in the tissues resulting from disease was consequently at once concentrated upon the cell, and new light was thrown upon many obscure subjects in pathological anatomy, notably upon tumors and upon inflammation.

It will be noted that the cellular pathology is in reality but an extension of the principle enunciated by Bichat. The study of the tissues is still paramount, but in the production and development of the tissues the cell is the controlling influence. Nevertheless, to the stimulus imparted to histological study by Virchow we must attribute, in a very large degree, that painstaking investigation of minute structural details which has characterized the study of pathological anatomy in Germany during the past forty years, and which, combined with the careful clinical observation inaugurated there by Krukenberg and Schönlein, has placed that country in the front rank of the nations as regards the medicine of to-day.

When, finally, we consider the last great generalization of the nineteenth century, the conception of the causal relationship of micro-organisms to the infectious diseases, we are impressed with the fact that here, too, we have to do with the induction of a great scientific principle from a mass of more or less isolated facts. Though suggested as long ago as 1762, the idea of a *contagium vivum* of disease has met with general acceptance only after long and careful study. It is unnecessary for my purpose to review the gradual development of the proof which is now so convincing, nor can we stop to consider the many ingenious devices which have been invented from time to time during the progress of the science of bacteriology, and which have made possible the critical study of the minute organisms with which it is concerned. The points which I would particularly emphasize in this connection are, that the conception of the bacterial origin of the infectious diseases is the outcome of the same careful scientific investigation which led up to the generalizations of Bichat and Virchow, and that while these latter, though profoundly influential in developing diagnosis to a high degree of accuracy, had but an indirect influence upon therapeutics, the new conception of infectious disease makes possible its prevention and bids fair to revolutionize its treatment. Already we are in possession of many valuable facts as to the mode of entrance of infectious germs into the body; as to the manner in which they are cast off by those afflicted with infectious diseases; as to their existence during the interval of their escape from one individual and their entrance into another; as to their vulnerability to light, heat, chemical agents, drying, etc.—all of which demonstrate the feasibility of simple prophylactic measures whose general adoption could not but be followed by a very material decrease in the prevalence of these diseases. And, at the same time, the study of the poisons elaborated by the bacteria, of their influence in the production of the symptoms of infectious diseases, and of their relation to the induction of an artificial immunity from them, seems destined to profoundly modify the manner of our treatment of those diseases. This last is still in the developmental stage, but it would seem not improbable that the next decade may witness an evolution in medicine in this respect of the very greatest practical importance.

If, in this brief review of the influences which have directed the course of medical progress during this century, I have omitted to mention a host of material advances which are everywhere apparent in all departments of medicine, it is because I believe them all to have had but a subordinate and insignificant influence in moulding medical thought in comparison to those great generalizations to which I have referred. From one or other of these every advance in every department of medicine has been deduced or has received its final shape. It is interesting to note that in this development all the fundamental problems with which pathology deals have made marked progress toward solution. Our knowledge of the structural changes induced by disease has received much light from the study of pathological anatomy and histology; our knowledge of perversions of function, or symptoms, of disease has been greatly increased by the study of pathological anatomy, physical diagnosis, and bacteriology; and our conception of the causation of disease has been completely revolutionized by the discovery of the etiological relationship of micro-organisms to the infectious diseases. These, then, have been the immediate agencies in the accomplishment of the noble progress of medicine during our time. Upon them all others are more or less dependent. But it should be clearly held in mind that these great principles are all in turn the outcome of the application to medical study of the critical methods of observation and thought which are so essentially a part of the inductive method.

I am particularly desirous that this crystallization of medicine about pathology should be justly appreciated during this century, for the reason that until recently there has been a tendency, particularly in this country, to undervalue the labors of the pathologist as of little importance to practical medicine and of distinctly less usefulness to humanity than the more direct services of the practitioner; and this feeling has operated to deter many, whose training and circumstances eminently fitted them to do so, from undertaking a life-work which appeared to be almost wholly theoretical in scope. The fallacy of this position must be evident. A very important branch of pathology, as has been said, is devoted to the study of the perversions of function incident to disease, and this is of necessity the work of the practising physician, for from no one else can this department of pathology receive advancement. But the pathological anatomist and bacteriologist in their laboratories, in contributing to the progress of pathology have at the same time assisted in shaping the course of medical practice, and have thus indirectly, but yet powerfully, contributed to the amelioration of human suffering. It is not too much to say that, without the facts regarding the nature of disease which the study of pathology during this century has contributed, the medicine of to-day would be but slightly removed from the idealism which prevailed at the end of the eighteenth century. But in another and even more immediately practical way pathology is coming to be of assistance to practical medicine. In the development of every science the solution of many purely theoretical problems must precede the practical application of the principles involved. Thus every science becomes divided, sooner or later, into two departments: the pure science, occupied with the solution of all the theoretical problems of the science, and the applied science, engaged in the application of the principles developed in the study of the pure science to the needs of civilization.

The career of pathology as an applied science can hardly be said to have more than begun. As a part of the general under-estimation of pathology in this country, but little provision has been made for it by our hospitals, the ground, *par excellence*, for its development as an applied science. Until our hospitals shall duly appreciate the value of pathological examinations in the diagnosis, prognosis, and treatment of disease, and shall supply means for the development of pathology as an applied science in a measure commensurate with those which have made possible its splendid progress in its more theoretical department, practical medicine must forego a very large part of the aid which pathology so freely offers. The responsibility of the physician to make use of every means known to medi-

cal science and art in the treatment of his patient has always been keenly appreciated. His failure to do so is even regarded as an offence. But the similar responsibility of the hospital would appear to have been often overlooked in the matter of affording its patients the advantage of such examinations as the pathologist alone can make. What was said by Professor Osler of our medical schools, about three years ago, applies with force to our hospitals to-day: "Thoroughly equipped laboratories in charge of men thoroughly equipped as teachers and investigators is the most pressing want to-day in the medical schools of this country." That this great need of adequate provision for pathology in our hospitals, so long and urgently felt by their medical boards, is beginning to be appreciated by their trustees, is evident from the careful consideration which has been bestowed upon the construction and organization of the pathological departments of a number of our newer institutions of that sort, and from the liberality which has been displayed in a few instances in the endowment of such laboratories. It is greatly to be hoped that the next few years may witness a much further development in this particular direction.

In a science so rapidly advancing as is medicine to-day, it is impossible to predict with certainty what even a year may bring forth, but that it will continue to advance so long as it is dominated by the methods of observation and thought which have induced its splendid progress during this century, there can be no doubt. In the past, a period of epoch-making generalization has often been succeeded by a time of assimilation, during which the progress of civilization has been greatly aided by many practical applications of the laws induced to the needs of the community as a whole. It may be that we shall witness in the medicine of the near future a period of similar application of the great principles disclosed during the nineteenth century. There is certainly very much to be accomplished in this direction, and there is need in its accomplishment for careful scientific work on the part of every devotee of medicine, whatever the field of his activity.

It is to be feared that the responsibility of the physician to his science is too often forgotten; his ability to aid in its progress too modestly under-estimated. It is true that it is given to but few to make the great generalizations of a science. Theirs are the names which win the greatest fame. But the labors of the many who amass the facts from which generalization takes place and without which it is impossible, and who apply the principles induced to the needs of humanity and of civilization, are also worthy of the very highest gratitude of mankind. I would therefore urge upon everyone whose life is devoted to medicine his responsibility to contribute to the advancement of his science, and I would suggest that the methods of careful scientific research which have yielded so much in the past are those which give the greatest promise for the future. Every fact, however apparently insignificant, which is added to medical knowledge is of material assistance in the advancement of the noblest science which has yet engaged the mind of man.

Concerning Spelling Deformation.—It is very gratifying to note that reformers in orthography have not yet undermined the history of language and stamped their obtrusive methods of spelling on every printed page. The simplification of construction and spelling of a language may be an inducement for foreigners to learn that language and give it a better chance to become the international means of communication, but anyone who has studied the life and growth of language and has a love for philology (is it filolojy ?) may give thanks daily that phonetic spelling and the dropping of silent letters has not yet been sanctioned by the best writers.—*Maryland Medical Journal.*

NOTES ON THE NATURE AND TREATMENT OF CHOREA, BASED ON SEVENTY-FIVE CASES IN PRIVATE PRACTICE.[1]

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If any apology is necessary for presenting for your consideration a subject so hackneyed as chorea, the nature of which so many able and careful observers have attempted to solve, and about which discussion and theory have been worn threadbare, it is: First, that any disease, the source of so much anxiety and distress as chorea, cannot be discussed too frequently; second, that my experience has been somewhat large, and gleaned entirely in private and not in hospital practice, upon which nearly all considerations in regard to this subject are based; and third, if I cannot offer anything new in regard to medicinal or hygienic methods of treatment, I am in a position to speak with some authority and confidence upon the methods and results of electrical treatment, a subject even yet, in its relation to this disease, too little understood by the profession in general, and almost altogether ignored by both teachers and writers on nervous diseases. I have long desired to give the impressions of many years' experience in observing the course of chorea and treating its symptoms, and the invitation that I present before the Neurological Section something pertaining both to neurology and electro-therapeutics affords me the opportunity that I have often thought to take.

Chorea has by common consent been put in that class of diseases which presents no constant detectable change in any of the structures of the body, and is therefore termed functional in character. It is, however, more than doubtful whether a functional disturbance, however slight and evanescent, can exist without corresponding disturbance in the nutrition of the nerve elements. Microscopical changes have, it is true, been occasionally found, but not with sufficient frequency to enable us to rely on morbid anatomy to account for the disease, and the nutritive changes that in all probability do take place are too subtle for detection and may, perhaps, ever remain conjectural. Age and sex in their relation to chorea tell us far more of its nature than all methods of post-mortem examination.

The fact that it is almost entirely confined to early childhood and youth, and occurs with far greater frequency in girls than in boys, in the emotional period of life and mostly in the emotional sex, renders it probable that the disease is, in the vast majority of instances, purely functional, dependent upon disturbances or shock to the motor centres of the brain. To illustrate: I once had under my professional care a young girl suffering from what appeared to be a slight neuritis of the radial nerve. On one occasion she was suddenly asked a question in regard to certain facts which she desired to conceal. In her efforts to disguise any appearance of surprise, her facial muscles immediately passed beyond her mental control, and for a few moments the localized movements exactly simulated the familiar examples of facial chorea. It was an excellent example of temporary chorea, having its source in a temporary disturbance in the cerebral convolutions.

Neurasthenia is a functional disease, and it may be either acute and temporary, or chronic and permanent. Just as the fatigue and irritability of mind and body that accompany profound and concentrated mental and physical effort are dissipated by rest and sleep, so the familiar examples of lost muscular control following sudden emotional influences disappear on the subsidence of the cause. In both cases we have to do with facts of cellular nutrition; in the one case with temporary exhaustion, in the other with temporary irri-

[1] Read before the Neurological Section of the American Medical Association, May 8, 1894.

tation. Intensify and prolong the processes of cell exhaustion and cell irritability, and we get in the one case true neurasthenia and in the other true chorea. Another reason for rejecting structural change as the causative factor of chorea lies in the fact that, so far as we have knowledge, there exists no structural change of the nervous and muscular system that will in itself produce chorea. Embolism, to which it has been ascribed, produces, so far as we know, symptoms of a far different character. It is associated with head pain, vertigo, and nausea—at least at its outset—hemiplegia of varying degrees of severity, and, when right-sided, with aphasia together with other disturbances of speech. Then it must be remembered how serious are its sequelæ, how apt it is to recur, and to what extent nutrition is impaired. The occasional presence of embolic particles found in fatal cases of chorea hardly offers sufficient basis for such a theory. But that chorea must be regarded as a disease of the central nervous system, either primary, or secondary to peripheral irritation, can hardly be questioned. As all movement as well as all thought has its origin in the brain, it is inconceivable that disordered muscular movement such as characterizes chorea can depend upon peripheral influences alone. In deference to our inability to point out objective pathological changes, we sometimes speak of the psychical origin of chorea, yet in the last analysis we fall back on disturbance of the motor cortex.

In a large proportion of choreic cases, especially among the poor, anæmia exists, and in another large proportion of cases fright is the exciting cause. Some time ago a child was brought to me, suffering from "nervousness" and extreme anæmia. I prescribed what seemed to be necessary and for a time saw no more of her. While engaged on this article, the mother again returned with the child, suffering now from an acute and violent attack of chorea, the exciting cause of which was fright. These two elements of causation, fright acting upon a nervous system weakened and irritable through its vitiated blood-supply, seem to me to give great strength to the theory of malnutrition of the cortical ganglion cells, as the seat and efficient cause of chorea. The analogy existing between certain nervous diseases that are attended by no definite and positive vaso-motor changes is interesting and suggestive. Influences, the same in kind that result in diabetes when acting on the nervous system of a man, result in hysteria when acting on the emotional nature of a woman, or in chorea when it is the tender and susceptible nature of a child.

Conflicting as are the opinions relating to the pathology and the treatment of chorea, there are certain facts in regard to the disease upon which all experience agrees. Like Basedow's disease, whose pathology is as doubtful as that of chorea, it occurs far more frequently in the female than in the male. In my own experience its exciting cause, in the majority of cases, can be traced directly to fright or other emotional causes, and in this it again bears some resemblance to Basedow's disease.

With increasing years the disease rapidly decreases in frequency, but becomes far more intractable, and even dangerous to life.

Notwithstanding my belief, based upon these seventy-five closely observed cases, that the majority are in their essential nature central—although neither organic nor structural in the ordinary acceptation of these terms—yet a few have seemed to me to depend upon reflex influences, both as exciting and continuing causes. Peripheral sensory irritants, such as a redundant prepuce with collection of smegma, intestinal worms, and ocular defects, have all within my own experience been the undoubted cause of chorea. In the case of a redundant prepuce, an operation performed by Dr. Charles McBurney, at my request, resulted in the prompt recovery of a case where the symptoms had been persistent for several months. In a second case, where I finally suspected worms to be the cause of persistent choreic symptoms in a boy aged eight, a dose of santonine resulted in the expulsion of no less than ten of the common round worms and all of considerable size. This patient also promptly recovered. In a third—a case of ocular defect—an operation by Dr. George Stevens resulted in too prompt an alleviation of the symptoms to allow of any doubt as to its direct efficacy. But reflex influences are altogether exceptional, according to my experience, in the production of chorea.

Where the causes above enumerated exist once in connection with choreic symptoms, they occur a thousand times without any such connection. It is the pseudo-choreas, the various habit spasms, that seem to be most benefited by correcting the anomalies of the ocular muscles and errors of refraction, and not the ordinary true chorea of childhood.

Notwithstanding all the investigations of and the statistics offered by those who have written upon this subject, I have been unable to satisfy myself that between rheumatism or endocarditis and chorea there exists any constantly direct relation as cause and effect. The frequency with which a soft systolic murmur is found associated with chorea must be admitted, and also the results of post-mortems showing endocarditis and the presence of vegetations on the cardiac valves; but these relations have been analyzed with sufficient thoroughness to leave little doubt but that they are mostly accidental, even if in certain statistical tables they are found with suggestive frequency. In epilepsy, in anæmia, in the muscular relaxation associated with certain neurasthenic cases, we not infrequently detect a cardiac murmur, the same apparently as the ordinary choreic murmur. While these murmurs may be, and probably are due, in many if not most cases, to mitral regurgitation, yet they speedily disappear with no permanent structural harm. The temporary defective action of the mitral valve is believed to be due to altered nutrition or innervation. Certainly the functional derangement of the action of the valvular apparatus is sufficiently evidenced by the readiness with which the murmur disappears as the disease improves.

If rheumatism is the efficient cause of chorea through the action of its sequel, endocarditis, then it is hardly necessary to say that the endocarditis should precede the chorea. On the contrary, it precedes it only in a very small proportion of cases when they are associated, and in a large number of cases no evidence of endocarditis can be found. As a reflex cause endocarditis may occasionally be responsible for chorea, as are defects of the eye, or intestinal worms, or redundant prepuce; but like these irritants, it may and does exist a thousand times without any relation to it whatever. Most of the cases that have come under my observation have been carefully examined for evidences of heart disease, and in more than one-half of them there could be found no murmur of any kind, and in only a very small proportion was there any history of aches or pains that could possibly be attributed to rheumatism.

One of the strongest arguments against the rheumatic origin of chorea is the fact that, as related to boys, girls suffer from chorea in the ratio of three to one, while rheumatism affects boys far more frequently than girls. Of the fifteen among my own cases of chorea that gave a history of rheumatism, ten were boys and only five girls. These observations are very much in accord with those of Meyer,[1] who, out of 121 cases, found that only nine per cent. had rheumatism, thirteen per cent. heart symptoms, and two per cent. the two combined; and with those of Leroux,[2] who, out of 80 cases of chorea, found only 5 clear cases of rheumatism and 14 with heart complications. Of these last, 5 were mitral lesions, and 9 simple anæmic and extra-cardiac souffles.

Much stress is often laid upon the degree of disturb-

[1] Berliner klinische Wochenschrift, July 4, 1890.
[2] Revue Mensuelle des Maladies de l'Enfance, Paris, June, 1890

ance of the mental function in chorea. My observation of the disease, as it occurs in children who are well cared for both as to mind and body, is that there is seldom any mental defect. Sometimes a young child will seem dull without really being so, and the parents and friends of the unfortunate little patient will act along this false hypothesis, to the child's detriment. In chorea the muscular movements are not in harmony with the will. The child, knowing herself unable to give correct expression to thought and desire, manifests, in the presence of strangers especially, a distrust and timidity not in accord with an acute mental state, while the operation and condition of the mind, as registered in the facial expression, are observed and misinterpreted because of the constant facial deformity. The imperfect muscular co-ordination occasionally extends to the vocal apparatus, rendering the speech somewhat indistinct and jerky. In other cases the patient talks very well when once started. At first the lips may be seen to move, but it is several seconds before there is any articulate sound. One of the brightest children I ever knew had this symptom, and for a time was credited with being below the normal level mentally. There is a class of choreic cases very commonly met with where the inco-ordination of movement is ordinarily slight, but when conscious of observation the muscular disturbance becomes exaggerated. There is another class where a contrary condition exists. The movements are greatest when the patient is at play and unconscious of observation, but by an effort of will the child can control these movements.

It is among patients of the first class that mental defects are most often thought to exist; these cases are, however, far less apt to be dull than those of the second class, and recover with greater rapidity. I do not find that ordinary chorea is distinctly or directly hereditary, but, among the better class at least, it will be found that in an unusually large number of cases the child inherits a neurotic tendency.

This neuropathic heredity is said to be in the proportion of about one-sixth, but in my own experience it is very much greater. The theory advanced by Garrod that the rheumatic poison occasions a temporary overgrowth of connective tissue in the nerve-centres, resulting in chorea, has little to recommend it; but the infectious theory, about which so much has lately been said, has points of strength both from an anatomical and a bacteriological stand-point, since there is found in the nervous system a special bacillus pathogenic for microbes. Bacteriological and experimental researches have been made by Pianese[1] in fifteen acute cases of chorea. In three of these cases a bacillus was isolated from the blood, and inoculation caused the appearance of the disease in dogs. In the opinion of this author, the theory of the infectious origin of chorea is far more satisfactory and complete than all other theories. Triboulet[2] has reported three cases of secondary infection by the staphylococcus in chorea, and gives it as his opinion that in four-fifths of the cases infection could be traced as the causative factor of the nervous trouble.[3]

But, however suggestive the various theories and investigations as to the nature of chorea, nothing is more certain than that no constant pathological change is associated with it, and we must fall back upon the theory of its neurotic functional origin. Its almost invariable benign nature and tendency to recover is the strongest evidence that it can depend upon no serious or persistent pathological change.

As regards the therapeutics of chorea, there is much to be said, both from the stand-point of those who believe in the necessity and efficacy of therapeutic measures, and from that of others who look upon it as practically a self-limited disease, which recovers as readily without as with treatment. Self-limited it is not in the sense that we speak of the self-limitation of scarlet fever or measles.

We cannot abort or very much, if at all, cut short the course of these diseases, but that measures can be adopted for the relief of associated symptoms, or the arrest of complications, is admitted. We can, however, not only very markedly alleviate the severity of choreic disturbances in aggravated cases, but can do what cannot be done in the so-called self-limited diseases, shorten the duration of the disease. In regard to certain hygienic and sanitary methods of dealing with chorea, there is very little diversity of opinion. It is agreed that rest is a most important factor in most cases, and in those more serious the rest should be complete and continuous.

In the less severe cases, moderate exercise in the open air is allowable and beneficial, but in no case should a child with chorea be allowed to engage in rough-and-tumble sports. Sleep, and much of it, is essential, and when it is greatly disturbed we are justified in aiding it by hypnotic measures. The food should be nourishing, but simple. If the appetite be poor, it is allowable, and even desirable, to tempt it by daintly prepared food of judicious selection, but to attempt to stimulate appetite by artificial means is even more unjustifiable in the case of a child than in that of an adult. Far more harm than good is done by forcing food when nature cries out against it.

To enumerate all the remedies that have from time to time been advocated almost as specifics in the treatment of this disease would only serve to indicate the limited data of experience upon which opinions are based.

Few of them have stood the test of time and trial, and the general opinion is that medicinal treatment is extremely unsatisfactory. By this I do not mean to say that, in individual cases, we may not be reasonably sure of the efficacy of certain remedies in alleviating symptoms and shortening the duration of the disease. There are indeed well-authenticated cases of long duration that have persistently resisted various accredited methods of treatment, and finally recovered promptly upon the adoption of some other old or some new and untried remedy.

A notable illustration of this is related in Reynolds's "System of Medicine," where a distressing choreic affection of the muscles of the neck had existed for nine years, defying all measures for its relief. Hypodermic injections of arsenic were attempted with almost immediate relief and final recovery. But I would say that there is no consensus of opinion as to which of the many drugs used is the most effective.

Arsenic has undoubtedly the preference, but proves too often absolutely inert. There can be no question, for example, of the authenticity of the case just alluded to, and encouraged by the success in that instance, I thought to duplicate it in an obstinate case somewhat similar in character, by the same method of treatment, but without the slightest result. Now, although I have from time to time tested nearly all the well-recognized remedies in the treatment of chorea, yet there is but one remedy that I have used with more or less persistency in almost every case, and that is electricity. I am not so credulous as to suppose it to be curative, or even markedly beneficial, in every case. Occasionally, on the contrary, it has seemed to be positively contra-indicated, although long experience inclines me to believe that this seeming susceptibility to the current is due more to a failure to correctly differentiate in the selection of the kind of electricity and injudicious methods of application than to any adverse idiosyncrasy present.

In the light of my own personal experience in the treatment of chorea, the opinion expressed, more than a quarter of a century ago, by a distinguished physician is of much interest. "Electricity," he says, "is another

[1] Riforma Medica, Naples, July 20, 1894.
[2] Revue Mensuelle des Maladies de l'Enfance, Paris, December, 1891.
[3] Thèse de la Faculté de Paris.

agent which requires a passing mention in this place, though all that can be said respecting it is, that as yet there appears to be little or no reason for placing any confidence in it as a means of treatment. Whether this will always be the case—whether there are not modes of using electricity which will have the effect of quieting choreic and analogous movements, remains to be seen. I suspect that there are such modes, and that they will be beneficial, but I have not yet the facts to justify the expression of a belief on the subject."[1] Electricity benefits chorea on the same principle that it benefits neurasthenia or hysteria and many other functional nervous diseases, because of that indirect improvement in nervous force which is a part and a result of the general improvement in nutrition. While electricity is neither life nor nerve-force, it aids in sustaining both life and nerve-force, as do light and heat; not by direct transformation, but indirectly through its influence over nutrition.

This influence over nutrition, together with musculo-sedative effects, are brought about in greater or less degree by various methods of electrization, by general faradization, especially with the high-tension coil, central galvanization, static electrification, and even by peripheral galvanization. To obtain temporary musculo-sedative effects, there is no method that equals the depolarizing method of central and peripheral galvanization, by which is meant the elimination of either one or the other pole. In this way the neutral point is thrown outside the body, and the part or parts brought under the influence of either the negative or positive pole alone, as desired. Static electricity (positive) is also sometimes useful in chorea in calming nervous excitement, and as an aid to nutrition.

But the two methods that I have found, on the whole, to be the most effective in the treatment of chorea, are central galvanization and general faradization. These two methods properly differentiated and used, either alone or in alternation according to the indications in each individual case, are capable of doing much not only in alleviating the violence of the choreic movements, but in shortening the duration of the disease.

A somewhat useful point in the way of differential indication for the use of the two currents and the two methods of application, which has been forced upon me by repeated observation, is the following: For children of full habit and in that excellent condition of general health which we not infrequently see among the victims of chorea, the galvanic current is to be preferred. For those, on the contrary, who are weak and anæmic, with impaired nutrition, the faradic current is far more grateful, and is followed by better results both immediate and permanent.

TWO CASES OF TREPHINING FOR TRAUMATIC EPILEPSY, WITH REMARKS.

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CASE I.—The first case was that of a well-developed white man, twenty-seven years of age, who entered the surgical service at the Cincinnati Hospital, of which I had charge at the time, on August 3, 1893. About ten years previous he received a load of duck-shot full in the face, at short range. The sight of both eyes was destroyed, and a number of shot lodged about the face and head, where they could be felt beneath the skin. The skull was perforated in the centre of the forehead. Some necrosed bone was subsequently removed from this point, leaving a depressed and puckered cicatrix the size of the end of a finger.

Nine days after the injury, according to the patient, paralysis of the entire left side of the body suddenly set in, while he was standing and voiding his urine. Seven days after the injury an attack of epilepsy occurred. At first the convulsions took place but once a month, but gradually became more numerous, until, when he entered the hospital, he sometimes had as many as five a day.

The convulsions were general, beginning, according to the nurse and the interne, in the right arm. The patient became unconscious, frothed at the mouth, and at times bit his tongue, the right elbow and knee becoming firmly flexed. Cyanosis and stertorous breathing supervened, followed by considerable *malaise* and nausea.

The patient's intellect was cloudy and heavy, so that he expressed himself laboriously. He was at times somewhat delirious. Much pain was often experienced over the back and top of the head. The left side of the body was paretic, the hand and arm being almost useless, although the left leg could be used sufficiently well to enable the patient to shuffle about the ward. According to himself and his friends, most of the above symptoms had been steadily increasing.

Dr. F. Kebler and Dr. Joseph Eichberg were called in consultation, and an operation decided upon. Owing to the fact that the convulsions, as observed, seemed to begin on the right side, although paresis was confined to the left, it was deemed better to trephine the left side of the skull first, and then, if necessary, make a second opening on the right.

The operation was made on August 21, 1893, chloroform being used as an anæsthetic. The centre of the fissure of Rolando was indicated by marking the bone with a drill, and a large horseshoe flap turned down. The skull was found to be so enormously thick that it could not be penetrated with the inch-and-a-half trephine at first employed, and a smaller and deeper instrument had to be substituted. After separating the dura, which was firmly adherent, the opening was enlarged with the rongeur forceps. On making a semicircular incision in the dura, the brain, which was normal in appearance, bulged strongly forward. A grooved director was inserted about one and one-half inch into the cerebral tissue in all directions without detecting anything abnormal. The dura was then sutured, the button of bone replaced, and the wound in the scalp united.

The patient being in excellent condition, it was decided to at once explore the opposite hemisphere. Accordingly an opening was made over the centre of the right Rolandic fissure. A smaller trephine and the rongeur forceps were employed, and the thickened bone removed with comparatively little difficulty. The membranes were again found markedly adherent, and the apparently normal brain tissue bulged more strongly than before. On probing, nothing was found until the instrument was directed toward the base of the skull. Here, from one to one and one-half inch from the surface, was encountered a decidedly resisting mass, having apparently a definite outline. The grooved director was pressed steadily into this mass until it penetrated and dropped into a distinct cavity, from which there flowed out, alongside the instrument, a quantity of clear fluid. After tying and dividing a large meningeal vein which was in the way, the opening was enlarged by inserting a pair of hæmostatic forceps, and spreading the blades as the forceps were withdrawn. Several ounces of clear fluid escaped, and the bulging of the brain subsided, leaving a depression on its surface. A small drainage-tube was inserted and brought out through a hole in the flap, the button replaced, and the wound closed.

It was decided by those present that the cavity which had been discovered and drained was either a serous cyst or a cystically enlarged right ventricle. It is certain that the left ventricle was not enlarged, this possibility having been excluded by thorough exploration. That the cavity was not merely a normal ven-

[1] On Chorea, by C. B. Radcliffe, M.D., F.R.C.P. 1868.

tricle was shown by its situation, its size, and its firm wall. The probability is that the cavity was a cyst following a hemorrhage, due to the penetration of the brain by one or more shot.

The patient left the operating-table in excellent condition, his temperature being 99° F. and pulse good. During the following night he uttered occasional loud cries, and became so restless that shackles had to be used. His temperature mounted to 101° F., but fell to normal by morning. The next night the shackles were again employed and the cries were repeated. On August 24th, the dressings, which were saturated with serous fluid tinged with blood, were renewed. On August 26th, the drainage-tube was removed, the discharge, which had been steadily decreasing, having almost ceased. The patient's condition gradually improved until it became better than before the operation. His mind grew clearer, and his headaches less frequent, until the latter finally disappeared. There was no improvement, however, in the paresis. During September 15th and 16th, five convulsions occurred, beginning in the left arm and extending to the rest of the body. He had no further trouble of this kind, however, while in the hospital, and was discharged on September 28, 1893.

The patient was seen again about nine months after the operation. For five or six months he had remained free from headache. At the end of that time he began to be annoyed by pain near the bregma, not so severe, however, as formerly. This continued at intervals for two or three months and then ceased, no headaches having occurred during the last three weeks. His intellect was found much clearer—he spoke quite easily and quickly, and seemed to have the ordinary intelligence of his class. He had had occasional epileptic attacks, but they had not been so numerous as before, and not nearly so severe. The paresis of the left side had improved, but the hand still remained useless. Altogether, the man's condition was much better than before the operation. Six months later the patient was again heard from, and his condition found to be about the same, perhaps, as before he was operated upon, all benefit which he had derived from surgical interference, which was at first quite marked, having disappeared.

Case II.—A healthy, well-developed white man, between twenty and twenty-five years of age, was struck by a limb of a falling tree, and suffered a compound fracture of the skull. Fourteen months after the injury, on March 12, 1894, he was admitted to Christ's Hospital in Cincinnati. A puckered scar indicated the seat of the fracture. The depression, which was considerable, was about an inch in length by two-thirds of an inch in width, and lay along the right parietal ridge just in front of a perpendicular line passing through the external auditory meatus.

Since the accident epilepsy had set in. The fits had neither been numerous nor close together, but had increased in severity. One occurred in September, one in December, and one in February. They were accompanied with loss of consciousness, and lasted about half an hour. They were preceded by contracture of the fingers of the left hand and a "sick feeling." Headaches had been frequent and annoying, and memory had suffered considerably. The entire left side of the body was somewhat weaker than the right, although the patient could handle himself fairly well. This weakness had been preceded by twitchings of the muscles, and then complete, but temporary, paralysis. The left side of the face was almost entirely paralyzed, so that the corner of the mouth could not be drawn back, and the tongue was much deflected.

An operation was made on March 14, 1894, chloroform being used as an anæsthetic. The fracture was exposed by a large horseshoe flap, and a button of bone removed with an inch trephine; after which the rongeur forceps were freely employed. The depressed bone was much thickened, roughened on its under surface, and adherent to the dura. When the dura was opened by a semicircular incision, beneath and adherent to it was found a yellowish, puckered mass, the size of the last joint of the thumb, merging into the surrounding substance of the brain. This proved to be partly fibrous tissue, and mostly remnants of an old blood-clot. There was no cyst. The cicatrix and a small portion of adherent membranes were carefully dissected out with scissors, leaving a cavity in which one could place lengthwise the last joint of the thumb. Hemorrhage was slight. In closing the wound, the dura could not be completely reunited, an opening the size of a finger-nail remaining. A drainage-tube was brought out through a special incision in the flap. The bone which had been removed was not replaced. Recovery from the operation was uneventful.

Owing to a free discharge of bloody cerebro-spinal fluid from the wound, necessitating renewal of the dressings, the drainage-tube was not removed until the fourth day. As the edges of the wound seemed united, the stitches were also taken out. This proved to be a mistake, as one end of the incision gaped considerably, requiring the re-insertion of one or two sutures. On the third day after the operation, a slight convulsion occurred, but was not followed by others. The headache disappeared at once and did not return; while the patient's memory gradually improved, until he considered it as good as before he was injured. The facial paralysis disappeared quite rapidly, so that in a week it was much better; and when the patient was discharged on April 14, 1894, only a trace remained; he could whistle easily. The weakness of the left side had also markedly improved; the muscles, the patient says, had grown larger and firmer. The tongue had lost its deflection. Constipation had given place to regularity of the bowels. In July, 1894, his condition remained unchanged. On February 26, 1895, nearly a year after the operation, the patient was again heard from. He had had no convulsions since July 8, 1894, the paralysis of the face had still further improved, while the hemiparesis had all but disappeared. The headaches had ceased, and memory was as good as it had ever been. Sufficient time has not elapsed to justify an ultimate prognosis, but so far the man's condition is decidedly improved.

When operative surgery of the brain is viewed as a whole, it impresses itself upon the observer that the most important point is surgical cleanliness. The brain will bear an astonishing amount of rough handling without serious consequences, providing that inflammation does not occur; and inflammation, as has been thoroughly established, is due to infection with micro-organisms. We may probe the brain in various directions, remove large portions of it, tap its ventricles, compress it, bruise it—in fact, there is no reason why we should not even sandpaper it, if it were desirable—without danger to life, providing only that we keep it clean. Consider the amount of bruising and laceration that may result from depressed fractures and bullet-wounds, and yet the patients often get well. The organ can even recover itself with facility after the removal of a blood-clot which has compressed an entire hemisphere. But if infection once take place, especially infection of the meninges, the patient's chances are poor indeed. Hence, as far as operative technique is concerned, nothing is so important as the prevention of infection. Whether we chisel out bone-flaps or employ the trephine; whether we replace the bone or leave the opening free; whether we divide the dura in a cross or in a semicircle; whether we explore in this direction or in that, or use one instrument or another—these are all minor considerations compared with the vital question of the prevention of inflammation. We should take care to do our patient no harm, even if we do him little good.

The subject is of such importance that one is justi-

fied in saying, I think, that, except in cases of absolute and immediate necessity, no one should open the skull, and particularly the dura, without being thoroughly familiar with all the details of surgical cleanliness, and without being prepared to carry them out with exactness.

The patient's head should be completely shaved and sterilized several days, if possible, before the operation, and protected by a sterilized cap or bandage. If a beard is present it should be removed, at least on the cheeks. If the seat of the proposed operation is on the anterior portion of the cranium the eyebrows should be shaved. It is very difficult to sterilize the beard and eyebrows, and in operating they may easily be touched by the operator's hands or instruments, and thus cause infection.

The head should be thoroughly scrubbed with warm soapsuds and a good brush, carefully cleaning out any old puckered scar which may be present. Such scars are dangerous, as they occupy the exact field of operation. Then vigorous scrubbing and douching with alcohol or ether, by means of a bunch of sterilized gauze. This is to remove any remaining oily substance which might interfere with the action of the antiseptic. Then follows another good scrubbing with a solution of bichloride of mercury of a strength of 1 to 1,000, or better 1 to 500. These several scrubbings must be more than mere formal wettings of the skin—they must represent an intelligent endeavor to remove and kill the micro-organisms which have not only adhered to the scalp, but have worked themselves in among the superficial epithelial cells and into various minute depressions. One should bear in mind that the skin comes in constant contact with the wound-secretions, so that germs have ample time to multiply and produce mischief. I believe that infection comes as often from the imperfectly cleansed skin of the patient as it does from instruments or even from the hands of the operator. After sterilization, the scalp should be covered with a layer of gauze or cotton wet in 1 to 1,000 bichloride-solution—and protected by a dry dressing. A wet towel, which is so often used, does not form a satisfactory dressing because it cannot be so perfectly fitted to the head.

A few hours before the operation, the scalp should again be sterilized; and not only the scalp, but the ears, neck, sides of the face, and forehead, and the face itself carefully washed. It is of no small importance to clean the ears without and within. Sometimes an ear must be included in the dressings; and, at least, they are apt to come in contact with hands, instruments, or sutures. If the ears, face, and eyebrows have not, for any reason, been properly attended to, danger may be avoided by catching a sterilized cloth about the head with a rubber band, and permitting the cloth to fall downward over the neck, ears, and face as far as the nose. If this band is heavy enough and tight enough, it will also control hemorrhage from the arteries of the scalp. There is generally considerable oozing of blood and cerebro-spinal fluid after an operation upon the brain, especially if the patient should vomit following the anæsthetic; hence it is best in most cases to use a drainage-tube; which should not be brought out through the incision, but through a special opening in the flap. The tube can be removed in a day or so.

The dressing of the wound is of importance. It has been sufficiently demonstrated that dryness is a prime factor in the prevention of germ-growth. The dressings should not only be perfectly dry in themselves, but should be so arranged as to facilitate rapid evaporation of the moisture which they absorb. They should cover as much surface as possible; and be of considerable thickness, to guard against the ready soaking through of fluids from the wound. The best dressing, I think, is arranged in this way: First, a large quantity of gauze, which should not be neatly and compactly folded, as is often done, but loosely fluffed up. Gauze absorbs more evenly when used in this way, and permits of more rapid evaporation. Over this is placed a moderately thick layer of sterilized cotton. It should be remembered that cotton is not used so much for absorptive purposes as for protection from germs, and hence it should cover in all the gauze, and come everywhere in contact with the surrounding skin. The comparative absorptive powers of cotton and gauze may frequently be noticed: fluids soak more or less directly through cotton, while they spread throughout a mass of gauze before appearing on its surface.

Some advise covering in the entire dressing with a sheet of rubber dam (see the "American Text-book of Surgery"). This is not wise, as it checks evaporation and keeps the dressing moist. For the same reason it is better not to use a starch-bandage, or even a common muslin roller, for the final covering, but a bandage of simple gauze.

If the discharge soak through, or appear at the edges of the dressing, a new dressing must be applied at once, as micro-organisms rapidly grow into the moist material. When the dressing becomes stained through it is a mistake to cover it up with more cotton. The danger is not removed, but only concealed; for we can rest assured that infection has occurred as soon as the staining manifests itself.

It is practically immaterial whether one uses plain gauze, iodoform gauze, or that impregnated with various antiseptics; only it must be dry and surgically clean. Plain and freshly sterilized gauze is, I think, the most reliable and satisfactory. Where a steam sterilizer cannot be obtained, gauze and cotton may be easily prepared by placing them, very loosely packed, in a pan in the oven of an ordinary cooking-stove. When the cotton begins to brown on the surface, the material is sterilized.

Time will not permit me to dwell upon the care with which hands, instruments, sutures, etc., must be rendered free from infecting micro-organisms, nor upon the precautions which must be employed to preserve perfect cleanliness after it has once been obtained. These are all points, however, which must be thoroughly mastered before operative work upon the brain should be attempted.

1327 Stout Street.

URETHROSCOPY IN CHRONIC URETHRITIS.[1]

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It would be absurd to hold that all cases of chronic urethritis must necessarily be treated by the specialist. The majority can be successfully managed by the general practitioner, who, however, as a rule, cannot devote the time necessary for that careful individualization which each case requires. Furthermore, the general practitioner can hardly be expected to provide himself with cumbersome and expensive apparatus and instruments, for which he has but occasional use.

The many pathological elements upon which chronic urethritis may depend, need not now be discussed. This paper's object will be subserved in mentioning the conditions found by urethral endoscopy, without which no chronic urethritis can be intelligently treated. Time was when every chronic urethritis was deemed dependent upon a stricture. The urethra was unmercifully slashed; true enough, with good effect in many cases, but it needed the superior skill of an Otis to have genuine cicatricial warrant for such procedure.

The three casts of normal urethræ I have the pleasure of showing, evince the fact that nature never intended the urethra to be a tube of equal calibre

[1] Read before the Harlem Medical Association, June 5, 1895.

throughout its entire length. On the contrary, there are so many variations that it is absolutely impossible to even suggest an average diameter for any one case. But this is not very important for the present consideration, save in the sense that to judge intelligently of what we find in the urethra, we must know that at almost every hair's-breadth its calibre differs materially.

We know to-day that chronic urethritis does not at all necessarily depend upon stricture; nor need it manifest itself in *goutte-militaire*, or even slight agglutination of the lips of the meatus. Indeed, a chronic urethritis can exist with no further manifestation than clap-filaments, whose presence should be a warning to many men. To others these "Tripper-fäden" are a source of grief, with all the usual mental concomitants of sexual diseases. Early this year, in a paper on "Gonorrhœal Hypochondriasis," read before the Berlin Anglo-American Medical Society, I went so far as to claim for chronic gonorrhœa the possible ability to evoke insanity, and suggested the advisability of unexplained suicides being examined for the presence of inflammatory foci or gonococci long retained within urethral crypts, glands, or follicles. Subsequent investigation, study, and thought have convinced me that the possibility is not so remote as might at first appear. Aside, then, of local effects and readiness for contagion, chronic urethritis merits consideration for its direct influence upon the patient's sensorium commune.

The need, therefore, of most thorough searching of the urethra for a diseased condition is too evident for discussion. Tactile exploration, so useful when grosser constrictions are the cause, is necessarily limited in its revelations. Considering that most diseased processes take place beneath the mucous membrane, they are entirely obscured from what the sound can communicate to even the most sensitive touch. This fact, that the vast majority of pathological processes in the urethra are situated beneath the mucosa, has been used as an argument against urethroscopy. It has been held that their submucous location necessarily excludes them from visual detection. Were this invariably true, we would have to depend exclusively upon the sound for diagnostic purposes. How often it can yield unsatisfactory results need not be recited. Our other alternative, then, without urethroscopy, would be to treat chronic urethritis empirically. This, to paraphrase an old adage, would be to literally "thrust into a urethra of which we know nothing, remedies of whose effect we consequently can know less."

In a measure, the unavailability of urethroscopy holds good when reflected or projected light is used. It is in this that I differ from my friend, W. K. Otis, whose most ingenious aero-urethroscope offers everything that can be desired in that class of instruments. But the instrument which I shall have the privilege of demonstrating on the patients whom I brought here for that purpose, carries the light into the urethra, to each and every point it may be desirable to examine. This, the Nitze-Oberländer urethroscope, not only satisfies the physical demand for visual acuity by the greatest intensity of illumination, but it also renders much of the lower part of the urethra translucent. Thus it can aid the experienced eye in at least locating a covered diseased process.

This by no means implies that every chronic urethritis depends upon a submucous diseased spot, which need but be cauterized, incised, or excised to cure the infection. On the contrary, there are many other conditions which the urethroscope exposes to sight. These require as much study as do the pathological changes which are found in other parts of the body. Thus we may have variations in the color of the mucous membrane, loss of normal striation, increase or diminution of the normal urethral folds, gaping glands, and numerous other conditions. All of these and combinations of them indicate various etiological factors. Epithelial denudations, ulcers, circumscribed or general diseased conditions of a catarrhal or specific character, neoplasms, etc., are discoverable only by means of the urethroscope.

Oberländer, if he deserved no other credit, merits immortalization for his industrious studies of the urethra and devising methods of treatment for chronic urethritis. Incidentally, it may be mentioned here that he was the first to diagnose carcinoma of the urethra by means of the endoscope.

Oberländer found an active coadjutor in Kollmann, who did, and is doing, much original work in urethroscopy. At some future time I hope to show photographs taken by him of the urethra. These demonstrate that chronic urethritis, which is only a generic term, is of sufficiently varying origin to merit all that Oberländer, Kollmann, and others have written on the subject.

In this connection it must not be forgotten that the urethroscope often proves useful in finding the hidden lumen of severe strictures—another condition provocative of chronic urethritis.

It is certainly true that the mere presence of the urethroscopic tube can produce apparent anæmias or hyperæmias. To the inexperienced eye they may convey pathological changes where none exist. But study and practice do away with this source of error. They also teach the selection of the proper calibre of tube for each urethra, and so holding it that the examined parts are rendered neither paler nor darker than in reality they are.

We are met, then, by three self-evident propositions: 1, Chronic urethritis is a generic term, covering many diseases; 2, most of these diseases cannot be discovered by intra-urethral touch or by external manifestations; 3, they can be located, studied, and treated only through the urethroscope.

A discussion of the various kinds of urethroscopes would lead beyond the purposes of this paper. In one, presented by me to the American Medical Association on May 7, 1895, they were described. Careful examination of all causes me to advocate the Nitze-Oberländer urethroscope, whose intensity of direct illumination compensates fully for whatever may at first appear cumbersome in the apparatus.

The one I have the privilege of showing now, and which I will demonstrate in use on the patients here for the purpose, is naturally not of the dimensions which I would advise the general practitioner to acquire. The smaller forms amply suffice for all general purposes. They consist essentially of a small accumulator, connected through a simple rheostat with wires which conduct to the light-carrier. This light-carrier has a tube which carries water to it, and another which carries water from it. By means of this flow, the uncovered wire, made incandescent, is kept cold, no matter how long it rests in the urethra. This apparatus, in its simpler or more complex forms, is made by Heynemann, of Leipzig. The form I use is one intended for specialists.

I abstain from recording a more detailed description of the instrument, as it is soon to be published in an article, in English, on Urethroscopy, by Wossidlo, of Berlin. For the same reason I do not now mention anything of the technique of urethroscopy; furthermore, it will be evident to those to whom I have the pleasure of showing the very few and simple manipulations required.

The appearance of the urethra varies in accord with the region examined, as well as with the pathological conditions that may prevail. Oberländer, Kollmann, Posner, Grünfeld, Burckhardt, have described these in their works, whose study cannot be too highly recommended.

As vastly different as are the pathological conditions which cause and sustain chronic urethritis, so varying must necessarily the treatment be. Shall we inject,

irrigate, or cauterize; shall we incise strictures or diseased glands; shall we perform a species of massage of the entire urethra by Oberländer's or Kollmann's modified Otis dilators; shall we instill with the Guyon or Ultzmann syringes; shall we use Gschirrhakl's brush or Winternitz's psychrophor; shall we dilate with sounds, or shall we leave the urethra alone and obtain relief by constitutional treatment?

These questions can be answered only after that close individualization, which nothing but the urethroscope can give. It would be folly to assert that no cases have recovered without urethroscopy. In some, accident has given success to crass empiricism; but these could have been intelligently treated and more quickly cured, if they had been properly examined. It is, therefore, evident that no attempt should ever be made to treat chronic urethritis until the practitioner has ascertained what the diseased condition is and where it is located. Nothing except urethroscopy will furnish these absolute essentials.

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INSOLATION OR THERMOPLEGIA: A CLINICAL STUDY.

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Insolation or thermoplegia comprises various explosive phenomena originating in the central nervous system as the result of prolonged exposure to a high temperature and an accumulation of toxic products in the blood. Violent muscular exercise and severe mental strain are noted predisposing factors.

Clinically, three distinct varieties are recognized, each form demanding special treatment modified in accordance with the intensity of the attack and the condition of the individual.

1. **Anæmic Form.**—This type, better known under the name of heat exhaustion, generally affects debilitated subjects with a high-strung nervous system and low resisting power. The onset is the least sudden of the three classes of cases, presenting a prodromal stage of variable duration. The symptoms are characteristic of cardiac syncope, mental depression, dizziness, headache, great prostration, and at times nausea and vomiting; the patient sinks to the ground utterly exhausted. Consciousness may be preserved for some time or not lost at all; usually, however, syncope supervenes, rapidly deepening into coma. Countenance is pale, eyes are half closed, pupils widely dilated, and the muscles completely relaxed. The skin is cool and clammy, the pulse accelerated and feeble, later on irregular, respirations are sighing and increased in frequency. Superficial reflexes are for the time abolished, deep continue unaffected. The temperature is below the normal, ranging from 97° to 95° F. per rectum. Death may result immediately from cardiac paralysis, or later on from asthenia; in one instance an epileptiform convulsion terminated the scene.

Treatment.—In mild cases with transient syncope rest alone is indicated; the severer forms of collapse, however, call for immediate stimulation to support the exhausted heart. Remove patient to a cool, shady place, with the head lower than the knees and inject subcutaneously twenty minims of aromatic spirits of ammonia, to be followed by

℞. Strychn. sulph..... gr. $\frac{1}{30}$
Atropin. sulph..... gr. $\frac{1}{100}$
Glonoin..... gr. $\frac{1}{50}$
M. f. hypo. S.: one dose.

If the heart responds put patient to bed and apply a hot pack, with hot-water bottles to the feet and a cold cloth around the head. It is not advisable to allow patient to remain in the pack over half an hour, for the temperature might suddenly jump to the other extreme, rendering the prognosis very unfavorable. Sponging the body with hot water containing one-third of alcohol is a very successful method of administering warmth and stimulating capillary circulation. Should the temperature fail to rise, a quart of a one per cent. solution of sodium chloride at a temperature of 105° F. may be injected per rectum. Owing to the irritable condition of the gastric mucous membrane alimentation is to be carried on by nutritive enemata.

2. **Congestive Form.**—In the second or congestive variety the onset is more precipitate and the prodromal stage of shorter duration. The individual is suddenly seized with violent throbbing pains in the head and back of the neck, vertigo, tinnitus aurium, and marked muscular weakness, dropping senseless to the ground. The face is flushed, conjunctivæ are injected, pupils dilated; pulse is accelerated and of rather high tension; respirations are quite deep and rapid. Skin is congested, usually moist. The temperature is elevated, rarely, though, over 103° to 104° F. In favorable cases this stage of coma subsides in two to three hours, leaving the patient with often violent neuralgic pains and headaches, slowly regaining his former state of health, but sometimes continuing mentally enfeebled.

Treatment.—Applications of cold, if the temperature is 103° F. or over, in the form of sponge bath or wet pack. A very serviceable apparatus for the administration of cold baths, particularly in hospital and fever practice, has been devised by Dr. H. M. Biggs, of Bellevue Hospital, and has since been adopted by the New York Board of Health. It combines all the advantages of the plunge bath with a minimum disturbance to the patient, who is simply turned from side to side in his bed while the apparatus is adjusted.

Free catharsis should be encouraged as much as possible, either by enemata of glycerine and ox-gall, each ℥ j., or gr. ⅙ of elaterin given by mouth. Venesection may be of service in some cases, especially if the patient is robust and full-blooded; this may aid in preventing pulmonary complications, which are very liable to occur in this type of the disease. If, on the contrary, the heart-power fails, then active stimulation must be resorted to. In the after-treatment phenacetin, bromide, and chloral will be found of service in relieving headache and insomnia.

3. While the preceding forms are met with at all times during the year, the third or apoplectic type is rarely, if ever, seen except during midsummer with high external heat and great accumulation of moisture. Persons living in unhealthy districts, and those undergoing violent exertions, such as stokers on tropical steamers, workers in gas-houses, soldiers on forced marches, etc., easily succumb to this disease.

The onset is invariably abrupt, the patient falling to the ground as if struck by lightning. Consciousness is lost almost immediately; countenance is deeply congested, almost cyanotic; the veins of the forehead are engorged, and stand out prominently; the features are entirely relaxed and devoid of expression; eyes are wide open and fixed; pupils show marked contraction; skin is dry and burning hot to the touch and appears mottled in places; the pulse is accelerated, full, and bounding; arteries pulsating forcibly against the examining finger; respirations are increased in frequency and quite deep; temperature ranges from 106° to 110° F., or even higher, in one case rectal temperature was found to be 110.8° F. Coma is very profound; muscles are completely relaxed; cutaneous reflexes lost; deep reflexes increased. We find paralysis of the sphincters, involuntary passages of urine and fæces, the latter usually of a light yellow color, a diarrhœic consistency, and a peculiar sickening odor. Vomiting early in the attack was observed only infrequently.

This type is most fatal; death resulting from apnœa. The coma lasts anywhere from three to twelve hours.

In one instance, seen in 1892, patient remained comatose for sixty-two hours and recovered eventually. The chief source of danger is found in the hyperpyrexia; if not speedily checked acute cerebral œdema and dangerous meningeal congestion will soon place the patient in a critical state. In severe cases grave symptoms, indicative of rapidly progressing changes in the gray matter, become apparent; just what these changes are has not been definitely settled. Owing to the high temperature the elementary constituents of the blood must undergo important transformations, and so will all the other tissues in immediate contact with it. The soft, yielding, nervous centres suffer most. Following the sudden rise in temperature, and the highly increased blood-pressure, along with certain hæmic changes, degenerative processes take place in the vessels, favoring a transudation of the serum into the parenchyma of the nerve-tissues and their lymph spaces, offering an obstruction to the return flow of blood, resulting in venous hyperæmia. The ganglion cells themselves probably undergo changes in addition to the above-mentioned transient nutritive disturbances; there possibly occurs a partial or complete coagulation of the protoplasm in the cells, with a secondary disintegration of the myeline in the nerve-fibres, induced by the intense degree of thermic energy. If these pathological changes advance beyond a certain point, death must inevitably result, for regeneration of the nerve elements does not occur; this may explain certain sequelæ during the convalescent stage, particularly mental derangements, as dementia and imbecility, which presuppose a destructive process in the brain.

Usually the patient's condition changes after two to four hours; either consciousness partially returns and he recovers, or—and this is more frequent—the symptoms increase in severity, nearing a fatal termination. Facial paralysis develops, interfering with respiration, during which act lips are sucked in and puffed out, breathing becomes labored and stertorous, pulse gradually loses in volume and tension, and gains in rapidity. In the course of eight to ten hours rigidity of the back of the neck and contractures of arms and legs appear, indicating spinal involvement; these cases were invariably fatal. The temperature oscillates between 106° to 109° F., influenced largely by hydrotherapeutic measures. It may remain continually high or remit three, even five, degrees, to rise again in two to three hours; a decided elevation just before dissolution is common. The urine contains a variable amount of albumin, resulting either from a pre-existing nephritis, or an acute parenchymatous degeneration of the kidneys; in one case hæmoglobinuria was present. In three cases seen in 1893, at Havana, Cuba, punctiform hemorrhages appeared in the conjunctiva, in the subcutaneous tissues of the eyelids, abdomen, and feet.

Death occurring early results from cardiac paralysis or apnœa; after two to three days from cerebral œdema or secondary meningitis; later on from parenchymatous inflammations. Uncomplicated recoveries are said to be infrequent, insanity constituting a common and dreaded sequel.

Treatment.—Everything depends on the speed by which the high temperature is brought under control. Loosen the clothing and remove the patient to a cool, shady place, where there is free access of air; strip him of all clothing and apply cold in some form. A most efficient method is found in the garden-hose, douching the body thoroughly all over for twenty to thirty minutes till a decided impression is made on the temperature, which usually falls then to 105° or 104° F. The stream of water strikes the body with considerable force, exerting a great deal of friction, thereby stimulating to a high degree the cutaneous capillary circulation and exposing in this manner more blood to the cooling influence of water. A hypodermic injection should now be given of—℞. Tinct. strophanth. ♏x.; tinct. acon. rad., ♏ij.; glonoin, gr. $\frac{1}{10}$. Mix, and repeat in two hours.

The douche may be employed again, if temperature calls for it, in one to two hours, but it is preferable to substitute the plunge-bath containing large pieces of ice. While one attendant supports head, two others should rapidly and thoroughly massage the whole body to bring the blood from the overheated organs to the surface. An ice-cap is to be applied to the head, or better, a piece of ice rubbed over it and neck. The temperature is to be recorded every ten minutes, with the pulse and respirations. Shock need not be dreaded if above directions are carried out conscientiously, particularly in regard to friction, which constitutes an important vascular stimulant. When the temperature approaches 103° F., a sudden change takes place, the patient becomes very restless and makes unsuccessful efforts to get up, he puffs and groans, respirations are accelerated, while the pulse drops from 190–200 down to 150–140 without losing in tension. The skin assumes a healthy red hue, the pupils suddenly dilate, and explosive vomiting of enormous quantities of a greenish-brown fluid occurs, sometimes projected over six feet from the body; it was found to be unusually rich in urea, with an admixture of altered red blood-cells, the reaction was acid. Sensibility may now return, but this is infre quent; the before-mentioned phenomena are purely reflex. As soon as thermometer indicates a fall below 103.5°–102° F., patient is to be removed from tub and placed on a bed, covered with a rubber blanket, and is then enveloped in a cold, wet sheet, moistened occasionally with ice-water. Should, notwithstanding this, the temperature rise again, the plunge-bath may be repeated, or the bed-bath substituted. Enemata of cold water, temperature of 50° F., combined with gastric lavage, exert a powerful stimulating influence. The water should be allowed to run in and out slowly, and its gain in temperature noted.

If the individual is free from organic disease and strong, phlebotomy must be performed. It aids in reducing temperature, overcomes meningeal congestion, and by lessening arterial tension may abort an impending cerebral œdema, diminishing the liabilities to serious complications. Fourteen ounces of blood may be removed with perfect safety; in one case a corresponding amount of Billroth's solution, at a temperature of 58° F., was allowed to escape under low pressure through a hypodermic needle into circulation through the same opening in the vein, effecting a drop of two and a half degrees in the rectal temperature. Subcutaneous injections of carbamide of quinine, antipyrine, and salicylic acid were found useful in those cases when prolonged application of cold did not materially reduce the temperature—antipyrine in five-grain doses is most reliable. The judicious administration of tincture of aconit. rad., ♏ss, every twenty minutes, is followed by the happiest results in relieving the dry, hot skin, acting as a mild diaphoretic and nervo-vascular sedative; it should be discontinued, when a marked impression has been made on the pulse. Active diaphoresis may be induced by pilocarpine administered subcutaneously; by mouth, gtt. iij. of ol. tiglii are to be given to thoroughly cleanse intestinal tract. Hypodermic injections of fifteen-grain doses of magnes. sulphat. failed to effect evacuation of the bowels. Venesection may be repeated in apoplectic persons, but it is wiser to substitute any of the above-mentioned vascular sedatives. A fly-blister to the back of the neck is sometimes useful. In all cases where temperature ranges above 107° F. the hair should be cut close to the scalp and an ice-cap applied; or still better, tie a large abdominal ice-coil to the head and let ice-water circulate through it constantly. Fibrillarly twitchings of the muscles and severe convulsions invariably predict a fatal issue close at hand. Amyl nitrite to nostrils, or glonoin hypodermically, with inhalations of chloroform, may diminish their intensity, but

not remove the underlying condition. Morphine has been used, but is contraindicated from the marked meningeal hyperæmia it induces. Chloral and bromides are useless during the convulsion, but they may, given per rectum at the proper time, abort it. Chloral, fifteen grains, pot. brom., forty grains, administered per enema, when the fibrillary twitching commences, may be successful.

When patient regains consciousness temperature usually falls below normal, but alcoholic stimulants are rarely called for; on the contrary, they do harm by precipitating or augmenting meningitis. After one to two days a febrile reaction—a rise to 102° to 103° F.—is seen and may indicate meningeal involvement. Generally, however, it is of no vital importance. Should, however, meningitis set in, the prognosis is rendered very grave; it is therefore advisable to continue the use of the ice-cap or coil, and administer a cerebral sedative, such as bromides, ten grains t.i.d. The diet should be very light and cold, milk with Vichy, seltzer, or lime-water, iced lemonade, and a little claret well diluted. If the stomach rebels, rectal alimentation is called for. The severe throbbing headache and aching pains are best combated by counter-irritation and the coal-tar preparations. The bowels must be kept open by the free use of alkaline waters saturated with salts of magnesium and sodium. The room should be kept dark, but well aërated, and all active movements interdicted. The stage of convalescence is slow and tedious, and marked by the appearance of sequelæ of more or less significance. The brain is the last in recovering its former functional activity, if it does at all, and it is the duty of the physician to familiarize the patient's friends with the possibility of a permanent mental derangement at an earlier or later period. At best the individual will always be delicate and greatly susceptible to the influence of heat, and therefore he should be advised to live in a temperate, even climate.

NEW LAWS OF INTEREST TO PHYSICIANS.

By FREDERIC G. MATHER,

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The recent Legislature passed a number of laws and amendments of interest to the medical profession. Among the most important amendments were those to the Public Health Law as follows: Providing that the State Board of Health appoint two of its members as a committee, whose particular duties shall be to carry out the provisions of the Public Health Law relating to tuberculosis in cattle, and such members so appointed shall be entitled to receive a salary of $250 per month and any necessary expenses, and they shall hold office for one year; such committee shall keep a complete record of all the work done, and submit monthly reports thereof to the State Board of Health. Providing that (in Section 145), the degree of bachelor or doctor of medicine shall not be conferred in this State before the candidate has filed with the institution conferring it the certificate of the regents, that three years before the date of the degree he has either graduated from a registered college or satisfactorily completed a full course in a registered academy or high school, or had a preliminary education considered and accepted by the regents as fully equivalent, or had passed regents' examinations, representing for degrees conferred in 1898, one year of academic work, for degrees conferred in 1899, two years of academic work, and for degrees conferred in 1900, a full high-school course. Dropping out (Section 153) the prohibition of using any title whatever which shall show or tend to show that the person so assuming or advertising the same is a practitioner of any of the branches of medicine, but still retaining the prohibition of the unauthorized use of M.D. Revising Article 9, by vesting the power of granting licenses to practise dentistry in a State Board of Dental Examiners and assimilating in that regard the licensing of dentists to the licensing of physicians, and also providing punishments for violation of the provisions of the law. Revising Article 10 by making more strict examinations for licenses to practise veterinary medicine and surgery. Section 184, requiring that every licensee of the State Board of Pharmacy who desires to continue the practise of his profession shall annually, within thirty days from the first day of November, pay to the secretary of said board a fee of $1, for which he shall receive a renewal of his license, which renewal shall be displayed with his license.

The following amendments to the Public Health Law did not pass: Section 207, allowing medical colleges or schools to use unclaimed cadavers from almshouses; same Section, providing as to cadavers, that it shall apply only to the counties of Onondaga, Oswego, Madison, Cortland, and to Auburn State Prison. These bills also did not pass: Providing that, in addition to the powers now conferred by law upon the State Board of Health, the board is empowered, and it shall be its duty upon receiving a fee therefor of $50, to cause an examination and analysis to be made, by a practical chemist, of any drug, medicine, or mixture of drugs, herbs, or medicines, commonly known as patent or proprietary medicines, and shall ascertain and determine whether the use of the same may or may not endanger the public health, and it shall not be lawful for any person or corporation to sell, or offer for sale, any drug, medicine, or mixture not prescribed by a regular physician, unless the same shall have been so examined and approved and certified in writing as not dangerous to the public health by the State Board of Health. Amending the State Board of Pharmacy Law of 1884 so that any person who had three years' experience in the practice of pharmacy previous to January 1, 1884, shall be entitled to be licensed as a pharmacist, and if the State Board of Pharmacy shall refuse to grant such license, upon application duly made by such person to the secretary of said board, and the payment of the license fee required by law, such person may, on fifteen days' notice to the secretary of such board, apply to the Supreme Court, at a special term, in the district in which such applicant resides, for an order directing such board to issue such license. Abolishing the office of coroner, in accordance with the revised Constitution, and providing for the performance of the duties now performed by coroners. Amending the coroners' law of 1875, so that the board of supervisors shall, at its next annual meeting, and from time to time thereafter, fix the compensation of the coroners in Erie County at $2,500 per year for all services done and performed by them, except when acting as or in the place of the sheriff of said county, and which compensation shall not, in the case of a coroner residing in the city of Buffalo, at the time of his election, and during the term of office, exceed the sum of $3,000, and not exceeding two in number, and of any coroner not residing in the city of Buffalo, at the time of his election, shall not exceed the sum of $500 per annum, which compensation shall not be increased during the term of office of such coroner, and shall be in lieu of all fees or mileage for such services. Amending the county law so that no person shall hereafter be eligible to the office of coroner who is not an attorney and counsellor-at-law, but the holding of such office shall not act to prohibit him from practising at any court, except in relation to any case which may have been before him as a coroner. Amending Section 390 of the Penal Code so as to make guilty of a misdemeanor any person who, in various ways, pollutes any public water-supply. Authorizing the Superintendent of State Prisons to use in the several prisons of the State the double-chloride-of-gold treatment for the cure of liquor, opium, morphine, cocaine, and tobacco diseases, and to negotiate for and purchase such

medicines prepared under recognized double-chloride-of-gold formulas as in his judgment he may deem advisable for the purpose of administering such treatment, and in carrying out the provisions of this the superintendent may cause one or more of the prison physicians to be instructed in the administering of the remedies prescribed, and the treatment of the diseases enumerated. Repealing the law of 1893 relative to the vaccination of school children.

The Code of Civil Procedure was amended so as to exempt from jury duty, the same as a physician, a duly registered veterinary surgeon actually engaged in his profession as a means of livelihood. The sum of $100,000 was appropriated for the purpose of constructing and equipping suitable buildings for the State Veterinary College at Cornell University, but no part of such moneys shall be expended until plans and specifications for the construction and equipment of such buildings and the location thereof shall have been approved by the Commissioner of Agriculture, nor until the Comptroller shall have certified that, in his judgment, the expenses of the completion and equipment of such buildings, in accordance with such plans and specifications, will not exceed the amount of such appropriation, and such buildings and equipment shall be the property of the State.

A law was passed regulating and restraining the practice of midwifery in Niagara County by others than legally authorized physicians. The county judge of that county is authorized to appoint a board of examiners in midwifery, to consist of five members, who shall have been licensed to practise physics and surgery in this State, and thereafter as often as any vacancy shall occur in said board, said county judge shall, by a like order, fill such vacancy. This board is to issue certificates, and anyone practising without a certificate on conviction thereof shall be fined not less than $50, nor more than $100, and shall forfeit any certificate granted under the act. A similar law was passed for Rochester, allowing the mayor to appoint a board of three examiners; but an amendment to the law for Erie County failed, providing that on and after July 1, 1895, the county judge of Erie County shall appoint a board of examiners in midwifery, to consist of nine instead of five members, who shall have been licensed to practise physics and surgery in this State, and who shall have been in active practice for at least two years; three of said members shall be designated by said county judge to hold office for one year; three of said members to hold office for two years, and three of said members to hold office for three years. Annually thereafter the said county judge shall designate three physicians to hold office as members of said board for a term of three years.

The new Membership Corporations Law, from the Statutory Revision Commission, provides that five or more persons may become a corporation for the purpose of erecting, establishing, or maintaining a hospital, infirmary, or home for invalids, aged or indigent persons, by making, acknowledging, and filling a certificate, stating the particular object for which the corporation is to be formed; the name of the proposed corporation; the town, village, or city in which its principal office is to be located; the number of directors, not less than three nor more than thirty; the names and places of residence of the persons to be its directors until its first annual meeting, and the time for holding its annual meetings. Such certificate may also specify the qualification of members of the corporation with respect to their adherence or non-adherence to a particular school or theory of medical or surgical treatment, and the systems of medical practice or treatment to be used or applied in such hospital, infirmary, dispensary, or home. Such certificate shall not be filed without the written approval, indorsed thereupon or annexed thereto, of the State Board of Charities, and of a justice of the supreme court of the district in which the principal office or place of business of such corporation shall be located. On filing such certificate, in pursuance of law, the signers thereof, their associates and successors, shall be a corporation, in accordance with the provisions of such certificate.

A new law "to protect human life" provides that all hospital buildings used for general hospital purposes, or hospitals or asylums for the insane, or any hospital buildings that are more than two stories high, shall have properly constructed iron stairways on the outside thereof, with suitable doorways leading thereto from each story above the first, for use in case of fire. It shall be the duty of the trustees, managers, owners, or proprietors of such hospitals or asylums to cause such stairways to be constructed and maintained. If the trustees or owners of any hospital, except those owned and maintained by a city, a county, or the State, shall fail to provide such stairways before the first day of October, 1896, then the local authorities shall proceed to erect such stairways, and the cost thereof may be recovered by an action at law from the property of said hospital. The district attorney of each county is charged with the execution of this statute, except in the case of hospitals erected or maintained by the State, city, or by a county. This law is to take effect on the first day of October, 1895. The provisions do not apply to any institution in the city and county of New York, or the county of Kings, which the fire marshal of said city or county shall certify in writing to be fireproof to an extent which will not require the appliances and fixtures provided for. In every other county such certificate shall be made by the district attorney of the county. The certificate exempting institutions in any county from the operations of this law shall be filed during the month of January in each year.

A charter was granted to St. Joseph's Hospital, in Syracuse; and the charter of Kingston was amended so that $2,500 can be appropriated yearly to the Kingston City Hospital. The name of the Bedford Dispensary, in Brooklyn, was changed to the Bedford Dispensary and Hospital. The charter of the Brooklyn Eye and Ear Hospital was amended so that the directors shall be not less than eleven nor more than nineteen. In Oswego a charter was given to the "Doctor Mary V. Lee Fund to Aid Worthy Students." The board of trustees of the Clifton Springs Sanitarium Company was authorized to issue bonds not to exceed $100,000, and mortgage the trust property to raise money to pay the cost of completing the new sanitarium building. Authority was given to the Board of Commissioners of the Washington Park, Albany, to convey or lease a plot of ground for the purpose, and to be used for the erection thereon, of the Bender Hygienic Laboratory, and the laboratory has been incorporated. A charter was given to the Pedic Society of the State of New York.

In New York City the Consolidation Act was amended so as to provide for the making and use of diphtheria antitoxin and other antitoxins, and to establish a fund in relation thereto. A charter was granted to the Hospital for Scarlet Fever and Diphtheria Patients, with Louisa F. Minturn, F. Augustus Schermerhorn, Paul Tuckerman, James J. Higginson, Frederic De P. Foster, John Winters Brannan, M.D., Cleveland Dodge, T. Mitchell Prudden, M.D., Alvah H. Doty, M.D., and George F. Crane, as the incorporators. Another new law provides that overseers of the poor or other officers having charge of the dispensation of public charity in the several counties of this State shall hereafter send to the Pasteur Institute, in the city of New York, all persons duly certified by regular physicians to have been bitten by rabid animals or otherwise put in danger of infection with rabies. The transportation of such persons, with necessary attendant or attendants, to and from the city of New York, shall be a charge upon the counties in which they reside. The sustenance, nursing, and

preventive treatment of such persons, for the time adjudged necessary, shall be provided by the Pasteur Institute. The sum of $6,000 was appropriated to the Pasteur Institute as a full equivalent for the services named in the law and conditions imposed thereby. The Pasteur Institute shall be at all times open to the inspection of the Governor and of the State Board of Health, or of the accredited representative. of either, and shall annually, on or before the fifteenth of January of each year make its report to the Legislature.

Other amendments to the Consolidation Act were these: Allowing annual appropriations of $12,000 and $30,000, respectively, to the Society of the Lying-in-Hospital and to the New York Post-Graduate Medical School and Hospital; allowing to the New York Polyclinic Medical School and Hospital, for board, nursing, and medical or surgical aid and attendance, $1 per day for each needy and charity patient who occupies a bed in said hospital, and who receives such care, support, and maintenance, such payments not to exceed in the aggregrate $30,000 per annum; relative to coroners; exempting from taxation the property of the Northeastern Dispensary. Other laws were as follows: Amending the charter of St. John's Guild so that it may hold property, provided that the annual net income of the property, real and personal, of the corporation shall not exceed the amount authorized to be received and held by hospital corporations under the laws of the State; changing the corporate name of the New York Orthopedic Dispensary to the New York Orthopedic Dispensary and Hospital; extending permanently the charter of the College of Pharmacy of the City of New York, with Samuel W. Fairchild, Charles F. Chandler, George Massey, John R. Caswell, J. Niven Hegeman, Horatio N. Fraser, as incorporators, and allowing it to hold property not to exceed $1,000,000; exempting dispensaries from the payment of water assessments; authorizing and directing the Commissioners of the Sinking Fund of the City of New York, whenever required so to do by the Board of Estimate and Apportionment, to designate and set apart so much of Gouverneur Slip as will be requisite for the construction thereon of a building, the entire cost, expense, and equipment of which shall not exceed $200,000, for the purpose of providing suitable accommodations for a reception hospital for patients injured or taken suddenly ill in the lower east side of the city. The Governor refused to sign a charter for the Metropolitan Post-Graduate School of Medicine, with Timothy Field Allen, William Tod Helmuth, Arkell R. McMichael, Malcolm Leal, Charles Deady, Henry M. Dearborn, Wilfred George Fralick, James H. Schley, William H. Bishop, John W. Dowling, George T. Stewart, and Joseph M. Deuel, as the incorporators.

120 LANCASTER STREET.]

A Family Birthday.--Dr. W. A. Chamberlin, writing in the *Northwestern Lancet*, relates a curious coincidence in the dates of birth of three children of one family. The eldest child was born on April 3, 1882, the second on April 3, 1887, and the youngest on April 3, 1889, and all within three hours of 3 P.M.

A Penny-in-the-slot Doctor.—The English papers describe a new machine, figured in the likeness of a man, which is provided with slots corresponding to various parts of the body. If one has a headache he has only to insert a coin into the slot in the head, and the machine, after due consideration, hands out a prescription for the evil in question. The machines do not make up medicine, but the address of the nearest druggist is given. It only remains for some enterprising philanthropist to supply London with these machines, says *The Lancet*, and the relief to the overcrowded out-patient department of our hospitals would be marked.

Progress of Medical Science.

Perforation of the Diaphragm in Gastric Ulcer.—L. Pick, in reporting a new case, gives an analysis of all cases published in which ulcer of the stomach caused perforation of the diaphragm (*American Journal of the Medical Sciences*). In all, twenty-eight cases were discovered; but the author thinks that other cases, proved by autopsies, have been observed, and also that in certain cases of so-called idiopathic suppurative pleurisy or pericarditis gastric ulcer was the cause. (In regard to this, however, Biach has shown that in nine hundred and eighteen cases of pyopneumothorax only two were due to ulcer of the stomach.) According to Pick, perforation of a gastric ulcer into the thoracic cavity is twice as frequent as adhesion to and perforation of the anterior abdominal wall. The commonest outlet is in the pleura or lung, and affected the left pleura nine times, the left pleura and lung seven times, and the right pleura once. In the latter case the perforation was consecutive to subphrenic abscess. The pericardium was affected alone in six cases, and the pericardium and heart in four. In one case the mediastinum was affected, and in the author's case the anterior thoracic wall, with the formation of a tumor in that part. In twenty cases the perforation was direct, and in eight indirect, or following subphrenic suppuration. In this conclusion the author differs from Brinton, who studied a smaller number of cases. Pick's analysis shows that the rare ulcers of the fundus are much more likely to rupture into the thorax than those of all other parts of the stomach, but that the occurrence of thoracic complication depends largely on the existence of old adhesions and alterations in the position of the thoracic organs. The exciting cause of the perforation in most cases is mechanical, either by distention from food or gas, vomiting, straining at stool, etc. Death is usually due to complications, rarely to shock. Perforation of the heart does not cause instant death, patients having lived as long as three or four days after hemorrhage began.

The Pathology of Paraplegia in Vertebral Caries, with the Indications for Operation.—According to Dr. Thorburn (*British Medical Journal*), paraplegia may be produced in one or other of the following ways: 1. Mere kyphosis is not usually competent to produce paraplegia. 2. Sudden paraplegia may result in rare instances from fracture of carious vertebræ. The frequency of this occurrence is, according to Kraske, about two per cent. of the total number of paraplegias caused by vertebral caries. 3. Still more infrequent causes are the bursting of an abscess into the spinal canal, hemorrhage into the canal, and displacement of bony sequestra which press upon the cord. 4. The most usual cause of paraplegia is pressure by granulation-tissue. 5. In a few cases true tuberculous periarteritis is found within the cord, generally in association with tuberculous lepto-meningitis. In regard to the prognosis, the author says that his own experience is, that nearly all cases will recover if fixed in the recumbent position for a sufficiently long time, but the time required may be very prolonged. Cases in which the paraplegia is due to intra-medullary tuberculous periarteritis can hardly be expected to get well, and those in which pressure has arisen from fracture of the carious bones are not likely to improve to any great extent. Equally unfavorable are some of the other rare varieties of paraplegia. The following indications for operation are given: 1. A steady increase in symptoms in spite of favorable conditions and treatment. 2. The presence of symptoms which directly threaten life. 3. The persistence of symptoms in spite of complete rest is the indication which has been most commonly adopted. 4. In posterior caries

(caries of the arches) operation is clearly indicated, as here we can readily both treat the paraplegia and remove the whole of the tuberculous tissue. 5. The existence of severe pain if the patient is being exhausted thereby. 6. Children, as a rule, yield better results than do adults.

Contra-indications: The presence of active tuberculous changes in other organs. Macewen holds that we should not operate in the presence of pyrexia. The exception to this would be if the cause of the pyrexia could be removed by operation. General meningitis will probably prove fatal whether an operation be performed or not. Cases of fracture of carious vertebræ are manifestly unsuitable for laminectomy, and most paraplegias of sudden onset will fall into this category.

Idiopathic Rupture of the Heart.—Dr. Collins (*Lancet*) has reported the case of a man, fifty-three years old, who had lived a temperate life, and had been troubled only by dyspepsia and a weak heart. There was no history of rheumatism or rheumatic fever. The man's father had died suddenly of heart disease. After feeling out of sorts for a time, the man experienced severe pain in the precordium and felt too ill to leave his bed. He gradually became worse and sick after food. Speech became thick, the mouth was drawn to the right, and the right eye was partially closed. The left arm became paralyzed, then the right leg. The tongue deviated to the right on protrusion. The sphincters were unaffected. The heart-sounds were faint and without added sounds. The man was moved to a water-bed, his body and head being kept horizontal, and great care being taken to avoid sudden movement. Later, when his pelvis was raised to allow the introduction of a bed-pan, almost instantaneous death ensued. Upon post-mortem examination, prolonged and careful search failed to reveal any microscopic change in the brain, its vessels, or the meninges. On opening the pericardium it was found to be filled with blood-clot, and on washing this away a laceration about one and a half inch in length was found in the left ventricle; the aperture was closed by a recent clot. The cavities of the heart were dilated, the walls thin and in an advanced stage of fatty degeneration. There was no valvular disease. The aorta and its main branches were atheromatous. Both lungs contained calcifying tubercle; the abdomen was loaded with fat; the spleen was soft; the kidneys were engorged, but otherwise healthy.

Confusion between Distended Gall-bladder and Movable Kidney.—Dr. Morris points out that, though on first thought there is not much resemblance between these two affections, the one is often confounded with the other (*British Medical Journal*). The fact that both affections are much more common in women is noted, and the fact that the right kidney is much more movable than the left increases the chances of error. The symptoms common to both are pointed out. Both may present as a tumor in the right hypochondriac and umbilical regions, and the physical characteristics of the tumor from either cause may be similar. The tumor may be movable, and in either case the percussion-note overlying it may be resonant or dull. Both diseases may cause dyspeptic symptoms or give rise to colic. Either may cause jaundice, gastric intestinal catarrh, or even peritonitis. In neither case is the condition of the urine a reliable guide. The conditions of the gall-bladder which tend to render the confusion more probable, are elongation with a reniform outline, mobility, or downward displacement of the liver, with a retroflexed gall-bladder under the viscus, causing the displaced bladder to feel like a loin rather than an abdominal tumor. A tilting of the kidney from behind forward, bringing its anterior end just under the abdominal parietes, or adhesion of the kidney to the right lobe of the liver, might cause the kidney to resemble gall-bladder. To distinguish between the two conditions it must be remembered that a distended gall-bladder, as well as the kidney, is a frequent cause of movable abdominal tumor. The range of motion in the gall-bladder is, however, always in the arc of a circle, the centre of which is a point beneath the right lobe of the liver. The history of a distinct attack of jaundice is an important factor in diagnosis. A distended gall-bladder can generally be felt, whereas a movable kidney often cannot. The gall-bladder, if distended with stones, is much harder than the kidney. Variance in size of the tumors is of no importance, unless with the variance in size there is the history of the passage of large quantities of urine. An attempt should always be made in these cases to pass the hand behind the tumor and palpate the kidney.

The Employment of the Membrane of a Hen's Egg in Grafting.—Dr. Amat gives an account of the case of a young boy whom he had treated for a large burn caused by boiling water in the dorso-lateral region of the right foot. Repair was slow, and the author advised Reverdin's and Thiersch's method of skin grafting, but the family was very much opposed to it. M. Amat then thought it would be well to employ the exceedingly vascular internal layer of the membrane of a hen's egg. He made the attempt and obtained successful results. In 1888 and in 1893, he had the same success in the treatment of burns on the arm, the back, the feet, and the leg. In summing up his observations and those of others, M. Amat found that good results had been obtained in nine cases and failure in seventy-four cases, as regarded the anaplastic value of the membrane of the shell. These favorable results, says the writer, may be attributed to the "action of vicinity" of the graft on the evolution of the embryonic tissue, and not to its nature. There are therapeutic indications for its employment, especially in children, women, and nervous persons. The technique of this operation is as follows: 1. The membrane should be taken from a very fresh egg, as physiological observation has shown that the latent life of this membrane is then more active. 2. Grafting must not be done until the dressings have suppressed the suppuration and provoked a healthy growth. Previously to the transplantation, contact with the air must be avoided by a thick dressing of gauze saturated with a carbolic-acid solution. 3. Take a very fresh egg, break it in the centre, empty it of the contents, and seize the membrane with a mouse-tooth forceps at the large end of the egg—that is, the internal layer of the membrane of the shell. 4. This layer is cut into strips about four or five millimetres in width and of the same length. These are applied on the wound with the point of a pair of scissors, and laid on their albuminous surface. 5. They are applied at a distance of from twelve to fifteen millimetres, and are covered with a small square of tin foil and then by a dressing of gauze saturated with a solution of carbolic acid. This heteroplastic procedure, says the writer, is worthy of attention, especially from practitioners who do not always have at hand the proper material for "inter-human" or "inter-zoo-human" heteroplasty. From this point of view it is interesting to make a trial of this procedure in rural practice.—*New York Medical Journal.*

The Four-years' Course.—Word comes to us that the rapid lengthening of the two years to three and now four courses of lectures as a requirement for graduation is producing hard times in some medical colleges, and will be the cause of a diminution in the number of existing schools of medicine. In some quarters this is a seeming hardship, but, after all, the process is one highly beneficial to the medical profession.—*The Lancet-Clinic.*

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A NEW THEORY OF SLEEP.

SINCE the discoveries made by Golgi, Cajal, Retzius, and others of the peculiar anatomical characteristics of the nerve-cells a number of new theories regarding brain-function and brain-action have been in the field. The nerve-cell, as it is now understood, consists of a very large number of long branched processes, which are called the protoplasmic processes, and a single axis cylinder which extends out, becoming eventually the nerve-fibre and giving off fine lateral branches. It has also been shown that each nerve-cell in the brain is in contiguity with some other nerve-cell, or rather with the terminals of the axis-cylinder process of that cell, but that no actual union takes place between the processes from the one cell and fibre process of the other. When one set of nerve-cells, for example, are thrown into activity, impulses are sent out along the axis cylinders and their terminal end-brushes, and these affect by contact the protoplasmic processes of other cells. Cajal and others look upon the axis cylinder and nerve-fibre as conveying impulses out from the nerve-cell or body, while the protoplasmic processes receive impulses brought to them and carry them to the cell-body. These latter, therefore, are sometimes called cellulipetal, while the axis-cylinder process is called cellulifugal. We are speaking, of course, now of the relations of the different groups of cells in different parts of the brain, rather than of the relations of these cells to the spinal cord and parts below. Some time ago Professor Duval proposed the theory of sleep based upon the peculiar relations of the brain-cells and fibres. According to this theory the nerve-cells in repose retracted their processes, which, as he thought, were really pseudopods. The cell processes being thus retracted, the contiguity of the cell with other cells was less perfect, hence their functions became lowered, consciousness was lost, and sleep ensued. Kölliker objected to this view, on the ground that amœboid movements are never observed in nerve-cells, at least of the higher animals; Duval having contended that he had seen such movements in the lower orders of animals. Cajal, siding with Kölliker, states that no matter what way you kill an animal—by shock, strangulation, or anæsthesia—the nerve-cells never differ in aspect, and one never can discover any amœboid movements among them, even when they are placed freshly in the field of the microscope. Cajal has, however, suggested another theory of sleep which he believes more rational and more in accordance with facts. While nerve-cells do not have amœboid movements, there are, scattered richly throughout the brain-tissues, other cells known as neuroglia cells. These are cells with very numerous fine processes, and they form in a large measure the supporting framework of the brain-tissue, sending their fine processes in among the nerve-cells and blood-vessels. Now Cajal's theory is that these neuroglia cells during repose extend or relax their fine hair-like processes. As the result of this the perfect contact between the processes of the nerve-cells and the end-brushes from the axis cylinders that surround them is interfered with, hence the brain function is slowed up and sleep ensues. During activity these neuroglia cells retract their numberless fine processes, the contact between the nerve-cells becomes perfect again, and mental functions are resumed. The practical facts upon which Cajal bases this ingenious theory are that the neuroglia cells are found to be in different states. In some their processes are retracted and shrivelled and in others they are extended. There is unquestionably an amœboid movement, therefore, in this class of cells. Furthermore, it is in accordance, he says, with physiological facts that a cell would retract its processes during activity and relax them during repose. The physical basis of sleep, therefore, according to this view, would be the bristling up of the hair-like processes of the neuroglia cells, a squeezing of them in between the machinery by which the nerve impulses pass, and a sort of a clogging of the psychical mechanism.

Such theories are of course as yet only theories, and may be regarded by practical minds with great contempt. Still, there is sometimes an advantage in scientific hypotheses, even if they furnish only an intellectual exercise to the student.

SURGERY OF THE URETERS AT JOHNS HOPKINS HOSPITAL.

IN a recent issue of the *Bulletin of the Johns Hopkins Hospital* is an interesting account of the brilliant investigation and successful surgery of Dr. Howard A. Kelley, which reflects credit upon the whole American medical profession. It is now several years since Dr. Kelley demonstrated the possibility of catheterization of the ureters, the benefits of which are shown in the diagnosis of obscure kidney trouble, as well as that of a positive differentiation of a diseased kidney from the sound one by the collecting of urine from each separate kidney. He cured a case of gonorrhœal pyelitis and pyo-ureter by irrigation. The treatment of this case, as reported in the *Bulletin*, is most ingenious and satisfactory. In it he demonstrates the following novel and important points:

1. Stricture of the lower extremity of the ureter can be diagnosed without any operation, by using the cystoscope, the bladder being dilated with air by posture.

2. Stricture of the ureter can be improved by gradual dilatation by a series of hollow bougies (catheters) and without a kolpo-ureterotomy.

3. A stricture through which a No. 5 (5 mm. diam.) bougie is passed every day for several weeks will still

hold back the urine if the walls of the ureter above have lost their contractility.

4. Pyo-ureter and hydro-ureter can be diagnosed by drawing off in a few minutes such a quantity of fluid as it is manifestly impossible for the kidney to secrete in that amount of time.

5. Pyo-ureter and pyelitis can be cured by washing out the ureter and pelvis without any preliminary cutting operation to disclose the ureteral orifice (as in the kolpo-uretero-cystotomy of Bozeman).

6. Variations in pressure in the column of fluid in a distended ureter can be demonstrated by a manometer attached to the ureteral catheter.

7. In this way the course of the ureter can be mapped out.

He also reports a very interesting case of uretero-cystotomy, performed several weeks after a vaginal hysterectomy and a sigmoid-proctostomy, making an anastomosis of the lumen of the sigmoid flexure through the lateral wall of the rectum at the pelvic floor without using a suture. There is much daring surgery in these days, much surgical ingenuity, but the question is how large a proportion of it will stand the test of time, or find its justification ten years from now. Yet cases such as these are triumphs of skill in which we can all rejoice.

CHICAGO'S DEPARTMENT OF HEALTH AND THE DOCTORS.

THE Doctors' Club, of Chicago, held a meeting on June 28th, at which time the subject of the Board of Health and the Commissionership was brought up. The opinion of all the gentlemen present seemed to be very unanimous and very emphatic to the effect that the Mayor of Chicago had broken his pledges and treated the medical profession with great injustice by his removal of Dr. Reynolds, the former able and successful Health Commissioner. Some very forcible and eloquent speeches were made by a number of members present. The *Chicago Medical Recorder* sums up the situation as follows: "An important medical position has been lost to the profession. The Health Department, so successfully managed by medical men in most European and American cities, has now at its head a ward politician, a place-hunter, who had been dropped by his constituents, and regarding whom no suspicion of ability in or knowledge of sanitary science had been even remotely entertained. The semi-respectable department has been dragged, therefore, in the slime of City Hall politics."

The only voice for the other side was that of Dr. John B. Hamilton, who sided with the Mayor, offering the excuse that, as an official of the Marine Hospital Service, he was obliged to render any sanitary service to the city that the Mayor called for. The Chicago profession seems to have been practically unanimous in urging the reappointment of Dr. Reynolds, and it is naturally extremely indignant over the way in which he has been treated. We trust that the profession of the city will steadily oppose the general acceptance of the idea that doctors cannot possibly be good business men, and therefore should not be appointed to positions calling for business capacity. This extremely absurd position was taken many years ago by the astute politicians of New York, and we have not yet been able to rid our legislators of the delusion.

THE MEDICAL EXAMINERS OF NEW JERSEY.

THE fourth annual report of the State Board of Examiners of New Jersey has been published, and shows that the License Board has accomplished a great deal of good work during its brief existence. During this time they have examined 524 candidates and have granted 417 licenses. In other words, about twenty per cent. of those who have applied for a license have failed. The Board has succeeded in repealing the charter of a bogus medical college that flourished for a time in Jersey City. It has secured the passage of a law regulating the practice of midwifery, and this has been in successful operation for two years. It has enforced the registration law, and has secured the passage of a new medical law, which became operative July 4, 1894, and which the Board states is the best State medical law in this country to-day. The law which receives this high praise seems, on the whole, to justify it. It requires that all applicants for license in medicine shall be twenty-one years of age, shall have their moral character well certified to, shall be graduates from a credited college, or have studied at least three years in a high school or academy, and shall have received a diploma conferring the degree of Doctor of Medicine from some legally incorporated medical college, one which is in good standing in the opinion of the Board. The applicant must also have studied medicine four years and taken three courses of lectures. If, however, he has spent one year in a hospital, that counts as a year in the study of medicine.

ANTIVENENE.

THE latest application of the serum therapy is in the use of the blood-serum of animals that have been immunized against snake-bites. Dr. Thomas R. Fraser, of Edinburgh, publishes an article in the *British Medical Journal* of June 15th on this subject. Taking the venom of the cobra of India and of the rattlesnake (*crotalus horridus*) of America, he injected these in gradually increasing doses into rabbits, cats, and kittens, until they were able to take injections of ten, twenty, or even fifty times the ordinary lethal doses. Having made certain that these animals were relatively immune against the poison, he took their blood-serum and used it in protective inoculations upon other animals. He established that the blood-serum, or, as he calls it, "antivenene" of animals protected against large lethal doses of venom is able perfectly to prevent lethal doses of the venom of the most poisonous of serpents from producing death. The application of his method to man has not yet been made, but Dr. Fraser looks forward to its being utilized in India, where the annual deaths from snake-bites amount to twenty thousand.

Dr. Behring has received the Cross of an officer of the Legion of Honor of France.

News of the Week.

Proposed International Surgical Congress.—At the German Surgical Congress recently held in Berlin, Professor Gussenbauer announced that a proposal had been received from some American surgeons, that an international surgical congress should be organized, which should meet every five years at different places. The German Congress appeared to be favorably inclined to the proposal.

Dr. William Chapman Jarvis, of this city, died on July 30th at the residence of his brother, Assistant-Surgeon N. S. Jarvis, U. S. A., at Willet's Point, Long Island. Dr. Jarvis was a son of the late Dr. N. S. Jarvis, a surgeon in the army. He was a graduate of the Medical Department of the University of Maryland in 1876, but had always practised his profession in New York. He was Professor of Diseases of the Throat in the University of the City of New York, and was a member of many local societies and a fellow of the American Laryngological Association. Dr. Jarvis was a conscientious student and a careful writer, and had made many notable contributions to laryngological literature; he had also enriched the armamentarium of that branch with several useful instruments of his own invention.

A Substitute for Execution by Electricity.—An Ohio physician proposes that the death penalty be carried out by filling the room in which the condemned man is sleeping with carbonic-acid gas.

Syphilis in Russia.—Syphilis prevails to an excessive degree throughout the Russian empire, over a million patients having been under treatment for this disease in the hospitals of the country during the year 1890. As was shown by Dr. Bulkley in the interesting collection of cases published in his "Syphilis Insontium," this wide prevalence of syphilis in Russia is not due so much to unusual licentiousness as to the careless and uncleanly habits of the people. A soldier returning to his home with syphilis contracted during his service in the army, will often infect his own family, and even the entire village, through the common use of table utensils, towels, and pipes. The necessity of energetic measures to prevent the further spread of this disease has so impressed itself upon the Russian authorities, that the subject will be given an important place among the discussions at the International Congress, which will meet at Moscow next summer.

An International Language Society.—A correspondent of a London contemporary suggests that those who desire to see the general use of some one language for contributions to medical literature would probably advance their object in a practical way by forming themselves into an international society, somewhat upon the model of the New Sydenham Society, the object of which shall be the publication of translations of important medical papers and monographs in the selected language. It would be somewhat in the nature of putting the cart before the horse to found a society for the propagation of a language before deciding upon the language.

"Talks with the Doctor."—Under this title, one of the daily papers gives daily counsel to the individuals who apply for prescriptions. One correspondent asks directions for taking bromide for a nervous headache, and is told to take from fifteen to thirty grains every two or three hours. The advice to take as much as thirty grains of bromide every three hours without any further qualifications is certainly dangerous, and the prescription is another illustration of how impossible it is to prescribe safely and effectively through the columns of a daily paper. "Counter-prescribing" by druggists, we think, on the whole, would be a little safer.

Dr. Max Simon Nordau, the eminent degenerate, is about to follow the example of some others of his class and enter general literature. He is reported to be now at work on a novel, and to have given out that when that is finished he will write a play. He has been earning money with his pen, we are told, since he was fourteen years of age, and he is still on the bright side of fifty.

Cholera in Japan.—Notwithstanding recent semi-official denials, cholera appears to be more than usually prevalent in Japan this summer. Advices from Tokio, of July 12th, say that there is every premonition of a serious epidemic. The disease has appeared among the troops at Pescadores, Port Arthur, and Chin Chow, its germs having been carried by returning soldiers. There are fourteen centres of infection from which reports of fresh cases reach the authorities daily. The government is making strenuous efforts to check the epidemic. Since the outbreak of the disease up to the end of July, there were 9,000 cases of the disease and 5,000 deaths. The cholera is raging also in several cities of Corea.

Assault on a Physician. — Dr. George Drury, of Brooklyn, was called by telephone last Saturday to visit a person said to be at the point of death. He went to the place indicated, a house that had been for some time unoccupied, and was conducted by a man who opened the door to the upper floor. Here he was set upon by his conductor and another man, beaten and gagged, and robbed of his money, watch, and jewelry. The watch and jewelry have been recovered in a pawn-shop in this city, and the authorities hope to apprehend the criminals. Another Brooklyn physician was called recently by telephone on an errand similar to that which led Dr. Drury into the trap. When he arrived at the house a woman answered the bell and said that no one was sick there. Just as he was about to leave, a man came to the door and said that the sick person was upstairs. The doctor's suspicions were aroused, however, and he refused to go inside.

The Water-Supply of London is at the mercy of private companies that are unable to furnish all the water needed and that are allowed to charge full price to the consumers whether they give a constant supply or not. At present the meagre supply of water in the eastern part of London is causing increased suffering to the inhabitants of that section. The streets are filled with women offering threepence or more for a bucket of

water, but they are unable to get it even at that price, for the very good reason that there is none. The death-rate in East London has been doubled since the companies began turning off the flow of water except for about two hours in the twenty-four.

An International Congress of Applied Chemistry will be held in Paris next year. A preliminary programme of the sections has been drawn up for consideration. They are to be ten in number, and will cover the entire field of industrial chemistry.

Testimonial to Sir Joseph Lister.—Sir Joseph Lister was presented on July 30th with his portrait, painted by Mr. J. H. Lorimer. The presentation was made at a meeting held at King's College Hospital by Sir John E. Erichsen, President of University College.

Yellow Fever in Havana.—The medical inspector of the United States Marine Hospital Service at Havana states that in the week ended July 25th there were seventy new cases of yellow fever in that city and twenty-three deaths.

Dr. George B. Fowler has been appointed by Governor Morton to the State Board of Health as the Commissioner representing the city of New York.

The Grand Duke George, Tsarewitch of Russia, is suffering from pulmonary tuberculosis in an advanced stage. He proposes to spend the coming winter in Algiers.

The School of Medicine for Women in St. Petersburg is now, thanks to private liberality, on a firm foundation financially and will soon be ready for work. The curriculum, which is to extend over five years, will be the same as that of the medical faculty in the university, and will be open to single women over twenty-one years of age. Single women of younger age and married women must be supplied with a written permission from their parents and husbands respectively. All students must know a certain amount of Greek and Latin. A clause provides that a woman holding the school's diploma will not be eligible as director of a general hospital.

The Proportion of Multiple Births.—In a paper read before the New York State Medical Society some years ago Dr. James V. Kendall reported 875 cases of childbirth occurring in his own practice, among which were 17 cases of twins, or 1.71 per cent. This is much higher than the average, as stated by Dr. Drejer, which we noted recently as being 1.17 per cent.

The British Medical Association, which met this week, promised to be one of considerable interest in the matter of ethical debates. Among other questions proposed for discussion were "Intra-professional Etiquette," "Advertising," "Unqualified Assistants," "Gratuitous and Cheap Contract Practice," and "Hospitals and Dispensaries." Mr. Lawson Tait promised to introduce another cause for acrimonious dispute in the shape of a resolution denouncing the proposed Midwives' Registration Bill.

The Attractiveness of New York.—The editor of an esteemed St. Louis contemporary apologizes to his readers for a delay in the issue of the journal, alleging the wholly valid excuse that he was detained in New York. Another esteemed contemporary, the *Medical and Surgical Reporter*, after existing for forty-two years in Philadelphia, has come to live in New York amid congenial surroundings, where medical thought is active. We welcome the *Reporter* to the medical centre and wish it many years and a constantly increasing circle of readers.

The Memory of the Late Dr. Dujardin-Beaumetz has recently been honored by the erection of a bust in the garden of the Hôpital Cochin, in Paris.

Obituary Notes.—Dr. Walter A. Morton died at his home in Brooklyn on July 22d. He was thirty-six years of age, and was a graduate of the Dartmouth Medical School in 1890.—Dr. Benjamin S. Mackie, aged fifty, a surgeon in the United States Navy, with the relative rank of Lieutenant-Commander, was found dead on July 25th in the library of his residence, in Philadelphia, with a bullet-hole through his head. He had committed suicide. Dr. Mackie entered the navy in 1869. His last service was aboard the cruiser Chicago. He had been on waiting orders for several months.—Dr. Richard Reasoner, of Morrisonville, Ill., was shot and killed, on July 24th, by a man whose wife had been under his professional care. The woman had become insane, and her husband believed it was in consequence of the doctor's treatment, and had threatened several times to take his life.

Texas Fever in the Southern States.—A telegram from Louisville states that a proclamation has been issued by the Kentucky State Board of Health quarantining against cattle from Virginia, North and South Carolina, Mississippi, Indian Territory, Alabama, Texas, Louisiana, Arkansas, Georgia, and Florida, giving as a reason for this action that Texas fever has been introduced into these States recently and a number of cattle have died of it. The quarantine is to be maintained during all the year except December, January, and February.

Cholera and Quarantine.—The English journals have taken very much to heart the charge made by M. Henri Monod, at a meeting of the Comité Consultatif d'Hygiène of France, that England is to blame, by her refusal to ratify the Paris Convention, for the occurrence of cholera this year in Mecca. They, of course, repel the charge, but seem to be rather hard pushed at times to do so convincingly. *The Lancet* says that M. Monod should remember that if France would only give up her quarantine notions in the Red Sea, the way of England to do that which is right would be much clearer. "It is quarantine in the Red Sea that endangers the lives of Indian pilgrims and constitutes the main, if not the sole, danger of cholera reaching Mecca by way of the sea. If our pilgrims were only allowed, when certified after a long voyage to be free from cholera, to sail on to Jeddah the danger of cholera travelling by the sea route would practically be at an end." We have often seen it stated in the interests of commerce that quarantine was ineffectual as a means of staying the advance of cholera and other pestilences, but that effective quarantine not only fails to stay the progress but even favors the advance of epidemic disease is a rather strong assertion.

Society Reports.

THE NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, February 13, 1895.

GEORGE P. BIGGS, M.D., PRESIDENT, IN THE CHAIR.

Aneurism of the Arch of the Aorta was presented by DR. E. HODENPYL. The aneurism was so large that it caused extreme pain, and the patient, a German, thirty years of age, killed himself to be rid of the pain. He had complained for a considerable time of pains in the chest. He committed suicide by shooting himself twice in the left breast. Both bullets pierced the pleural cavity, but did not injure the lung. He was perfectly conscious for some hours after the shooting. At the autopsy, besides the conditions brought about by the shooting, there were extensive hemorrhages into the pleural and abdominal cavities; the heart lay high in the chest, and immediately below it was a large mass which was close to the vertebral column, and pressed toward the median line by a large quantity of blood in the pleural cavity. This mass was removed in conjunction with the heart, and then it was found that the mass occupied the lower lobe of the lung on the left side, and was very hard. An aneurism was found at the beginning of the arch of the aorta, and at the beginning of the thoracic aorta was a large, sacculated aneurism containing a considerable amount of laminated fibrin. The aneurism had pressed posteriorly, but chiefly laterally, and had replaced almost completely the lower lobe of the lung. Some of the vertebræ had been eroded.

Abscess of the Liver.—Dr. Hodenpyl then presented two specimens of the above. The first specimen was removed from a man, fifty-two years of age, who had suffered from irregular chills and fever for five or six weeks previous to his admission to the hospital. He was in a semi-comatose condition at the time of admission, and all that could be gathered from his statements was that he had had a cough with muco-purulent expectoration for two weeks, and also pain in the epigastrium and right hypochondrium. There was no history of his having had diarrhœa at any time. His temperature was normal, the pulse 130 and weak. A needle was inserted in the eighth interspace posteriorly in two places, but only dark blood was withdrawn. There was tenderness over the region of the liver, and slight dulness over an area about three inches in diameter. The aspirating needle was also inserted in the median line, but no pus was obtained. At the autopsy the liver was found to have been converted into a series of inter-communicating cavities. No amœbæ were found.

The second specimen was removed from a man, twenty-five years of age, who had had irregular attacks of dysentery at frequent intervals ever since early childhood. For the last two months the dysentery had been uncontrollable, there having been daily upward of twenty movements containing blood and mucus. There had been no elevation of temperature during his stay in the hospital. At the autopsy a well-marked ulcerative colitis was found, and an enormous abscess of the right lobe of the liver. There was a marked compensatory hypertrophy of the left lobe of the liver.

Hypertrophy of the Prostate and Castration.—Dr. Hodenpyl then exhibited two specimens of hypertrophy of the prostate. One of them showed the effect of castration. The first specimen had been removed from an old man who had suffered intensely from obstruction of the bladder, due to an enormous hypertrophy of the prostate. Castration was performed, and this resulted in a shrinkage of the prostate, and a restoration of the power of voluntary urination. Perforation of the bladder had occurred behind and a little above the prostate, and as a result, a general suppurative peritonitis. The second specimen showed an enormous prostate gland. It had been removed from the body of a man, sixty-two years of age, who had died of some intercurrent disease. There had not been any marked difficulty in urination. In the fresh state the prostate measured four inches across as the bladder was opened. The bladder was capable of containing only between one and two ounces of urine.

DR. J. W. BRANNAN said that the patient from whom the first specimen of abscess of the liver had been removed, had been under his care at the St. Francis's Hospital for about a week. The chief symptoms had been pain in the region of the liver, and moderate tenderness. There had been an enlargement of the liver, so that it could be mapped out by percussion for two and a half inches below the costal margin, and there had been dulness posteriorly up to about the eighth rib. There had also been very marked diarrhœa. The exploratory punctures had been made chiefly with reference to the lung, but one puncture had been made with a view of determining the existence of any collection of fluid in the liver. Nothing but dark blood had been obtained. The case had taught him the advisability of repeating the punctures if at first no pus were obtained. Judging from his experience in one case of amœbic dysentery, he would have expected to find the amœbæ in the intestines chiefly; hence, it was unfortunate that no examination of the intestines had been made.

The case of abscess of the liver reported by Dr. Edebohls, in which relief had been repeatedly given by operation, had also been under his care, and he had studied it very carefully. It was a case of amœbic dysentery. At the first operation, the liver had only been attached to the abdominal wall, but after firm adhesions had formed, the liver had been punctured and drained.

The autopsy in that case had shown a complete absorption of the adhesions that had formed at the first operation between the capsule of the liver and the abdominal wall. The liver was of normal size, and yet a large part of the liver tissue had been destroyed. Microscopical examination had shown extensive dilatation of the blood-vessels with cirrhosis of the liver, and also that there had been an extensive reproduction of the liver tissue.

Cardiac Hypertrophy, Endocarditis of Mitral Valve, and Free Chordæ Tendinæ.—DR. F. FERGUSON presented specimens from a case of the above. They had been removed from a man, forty-four years of age, who had been admitted to the hospital service of Dr. W. G. Thompson, on September 20, 1894. There was no family history bearing on his condition; his habits were regular, and there was no history of rheumatism. Some six months prior to his admission, he caught cold, and since that time he had complained of dyspnœa. He had suffered recently from constipation and hæmorrhoids. He had been unable to sleep on account of pain over the liver and region of the heart. On admission his abdomen was swollen, and he complained chiefly of shortness of breath. His temperature was 97.8° F.; respirations, 32; and pulse, 108. On physical examination, there were signs of consolidation and of fluid at the base of the left lung. The cardiac apex was at the sixth intercostal space, four and a half inches to the left of the median line. There was a loud, blowing, systolic murmur over the cardiac area, with point of intensity over the apex, and heard distinctly over the left chest posteriorly. This murmur obscured the first sound of the heart. The cardiac action was slow, regular, and of fair force, but the pulse was irregular and intermittent. There was distention of the veins of the neck. The area of liver dulness was normal; splenic area was not determined. The abdomen was distended

and tympanitic over the central area, but dull along the flanks; and on percussion there was the characteristic fluid wave. The tongue was deep red, and slightly fissured. He was slightly anæmic, but fairly well nourished, and his general condition appeared fair; but there was well-marked œdema at the ankles and on the legs. His dyspnœa became aggravated, and on October 1st his right pleural cavity was aspirated and sixty-four ounces of clear serum withdrawn. During the month of October he was troubled with incessant cough, insomnia, and restlessness, and was at times delirious. His urine was alkaline. It had a specific gravity of 1.020, and contained varying quantities of albumin, from a trace at the date of his admission to twenty-five per cent. by volume on November 1st. He also suffered from coldness of his extremities, and the face was cyanotic. All his symptoms varied from time to time—now fairly rational, and again, delirious; but there was a general and progressive decline, and he died on November 23, 1894. There was only a trace of albumin in his urine at the time of his death. His treatment had consisted in the use of fluid diet, tonics, stimulants, and diuretics.

At the autopsy there was found emaciation of the body, but no œdema. There was marked anæmia. The peritoneal cavity contained 500 c.c. of straw-colored serum. In the right pleural cavity were 800 c.c. of blood-stained serum, but the left pleural cavity contained no fluid. The pericardium was normal. The heart was large, weighing seventeen and a half ounces. Its cavities were moderately dilated; the wall of the left ventricle was moderately hypertrophied, and that of the right ventricle considerably thickened. The muscular tissue was of a dark-red color. The aortic, tricuspid, and pulmonary valves were normal. The mitral valve was slightly reduced in capacity, with thickening of the anterior segment. Five of the chordæ tendinæ were free, being detached close to their fleshy columns, without any evidence of their previous attachment on the surface of the endocardium. All the organs gave evidence of prolonged hyperæmia. The bladder was enormously distended, containing 700 c.c. of cloudy urine. Its walls were thickened. There was a diverticulum of the posterior wall, with an estimated capacity of 30 c.c. This communicated with the bladder by an opening 1 ctm. in diameter. The prostate was enlarged, especially the right lobe, which encroached upon the urethra, and must have caused considerable obstruction to the outflow of urine.

Mitral and Aortic Stenosis.—Dr. Ferguson also presented another heart. It had been removed from a man, thirty-one years of age, a glass-worker by occupation. He had been admitted to the service of Dr. W. H. Draper at the New York Hospital on January 28, 1895, suffering from dyspnœa. He stated that he had had several attacks of heart failure, and had been subject to cardiac disease for years. He died shortly after his admission to the hospital. At the autopsy, inspection showed the body to be well nourished, and free from œdema. There were 300 c.c. of blood-stained serum in the right pleural cavity. The same quantity of similar fluid was found in the left pleural cavity. The heart was slightly increased in size, the wall of the right ventricle being enormously hypertrophied, and the ventricle moderately dilated. The valves in the right ventricle were normal. The left ventricle was slightly dilated, but its wall was normal in thickness. Two of the aortic cusps were blended together over a distance of 1 ctm., and all the cusps were thickened and retracted. There was thickening and retraction of the segments of the mitral valve. It admitted a probe only 1 ctm. in diameter. There was great dilatation of the left auricle, with thickening of its wall. There were intense congestion and œdema of the lungs. The liver was nutmeg in appearance. All the other organs presented the appearances associated with prolonged passive hyperæmia.

Epithelioma of the Œsophagus.—Dr. Ferguson presented still another specimen. It had been taken from a man, forty-four years of age, who had been admitted to the service of Dr. Frank P. Murray on January 17, 1895. During last July, while employed in beating carpets, he experienced considerable trouble with his throat. Two months later, he noticed difficulty in deglutition, and regurgitation of food through the nasal passages. During the three months prior to his admission he had not been able to swallow solid food. Since the beginning of his sickness, his voice during wet weather had had a nasal quality. He had recently suffered greatly from dyspnœa and dysphagia, and had lost flesh and strength. There was no family history bearing on his case, and he had always enjoyed good health up to the commencement of his present illness. On examination, a tumor was found in the larynx, principally on the left side. It was firm and nodular, and adherent, but not tender on pressure. There were enlarged cervical glands. The cachexia was marked. Owing to his extreme dyspnœa, he was submitted to tracheotomy, from which he reacted favorably, and with a considerable improvement in respiration. The operation was performed on January 19th. Four days later, there was distinct redness and swelling on the left side of the wound, and this was followed by greater difficulty in deglutition. Three days after this, there was a fluctuating area to the left of the tracheotomy wound, which, when incised, gave vent to a half-drachm of pus. Since the latter part of January, he had been fed by nutritive enemata, being unable to take any nourishment by the mouth. He rapidly declined, there being slight fever, but no pain. He died on February 6th. The autopsy showed a lobulated tumor, which completely filled the upper part of the œsophagus and lower part of the pharynx. It measured 13 ctm. vertically, and 4 ctm. antero-posteriorly. Its greatest transverse measurement was 5 ctm. It projected into the rima glottis and the space behind the epiglottis, apparently completely filling them. The left arytenoepiglottidean fold was displaced inward by the pressure produced by the development of the tumor. The base of attachment was the posterior wall of the pharynx, and the posterior and lateral wall of the œsophagus, down to the lower border of the cricoid cartilage. Below this level it extended downward, and was attached to the anterior wall of the œsophagus. The entire area of attachment was 10 ctm. in the vertical direction, and about 7 ctm. laterally. There was a very narrow opening along the right side of the œsophagus, through which a small probe could be passed. There was also a narrow, irregular channel in the interior of the tumor. The œsophagus was normal below the tumor. The posterior wall of the trachea, just below the larynx for a distance of 5 ctm., bulged forward from the encroachment of the tumor. The tracheotomy opening was situated in the median line, 10 ctm. above the bifurcation, and just below the bulging of the tracheal wall already mentioned. There was extreme emaciation of the body. An old tubercular lesion was found in both apices, but chiefly in the right lung. There was also a small tubercular nodule in the liver. There was chronic diffuse nephritis. Microscopical examination showed the structure of the tumor to be that of an epithelioma. On the surface it presented in places the appearances common in ordinary papillomata.

THE PRESIDENT said he was extremely interested in the specimen showing free chordæ tendinæ. Their free ends were perfectly round, club-shaped, and fibrous, and there was not the slightest appearance of a recent endocarditis. It was rather hard to explain how they had become free. The question arose here as to whether, with a simple rheumatic endocarditis, there might not be a weakening and rupture of some of the chordæ tendinæ. The murmur in this case was said to have been unusually loud and widely diffused, and en-

tirely different in character from other cardiac murmurs. Although careful search was made, no points had been discovered to indicate where the chordæ tendinæ had been attached.

DR. J. W. BRANNAN said that it was usually stated in the text-books that if one were in doubt as to whether an apex murmur was due to stenosis or regurgitation, the size of the heart would decide the matter; in other words, if the left ventricle were small and the disease had existed some time, the existence of stenosis was pretty certain, whereas if there were regurgitation present there would also be hypertrophy. He would like to know whether pathological studies confirmed this statement.

DR. FERGUSON replied that the left ventricle would be abnormally small, commensurate with the stenosis. This would be so even if moderate regurgitation were present, the wall becoming thin and the cavity reduced in size.

DR. BRANNAN said he had found it difficult to believe that the statement to which he had just referred was strictly correct, because after the enlargement of the right side of the heart, it would seem as if in time the left ventricle would also become at least dilated in order to keep up the circulation.

DR. H. P. LOOMIS called attention to the fact that in the specimen presented the adherence of the cusps must have interfered with the circulation in the coronary arteries.

THE PRESIDENT said, regarding the point raised by Dr. Brannan, that as pure and simple mitral stenosis rarely occurred, the value of such a method of clinical differentiation was not very great.

Primary Cancer of the Lung.—DR. H. P. LOOMIS presented the specimen. It had been removed from a man sixty years of age. It was situated at the lower and posterior border of the lower lobe of the left lung, and measured in its vertical diameter two inches, anteroposteriorly one and three-fourths inches, and laterally two inches. It was irregular in shape, and distinctly lobulated. The lobules were more or less completely surrounded by a fibrous capsule. The tumor was firm, and of an opaque, whitish-yellow color. A large branch of the pulmonary artery, which was still open, ran through the centre of the mass from above downward. The pulmonary tissue surrounding the tumor presented the characteristic appearances of white pneumonia. The bronchial tubes throughout the consolidated portion showed the evidences of a bronchitis. The lung over the tumor was firmly adherent to the chest wall, and a slight quantity of serous fluid was found at the bottom of the left pleural cavity. The right lung was perfectly normal, with the exception of hypostatic congestion of the lower lobe, and some old pleuritic adhesions. The kidneys presented the characteristic appearances of a chronic diffuse parenchymatous nephritis. The heart was hypertrophied, and the aorta showed the evidences of extensive atheromatous changes. With these exceptions, all the other organs were normal. A most thorough and complete examination was made of every organ and tissue of the body to ascertain if there were any evidences of cancerous development in other parts. This examination included the mouth, larynx, œsophagus, digestive tract, bladder, mediastinal tissues, brain, and the bronchial and retro-peritoneal glands. No abnormal growth was found anywhere except in the left lung. Microscopical examination of sections taken from different portions of the neoplasm showed it to be a medullary cancer (carcinoma molle). The new-growth seemed to spring from the epithelium of the mucous membrane of the bronchi. In some places an apparently pre-existing alveolar structure, as if the cancer-cells had filled the air-cells, could be made out. No pulmonary lesion was diagnosed during life. The man had been an inmate of the almshouse on Blackwell's Island for a long time, and had died, as far as could be ascertained, rather suddenly.

Primary cancer of the lungs, the speaker said, was one of the rarest pathological lesions found. In twenty-seven cases obtained from the literature of this country and Europe, and analyzed by Reinhard, only one lung was involved in nearly all of the cases, eighteen times in the right, and nine times in the left lung.

Aneurism of the Aorta with Multiple Thrombi was presented by DR. GEORGE P. BIGGS. The specimens had been removed from a woman, thirty-four years of age, who had complained of dyspnœa and slight œdema of the lower extremities for a number of months. Shortly before admission the dyspnœa increased, and was associated with cardiac palpitation and dimness of vision. The temperature was 102.2° F.; the respirations, 28; and the pulse, 96. Physical examination showed only congestion of both lungs posteriorly. The cardiac area was considerably enlarged, and the apex beat was in the sixth space, four inches to the left of the median line. There was a blowing systolic murmur, and the action of the heart was tumultuous. The abdomen was large, and appeared to contain some fluid. The urine had a specific gravity of 1.024, and contained five per cent. of albumin. Dyspnœa was the chief symptom. The temperature remained elevated, the pulse became more feeble, and she died on the fourth day after admission. At the autopsy, the adipose tissue of the abdominal wall was found to be 5 ctm. in thickness. There was slight general œdema. The peritoneum contained 400 c.c. of very bloody fluid. The small intestines presented a number of dark, reddish-brown areas, the color extending into the neighboring mesentery for a short distance, and involving portions of the omentum, and in one place the transverse colon. These dark-red areas were covered with a thin layer of fibrin, and the intestinal wall was soft and easily torn on manipulation. In the right pleural cavity were 200 c.c. of bloody fluid. The left pleural cavity was obliterated by old adhesions. The heart was greatly enlarged, weighing twenty-two ounces. The cavities were generally hypertrophied and dilated. The muscular substance was soft, flabby, and mottled in appearance, due to extravasations of blood. The valves of the right side were all normal. The aortic cusps were slightly thickened and retracted. The interesting feature was an aneurism, beginning unusually low down in the aorta—*i.e.*, at its very beginning—and involving the anterior wall, and pressing forward against the pulmonary artery. The aneurism measured 4½ ctm. vertically, 5 ctm. transversely, and about 1½ ctm. in depth. The left coronary artery arose from the aneurism itself. The left lung was poorly aërated, congested, and slightly œdematous; the right lung was similarly congested, but contained three hemorrhagic infarctions, two in the lower lobe, and one in the upper lobe, the largest being in the base and measuring 5 ctm. in diameter. In the vessels leading to these infarctions were very firm antemortem thrombi, adherent to the vessel wall. The spleen was moderately large and soft, and in it were a number of reddish areas, very suggestive of obstructed circulation, but they were not infarctions. The kidneys were quite large, and showed evidence of parenchymatous and slight interstitial change. The liver showed chronic congestion. Along the greater curvature of the stomach a number of small vessels in the submucous coat were very prominent, owing to thrombi in them. In the intestines the fecal matter was abundant and very bloody. The reddish-brown areas of peritoneum showed on examination that the wall was hemorrhagic throughout, and the mesenteric veins from these parts were the seat of multiple thrombi. The arteries were perfectly free. No thrombi were found in the other vessels.

A Peculiar Ulcer of the Duodenum.—Dr. Biggs also presented a specimen which had been taken from a sailor, forty-five years of age, who had entered the Hudson Street Hospital complaining of abdominal

pain which had existed for two or three days. The pain had begun in the umbilical and epigastric regions, so that at first he had been supposed to have appendicitis. Under this supposition an operation was performed, and the appendix found inflamed upon its surface, as was also the entire surface of the peritoneum. Nothing was found in the appendix. The man died on the second day after the operation. No cause had been found for the peritonitis. The autopsy showed the stump of the appendix in good condition, with adhesions formed over it. The peritonitis was quite intense. Further search showed the lower end of the duodenum to be dark and almost gangrenous. On its superior wall was a very peculiar destruction of tissue. The mucous membrane was destroyed over a triangular area, about one centimetre across. The edges were sharply defined, and the base of the ulcer was formed of sloughy tissue, deeply stained with bile. Between the pancreas and the ulcer the tissues were found to be extensively infiltrated with pus, and the peritoneum in this neighborhood was thickly covered with fibrin. The site of the ulcer was really at the extra-peritoneal portion of the duodenum, but the inflammation had extended to the peritoneum, and caused the general peritonitis. Duodenal ulcers were generally in the first portion of the duodenum, and were like the round, punched-out ulcers found in the stomach. It had been suggested that the slough might have been due to a thrombosis of the veins, but no such condition could be found.

Dr. Hödenpyl said that about three years ago he had presented to the Society an aneurism in the same situation and of about the same size, but in his case there had been an opening into the pulmonary artery.

The Society then went into executive session.

Stated Meeting, February 27, 1895.

George P. Biggs, M.D., President, in the Chair.

Multiple Aneurisms of the Abdominal Aorta and Iliac Arteries, with Old and Recent Ruptures, and Absence of Left Common Iliac.—Dr. T. Mitchell Prudden presented specimens from the above. He was indebted for the specimens to Dr. Clement Cleveland, in whose care the patient had been. The patient, a man of middle age, died after an acute illness with symptoms of hemorrhage into or behind the abdominal cavity. The body was well formed and nourished, and at the autopsy about half a litre of bloody fluid was found in the abdominal cavity. The diaphragm was pressed upward. The heart was pale, and with the exception of a slight fatty degeneration of the aorta above the valves, and a very slight thickening of the edges of the mitral valve, the heart was normal. In the left lung there was evidence of slight bronchitis. In the upper and lower lobes of the right lung there was limited œdema. In both lungs there was considerable emphysema at the edges. The spleen was slightly enlarged and soft. The liver was normal in size, but pale and flabby. The pancreas was normal. The right kidney was pale, and contained several small cysts; otherwise in the gross examination the kidneys were apparently normal. On removing the intestines, which were pushed strongly forward, a large, dark-red, ovoidal mass, about twenty-five centimetres long and fifteen centimetres thick, was found bulging forward on either side of the spinal column. This was clotted blood infiltrating the post-peritoneal fat and connective tissue. Blood, fluid and clotted, was found to have densely infiltrated the mesentery nearly to its intestinal border, the lesser omentum, and the entire extra-peritoneal connective tissue posteriorly and laterally. The aorta was normal down to a point about four centimetres below the origin of the renal arteries. Here the lumen was slightly narrowed by a thin projecting portion of its wall. Between this point and the point of bifurcation, the aorta was distended in the form of an ovoidal aneurism, 9 ctm. long and 6 ctm. in its widest diameter. The right common iliac artery opened from this aortic aneurism with its normal diameter, but immediately widened to a cylindrical sac, about four centimetres in diameter. At the lower end of this sac the external and internal iliacs passed off with about their normal dimensions. The left common iliac artery was absent, the external and internal iliacs arising together from the lower end of the aortic aneurism. The left external iliac maintained for about two centimetres from its origin its normal diameter, then widened into a fusiform dilatation, about four centimetres long and 2.5 ctm. wide at the middle. The left external iliac had its normal diameter for about one centimetre from its origin in the aorta. Here it presented an abrupt anterior aneurismal pouch, about five centimetres long and four centimetres wide. Below this the vessel maintained a diameter of about 2.5 ctm., varying somewhat on account of shallow, irregular sacculations. From the lower end of this dilated vessel, its anterior and posterior branches arose with normal diameters. The entire wall of the lower portion of the aorta and the iliacs, from the upper end of the abdominal aneurism as far down as the level of the origin of the internal iliac branches, was the seat of chronic arteritis and endarteritis. The walls were thinned in places, in others thickened and roughened. They were the seat of fatty degeneration and atheroma, and in a few spots were calcified. Old and dense, and closely adherent parietal clots, were present in various places. The most voluminous of these was in the cylindrical dilatation of the right common iliac, and in the sacculated enlargement of the left internal iliac. On the inner side of the dilated, right common iliac, was an old depressed scar, about four centimetres long, and at this point the inner layers of the vessel had ruptured at some earlier period, and had drawn apart at the middle to a distance of about seven centimetres. This earlier rupture had healed by the formation of a dense layer of fibrous tissue in connection with the adventitia. On the left side of the aortic aneurism, and running obliquely upward and forward, was a fresh, gaping complete rupture of the wall of the aneurism, about seven centimetres long, through which the blood had found its way into the surrounding tissue.

The special points of interest in this case were: 1, the malformation of the iliac; 2, the multiple aneurisms in a limited region; 3, the extensive interstitial, post-peritoneal hemorrhage from the ruptured vessel; and 4, the marks of an extensive earlier rupture of the iliac, which had spontaneously healed.

An Enormous Goitre in a White Mouse was presented by Dr. E. Hodenpyl. The mouse had been obtained from a dealer in these animals. The growth was about one-fourth the size of the mouse. A section of the growth was exhibited under the microscope, and this showed it to be a typical goitre.

Stricture of the Œsophagus with Epithelioma.—Dr. Hodenpyl then presented a specimen of the above. The stricture had been almost complete, and the course of the disease unusually rapid, being less than three months. The specimen had been removed from a man, about forty-five years of age, who had complained about three months before death of beginning dysphagia. This increased until at the time of his admission to the hospital he was unable to swallow either liquids or solids. He died of exhaustion. The epithelioma was found about eleven inches from the teeth. There were no other complicating lesions in the body.

Multiple New-growths of the Lung, Mediastinal, and Mesenteric Glands, Liver, and Stomach.—Dr. Hodenpyl also presented the specimens. They had been taken from a man, forty-three years of age, a fireman by occupation. While on active duty in the Fire Department of New York City last May, he slipped, and while

prostrate, was struck on the left shoulder with some heavy body. He soon began to suffer from lancinating pains in the left chest. Shortly after the accident he expectorated a little blood. A physician who examined him at the time of the accident, said that no bones had been broken. Last July, quite a large amount of bloody fluid was withdrawn from the left chest. At the German Hospital, he was subsequently aspirated five times, and bloody fluid withdrawn each time. Last December, he entered St. Francis Hospital. At this time his temperature was 98.4°, the pulse 120, weak and intermittent, and the respirations 22, costal and labored, and the movement of the left side of the chest was slower. Physical examination showed dulness on percussion over the left side anteriorly, from the clavicle to the margins of the ribs, extending to the right edge of the sternum and into the axilla. Posteriorly on the left side there was absolute dulness from the supra-spinous fossa down over the scapula, and from the lower angle of the scapula to the base there was absolute flatness. In the inter-scapular region were exaggerated vocal resonance and fremitus. At the base of the left lung there was an almost entire absence of resonance and fremitus. The heart sounds were weak, and the apex beat was very indistinct. The patient was aspirated, and about one quart of blood-stained serum obtained. The dyspnœa was not at all relieved by the aspiration; the pulse became weak and very irregular, and he complained of a sense of oppression in the chest. There were also dysphagia, choking, and regurgitation of fluids. After a few days the left arm became swollen and very painful, and pitted deeply on pressure. Along with this there was some swelling of the abdomen and scrotum, and signs of fluid in the abdominal cavity. He gradually became weaker and drowsy, and for a few days before death was semi-comatose. He died on January 18, 1895.

At the autopsy, a considerable quantity of slightly bloody fluid was found in the abdominal cavity, but there was no evidence of peritonitis. The pericardial sac contained about one quart of bloody fluid. The left pleural cavity was distended with clear serum. There were no adhesions over the right lung, which was emphysematous. There was fresh fibrin on the pericardium. The left lung had been nearly converted into a mass of new-growth, and the mediastinal glands were enormously enlarged, causing great compression of the trachea and œsophagus. At the root of the neck, just above the heart, was a large mass, about two pounds in weight, which also encircled the large vessels at the neck. One of the ribs showed a healed fracture with much callus. The liver was large, and contained many nodules of new-growth. The spleen was enlarged and soft. Around the cardiac orifice of the stomach were numerous enlarged glands containing new-growth. The stomach was contracted, and in its wall was a deeply ulcerated nodule the size of a walnut. This nodule projected directly into the cavity of the stomach. At the beginning of the duodenum was a marked contraction of the lumen of the gut. The bladder was normal. The heart was carefully examined for an old rupture, but none was found.

Sections of the growths were exhibited under the microscope. That from the lung seemed to be a typical carcinoma. It had a well-marked alveolar structure, the alveoli being filled up apparently with epithelial cells. The speaker said he had not been able to discover connective tissue between these cells. On the other hand, in the liver and the involved mesenteric lymph nodes the alveolar structure was still preserved, but the cells were quite spindle-shaped, and here and there there was apparently a little fibrilla of connective tissue between the cells. He was therefore still in some doubt as to whether this was a case of primary carcinoma of the lung, or a sarcoma of the mediastinal glands, with secondary involvement of the lung, liver, and mesenteric glands. So far as could be ascertained, the man had been in perfect health up to the time of receiving the injury. This gave the case unusual interest.

Dr. Prudden said that, from the description given by Dr. Hodenpyl, it would seem proper to make a diagnosis of both carcinoma and sarcoma.

Dr. F. Ferguson asked if it were common to see sarcoma of the liver so generalized. He would not lay much stress upon the size and shape of the cells in such a rapidly growing tumor.

Dr. Hodenpyl replied that he did not wish to be understood as saying that he laid great stress on the shape of the cells.

Congenital Absence of the Right Kidney; Displacement of the Left Kidney.—Dr. Alexander Lambert presented a rather rare congenital formation, which had been found in a man fifty years of age, who had been admitted to the hospital with intense dyspnœa and a subnormal temperature. Physical examination showed very rough breathing in the left lung, and hypertrophy of the left side of the heart. He died within forty-eight hours. The autopsy revealed an entire absence of the right kidney and ureter. There was a supra-renal capsule on the left side, but no kidney or ureter in the normal location. A small kidney was found in the hollow of the sacrum. The rectum turned at the brim of the pelvis, passed over the promontory of the sacrum, and out on the right side. The kidney was quite small, being 8 ctm. long, 6 ctm. broad, and two or three centimetres thick. It weighed 72 grammes. No markings could be detected. There was one large, thick ureter. The vessels did not originate from the aorta. The urine had had no casts, and there was but very little albumin. The specific gravity had been quite low. It was remarkable that he could live so long with such a small quantity of kidney tissue.

The speaker said that there had been previously reported to this Society three cases of absence of one kidney, but with the other kidney of normal size, or larger than normal. The left kidney, as was usual, was the one displaced in this case. Usually the left was the one more commonly absent, although not so in the case just reported. That there was a congenital absence of the right kidney seemed clear, because there was but one urethral opening into the bladder, and no vessels from the aorta on that side. Sections of the kidney had been made and examined by Dr. Ewing, who had found the kidney to be made up almost entirely of connective tissue.

Dr. James Ewing asked if the extreme length of the ureter did not point to the fact that the kidney had originally been in its normal position.

Dr. Lambert replied that, as the ureter was only six and a half inches long, he did not think this theory was tenable.

The President said he had found a very similar specimen in the museum of the New York Hospital. In this the bladder was not attached, but the small kidney was misshapen, and the aorta showed a very short renal artery, beginning just above the bifurcation of the aorta. The history of the case was not with the specimen.

Endothelioma of the Pia Mater.—Dr. H. S. Stearns presented an endothelioma of the pia mater. It was located directly in the median line, about half-way between the fissure of Rolando and the anterior edge of the brain. It was 5 ctm. in diameter, about 1½ ctm. thick, and circular in shape. It had been taken from a woman, sixty-five years of age, from whom he had removed a carcinomatous breast on February 8th. She had had no cerebral symptoms. Ten days after the operation she developed pneumonia, and died shortly afterward. The growth in the brain was an endothelioma, and that in the breast a typical carcinoma.

Acute Infectious Disease with Intestinal Lesions.—Dr. James Ewing presented these specimens. The patient was a plumber, seventeen years of age, who was admitted to the Roosevelt Hospital on February 7, 1895. He had a family history of phthisis. The present illness had begun on February 1st with general pains, moderate fever, and considerable prostration. On the second day there was abdominal pain, which was at first diffused, and he had three diarrhœal movements and repeated vomiting. On the third day he developed a petechial eruption, most marked on the limbs. Following an enema he had a large, dark stool, and the next day, after a purge, a stool containing mucus and blood. Up to this time the case had been considered one of appendicitis. On February 12th the abdominal pain became much worse, and on the following day a new crop of petechial spots appeared on the exposed parts of the upper limbs. At the time of his admission to the hospital, the urine had a specific gravity of 1.028, was acid in reaction, and was free from albumin. On February 16th its specific gravity was 1.013, the reaction was neutral, and there was a small quantity of albumin present. On February 18th the specific gravity was 1.015, and the urine contained thirty per cent. of albumin. On February 20th the specific gravity was 1.022, there was sixty per cent. of albumin, and some hyaline and epithelial casts. On February 23d there was sixty-five per cent. of albumin, and a specific gravity of 1.025. His temperature rose to 104.6°, the pulse to 150, and the respirations to 42, and it was evident that there was a double pneumonia and a beginning peritonitis. On the next day the specific gravity of the urine was 1.017, and it contained seventy per cent. of albumin and five per cent. of sugar, with some waxy casts. He died on February 27, 1895.

The history, then, was that of an acute infectious disease of mild onset, with symptoms of moderately acute enteritis, associated with a petechial eruption, occurring in two distinct crops. Death was due to the pneumonia and the peritonitis. The autopsy showed pneumonia in both lower lobes, and a general purulent peritonitis. Throughout the ileum, and in other parts of the small intestine, were numerous petechial spots, and a considerable number of punched-out ulcers without much inflammation in their vicinity. The bases of some of these ulcers were quite thin, but the exact point of perforation was not found. Peyer's patches were apparently normal, and the mesenteric glands were considerably enlarged.

The clinical course of the case, the speaker said, was very similar to that of two cases occurring in Roosevelt Hospital within the past two years, and these latter had been recorded as examples of intestinal mycosis.

Dr. Prudden said he thought that one contribution which experimental pathology had made to gross pathology was, that it was not necessary to have a perforation of the intestine in such cases as these in order to account for peritonitis, for it had been conclusively demonstrated that bacteria could pass through the wall of the intestine when this was in a necrotic condition.

Hypertrophy of the Heart with Fibrous Thickening of the Abdominal Aorta.—Dr. F. Ferguson presented specimens from a case of hypertrophy of the heart. For five weeks previous to the admission to hospital, the patient had suffered from shortness of breath, swelling of the feet, cardiac palpitation, and pains radiating from back around to the abdomen. On admission, the temperature was normal, respirations 28, and pulse 80. He did not improve under the usual treatment of cardiac debility, and he died rather suddenly. The autopsy revealed marked hypertrophy and enormous dilatation of the left ventricle; moderate hypertrophy and normal valves on the right side. The mitral valve was slightly narrowed. The cusps of the aortic valve were very greatly thickened and retracted. There was also a pronounced pericarditis. Areas of atheroma were scattered throughout the aorta, but particularly in the abdominal portion. Here there was a fibrous thickening, possibly due to the enormous hypertrophy of the heart. The liver was of the nutmeg type; the lungs were the seat of the usual cardiac pneumonia; and the kidneys showed chronic passive hyperæmia.

Aneurism of the Superior Pancreatico-duodenalis, with Perforation into the Common Bile-duct.—Specimens of this case were presented by Dr. Ferguson. Only brief notes were given, as it was to be published in detail. The patient was a man of forty-two, and various diagnoses had been made, *e.g.*, pernicious anæmia, duodenal ulcer, carcinoma, and biliary calculi. A clot was found extending from the orifice of the common bile-duct into the ramifications of the bile-duct, and into the liver and gall-bladder.

The President said that Dr. H. M. Biggs had presented a somewhat similar case to the Society, in which there had been a well-defined aneurism at about the same site. His patient had died from very profuse hemorrhages from the mouth and rectum, lasting about three days. It had been remarked by one of those present at the time of the presentation of this specimen, that a German writer had reported four or five exactly similar cases.

Epithelioma Following Skin-grafting.—Dr. E. K. Dunham presented a specimen of epithelioma with the following history: A woman, fifty-three years of age, had abraded the right tibial crest. The ulcer had healed in about one year, leaving an adherent cicatrix. In 1872, the cicatrix broke down, and an ulcer formed which never healed. On March 9, 1894, the foul ulcer was thoroughly scraped, and in May the ulcer, which was granulating, was grafted with skin. In June, 1894, she was discharged "cured," all of the grafts having taken except one small spot. In February, 1895, she was re-admitted, the ulcer having re-opened. At this time it was covered with unhealthy granulations. A portion of the ulcer was excised for examination. The specimen presented an admixture of spiculæ of bone and epithelium, some in nests and some containing pearl bodies. The speaker said he would like to know whether this condition had anything to do directly with the skin-grafting.

Dr. Ferguson said he thought it fairly common for such epithelial tumors to follow injuries, quite a number of years after the injuries. Chronic ulcers on the front of the leg he knew became epitheliomatous in many individuals. He felt that this statement could be verified by the records of any of our hospitals.

The Society then went into executive session.

Stated Meeting, March 13, 1895.

George P. Biggs, M.D., President, in the Chair.

Primary Tuberculosis of the Kidneys.—Dr. H. P. Loomis presented specimens from a man twenty years of age who had been admitted to the hospital two weeks ago. He had been perfectly healthy up to four months ago, at which time he had had an attack of gonorrhœa. Two weeks later his present illness had begun, with daily chills unaccompanied by sweating. He steadily lost flesh and strength up to the time of his coming to the hospital. On admission his temperature ranged between 102° and 103° F. His blood was examined for the plasmodium of malaria, but it was not found. Urination was quite frequent. The urine had a specific gravity of 1.008, was straw-colored, acid, and contained albumin and hyaline casts. He complained of pain in the lower portion of the abdomen, and also on micturition. The case was at first supposed to be one of pyelitis, secondary to a gonorrhœa and inflammation of the bladder. After this the urine was examined for tubercle bacilli, and as these bacilli were found, the diagnosis was made of tuberculosis. No evidence of tuberculosis was found

in the chest. Three or four days before his death his temperature rose quite rapidly. The autopsy was made under great difficulties. The lungs were found to be studded in every portion with exceedingly minute miliary tubercles. The liver and spleen were also studded with these tubercles in a similar manner. The heart was normal. The right ureter was very much dilated with fluid like urine. The kidney on that side was the seat of a chronic tubercular process. The process had been very much more extensive in the left kidney, so that this organ was almost completely destroyed, and the remains of the organ were filled with cheesy matter, which also contained the tubercle bacilli. There was no tubercular process in the testicles and the prostate. The tubercular process in the bladder seemed to be secondary to that in the upper portion of the genito-urinary tract. The case, therefore, was one of primary tuberculosis of the kidneys. The speaker said he could not tell where the infection had gained entrance to the system, nor could he say whether the attack of gonorrhœa had had anything to do with this tuberculosis. It had been claimed that the bacilli sometimes gained access to the bronchial glands, and from there passed to the blood, and so on until the pelvis of the kidney was reached.

Double Suppurating Epididymitis; Ulcers of the Stomach; Calcareous Plate in the Diaphragm.—Dr. George P. Biggs presented specimens from a man who had been admitted to the Hudson Street Hospital on February 10th, complaining of general abdominal pain, more particularly on the right side. No venereal history could be obtained. His temperature was found to be 103.8°, and a few hours later it was 105.4° F. During this time it was not noticed that the œdema of the scrotum was rapidly developed, and that this was localized chiefly in the neighborhood of the epididymis. On the second day he developed violent delirium, with great abdominal tenderness and distention. He was an alcoholic subject. Thinking the case to be one of appendicitis an exploratory incision was made, but the vermiform appendix was found to be perfectly normal. His temperature continued elevated, reaching as high as 107° F., and he died the second day after the operation, or six days after the beginning of the trouble. Just before death he vomited a considerable quantity of thick, bloody-looking fluid. At the autopsy a recent general peritonitis was found, the cause of which could not be discovered at first. The intestinal tract throughout was normal. There was, however, a good deal of swelling in each iliac region, and on incision into those swellings considerable pus was found to have infiltrated the tissues in this region. On the right side the pus had infiltrated the fatty capsule of the kidney and had extended down along the spine and along the inguinal ring and cord to the epididymis. On the left side the infiltration of pus was less extensive, extending up to the promontory of the sacrum and along the cord to the epididymis. These two collections of pus did not communicate with each other, the tissues in front of the spine being perfectly normal. From double involvement of the epididymis, and the retroperitoneal suppuration and peritonitis, it was evident that the original source of the trouble had been a double epididymitis of a very virulent character. The genito-urinary tract was examined throughout and found perfectly normal, and the testicles proper were also perfectly normal. The fresh pus showed large numbers of streptococci, and cultures made from these collections of pus showed pure cultures on one side. It had been noted at the time of his admission to the hospital that both parotid glands were slightly enlarged and tender, but no special importance had been attached to this at the time. The stomach showed two or three quite superficial ulcers along the greater curvature of the stomach, near the pylorus, and on two or three of these was clotted blood, indicating the source of the bloody vomiting occurring just before death. There was a calcareous plate in the diaphragm, which measured three inches in length, two inches in width, and one-quarter of an inch in thickness.

Gunshot Wound of the Heart and Lungs.—Dr. Biggs also presented specimens that had been removed from a man of thirty-five years of age, who had been admitted to the same hospital. He had shot himself, the bullet entering half an inch below, and a little to the inner side of, the left nipple. He was suffering from severe shock at the time of his admission. Signs of fluid and air in his left pleural cavity were apparent, although no distinct pericardial involvement was made out. He lived three days. At the autopsy the course of the bullet was traced with difficulty, owing to the points through which it had passed having been covered over with fibrin. The left pleural cavity contained a moderate amount of air and at least 1,500 c.c. of dark bloody fluid. The surface of the lung was covered everywhere with a thin layer of fibrin. The pericardial sac was distended with fibro-purulent exudation. The bullet had gone through the lower portion of the upper lobe of the lung, had then passed into the pericardial sac, and had traversed the wall of the left ventricle for a distance of about four centimetres. The bullet had entered at the anterior aspect of the left ventricle, about midway between the base and apex. The bullet, after traversing a distance of about four centimetres, emerged, entered the pericardium, and again passed through the lower lobe of the lung, finally lodging between the ninth and tenth ribs. The bullet did not enter the cavity of the heart at all. On the inner surface, opposite the track of the bullet, was found a firm ante-mortem thrombus, about two centimetres in length and one centimetre in breadth at its thickest part. This was due to the fact that the vessels had been sufficiently injured to cause softening through the entire thickness of the wall, and so give rise to endocarditis and thrombosis. From this thrombus an embolus had broken off, and had lodged in the branches of the splenic artery, producing large red infarction, which occupied almost the entire spleen. The splenic vein was also completely thrombosed.

Hypertrophy and Dilatation of the Heart, with Tricuspid Regurgitation and Mitral Stenosis.—Dr. Biggs also presented specimens that had been taken from a boy, eighteen years of age, who stated that for two years previously he had been jaundiced, and had suffered considerably from shortness of breath. On admission his pulse was weak, irregular, and rapid, and had a distinct pulsation. There was also marked pulsation of the veins of the neck, and he was cyanosed. Examination of the heart showed a greatly accentuated second sound, heard more over the right side of the heart, and systolic. The diagnosis was made of tricuspid regurgitation and mitral stenosis. This diagnosis was completely confirmed at autopsy. The mitral orifice was found to be very greatly narrowed. The tricuspid orifice was very large, so that almost four fingers could be passed into the orifice. The points of interest were the great thinness of the left ventricle and marked hypertrophy of the right ventricle. The kidneys only showed the effects of chronic congestion.

Stated Meeting, April 10, 1895.

George P. Biggs, M.D., President, in the Chair.

Tumors from the Choroid Plexus of a Horse.—Dr. J. H. Huddleston presented several specimens from the lower animals. The first specimen was the brain of a horse, with two tumors originating in the choroid plexuses. One tumor was as large as a large English walnut, and the other about three times as large. So far as could be learned, the horse had presented no symptoms until the evening of his death, when he had apparently had a spasm. Sections of the tumor were

exhibited under the microscope. Their structure indicated the growths to be fibro-sarcomata.

Actinomycosis.—The second specimen was the lower jaw of a cow. It had been removed from an animal suffering from actinomycosis, or the disease known among meat inspectors as "lumpy-jaw." The fungus, the speaker said, was prone to lodge in the mouth, usually in the lower jaw, where it works into the periosteum, and finally produces a rarefying osteitis.

Bots from a Horse's Stomach.—The next specimens were bots taken from a horse's stomach. The bots, or larvæ of a kind of fly, are very commonly found in greater or less number in the horse's stomach. They are about half an inch long, and after being swallowed by the horse, attach themselves to the mucous membrane of the stomach, and live there for ten months or more, and then pass out with the excreta. They are not generally supposed to produce any symptoms, although cases have been recorded where they have caused perforation of the stomach and death from hemorrhage.

Pseudo-tubercles in a Sheep's Lung.—A specimen was then shown of the lung of a sheep, containing bodies which resembled tubercles rather closely. They were not tubercles, however, but the embryos of a parasite which had entered the animal through the bronchi.

The Ticks of Texan Fever.—Dr. Huddleston said that the disease known as "Texan fever" was caused by a micro-organism living within the red blood-corpuscles. It was usually found in pairs, but was sometimes found outside of the blood-corpuscle. This parasite gave rise to hæmoglobinuria, and death in a large proportion of cases. The method by which the disease was disseminated had only been quite recently discovered by the United States Bureau of Animal Industry. It had been found that these "ticks" took up some of the blood from infected animals and transferred it to other animals.

Intussusception in a Dog.—The last specimen had been taken from a Siberian "trick dog," who, after having nearly recovered from the distemper, had been taken ill with a form of dysentery. After a few days a tumor had been felt in the left side of the abdomen, and then an intussusception with perforation had been discovered. It was said that intussusception was not infrequent in dogs.

Dr. Reginald H. Sayre said that the horse sometimes exhibited lumps on the body, something like an urticarial eruption in the human subject, which were supposed to be due to bots. This was frequently associated with disturbed digestion, and the animals were with difficulty restored to good condition. Bots were frequently passed in large numbers after the use of brisk purgatives on such animals, showing that the diagnosis of bots was probably correct. If, therefore, as had been said, bots were almost invariably found in the stomachs of horses, why was it that they only exceptionally gave rise to symptoms?

The President said that as the number of these bots varied very greatly, they being sometimes so numerous as to almost coat the interior of the stomach, it was not improbable that the presence of symptoms would be determined by the number of these bots in the stomach.

Dr. Huddleston said that as there were several varieties of bots, this might also explain the occasional occurrence of these symptoms.

Foreign Body in the Vermiform Appendix.—Dr. Warren Coleman presented a vermiform appendix containing a foreign body. It had been removed from a man, sixty-seven years of age, who had died from broncho-pneumonia complicating chronic diffuse nephritis. On opening the abdominal cavity the tip of the vermiform appendix was found lying on the sacral promontory uncovered by intestine, and the end of the appendix was decidedly enlarged. The appendix itself measured four inches in diameter and about one-fourth of an inch in its transverse diameter. The foreign body was found to be a fragment of bone, one end of which was rounded, and from the other end of which projected three sharp points, any one of which would seem to be sharp enough to perforate the wall during a sharp contraction. This piece of bone measured five-eighths of an inch in its long diameter and one-quarter of an inch in its broadest transverse diameter. It had entered the appendix blunt end foremost, and had travelled up as far as it could go. There had not been found the slightest evidence of inflammation outside of the appendix, or within it, except possibly a slight thickening of its wall. The foreign body was entirely surrounded by mucus, and the lumen of the appendix was entirely filled with it. The appendix itself had a mesentery which extended nearly half of its length. The appendix had not been bound down at all.

The speaker said that it would have been extremely interesting if the complete history of this case could have been obtained. Reasoning from analogous cases, involving the bile ducts and ureters, it would seem that at some time previously this man must have had a sharp and more or less protracted attack of colic. Appearances would seem to indicate that the foreign body had been in the appendix for a considerable length of time, for there was a pigmentation of the bone which would have hardly existed at the time it was swallowed. Dr. Coleman said that he had never seen a case of foreign body in the appendix before, although he had made it a rule to carefully examine the appendix at every post-mortem. No fæcal impaction had been found in this case.

The President said he was reminded of a specimen recently shown by Dr. McBurney, who had never seen any such foreign body in the appendix previous to that time. It had been found during an operation for some other abdominal condition. Two small bodies had been felt in the appendix, which had been accordingly removed. Two perfectly fresh and well-preserved grape-seeds were found in the appendix. They had not been at all digested and there was no evidence of inflammation. He had personally seen only one case in which there had been a grape-seed.

Dr. John H. Hinton said that in the old days of the Pathological Society, when Dr. Finnell used to bring specimens to the society, he had presented several specimens from cases of appendicitis, where beans had been found in the appendix.

Dr. S. T. Armstrong said that these two cases were of interest as showing that something more than an extraneous substance in the appendix was necessary to produce appendicitis. The number of these cases was becoming sufficiently great to indicate that our knowledge of the pathology of appendicitis must be revised.

Pulmonary Tuberculosis with Cavity in a Child.—Dr. Robert S. Adams presented a tuberculous lung removed from a child one and a half years of age. The child had been ailing since last November and had been known as "the child with a bottle lung," because of flatness over the lower part of the left lung posteriorly, and a breathing sound at this part almost precisely like that produced by blowing across the mouth of a bottle. The walls of the pulmonary cavity were very ragged. A "smear" taken from the lung showed tubercle bacilli. The upper part of the lung had been apparently but very little affected. The speaker said that tuberculosis was very frequent in the latter part of the first and second years of life, but it was not common to find very large cavities in small children.

Enlarged Spleen; Lobar Pneumonia; Pericarditis.—Dr. Donald M. Barstow presented a spleen taken from a patient who had been brought into the Hudson Street Hospital on April 2d, with a temperature of 102.4° F. and a very rapid and feeble pulse. He was somewhat delirious, and there was marked jaundice of the skin and conjunctiva. The delirium and temperature increased, and he died early in the morning of

April 4th. The history had been obtained only through an interpreter. The man had not been working for eight days, as he had been suffering from pain in the chest, not very definitely localized, and from pretty well-marked dyspnœa. The autopsy was made a few hours after death. It disclosed a lobar pneumonia of the right lung, the lung being entirely consolidated. The pericardium contained twelve ounces of rather thin pus. The heart was normal and the valves competent. Both chambers were filled with blood-clot. The tissue was rather dark and granular. The liver was apparently normal. The spleen measured eleven inches in length, eight inches in width, and three or four inches in thickness, and weighed seven pounds eleven ounces. The kidney showed the degeneration which accompanies lobar pneumonia. There were no other lesions. The cause of the enlargement of the spleen was rather interesting. The spleen pulp was rather soft. There was no sign of acute inflammation externally. The gall-ducts were pervious, and there was no obstruction to the portal vein; hence, a congested spleen could be excluded. There was nothing in the spleen or in the blood from the splenic vein to suggest leucocythæmia. The man was an Italian, but whether or not he had been long in this country or had recently come from a malarial district, could not be determined. In favor of the theory that there had been an acute inflammation was the fact that the man was profoundly septic, and had a high temperature, and his jaundice was evidently due to some poisoning of the blood. Zeigler says that in acute disease the spleen may be enlarged, even to four times its normal volume. The stomach and peritoneum were normal. The intestines were not opened. It was possible, although not probable, that there were typhoid ulcers in the small intestine.

THE PRESIDENT said he could recall at least three instances in which he had found very large spleens in adult Italians, evidently the result of chronic disease, as there were no evidences of disease of the blood or lymphatic glands. Although in these cases the spleen had not been particularly pigmented, he had felt that the splenic enlargement had been due to malarial infection.

Myelitis and Rupture of the Bladder.—DR. HENRY POWER exhibited some photo-micrographs, taken with high and low powers, and also some slides under the microscope from a case of myelitis, complicated by rupture of the bladder. Death had occurred from the shock of the rupture. The history of the case was very meagre. There was a chronic myelitis, distributed principally through the dorsal and lower cervical regions. The interesting part was the condition of the veins and arteries. The former were almost normal, whereas the media and adventitia of the veins contained a large quantity of round cells—whether leucocytes or new connective-tissue cells could not be determined. Gowers and Zeigler gave a general description of such a condition, without distinguishing between the veins and arteries.

A Remedy for Tape-worm.—Dr. J. H. Newington, writing to *The Lancet*, says that many years ago he was giving a patient a mixture as follows: Hydriodate of potass., gr. xxxvj.; iodine, gr. xij.; water, ʒ j.—ten drops three times a day in water. The patient unexpectedly passed a tape-worm eleven yards long, dead, of which there were no previous symptoms. He has since given the same medicine successfully in two or three cases. The last patient came to him about three years since and stated that he had suffered from tape-worm for two years and was constantly passing pieces of the parasite, but could not get rid of it. Dr. Newington gave him the same medicine, and after a short time he passed a mass of tape-worm, dead, and there has been no return.

Clinical Department.

A DELUSION OF STIFFENED EXTREMITIES TREATED BY SUSPENSION.

BY EDGAR J. SPRATLING, M.D.,

FISHKILL-ON-HUDSON, N. Y.

IN 1880, a patient was admitted to the Middletown State Hospital, adjudged insane by the court upon a charge of assault of the first degree. He was then in a state of profound depression, being at all times morose and taciturn. Until 1885 he worked about the place, making himself more or less useful, as patients can do, then came some trivial misunderstanding with the officials, according to his own statement, concerning a persistent pain in the lower vertebræ. From patient's account and the position afterward assumed and fixedly maintained, this pain was most likely coxalgia. Upon this he went to bed, where he remained constantly, refusing to make any explanation of his symptoms, or in any way seek or accept the medical and other aid offered him by the officials. He states that the pain was constant for months after taking to his bed, until in fact the habit of walking was entirely lost, after that no effort was made to walk, but he would lie quiescent till disturbed by some patient or other person, whom he would then assault most maliciously. Those in authority were always to him especial objects of attack and vituperation; he seeming instinctively to dislike any exercise of authority, thinking that his own peculiar prerogative.

The delusion of not being able to walk was now firmly fixed with him. He refused to even make an effort; always asserting that he could neither place his feet in juxtaposition, nor stand erect. He was equally positive that he could not in any way make use of his hip- or knee-joints.

After being a never-ending source of annoyance to the officials his transfer to the Matteawan State Hospital was secured. He was admitted here on a stretcher, in fairly good general health, in a bright mental condition. This was in 1892. He remained continuously in bed, going out once each day to the water-closet, dragging himself on the floor, or crawling by the aid of chairs and tables. Various efforts were made to get him to sit in an upright position in a chair, but he would persist in maintaining the rigid straight position, thereby slipping out on the floor. These efforts or persuasions to make him try to walk met with no encouragement. He would in no way co-operate with the physician, even becoming angered with any suggestion of regular treatment. This lasted till the spring of 1895, making actual time spent in bed over eight years.

On March 26th, after electricity and massage had been tried to a limited extent with no indication of possible ultimate good, it was decided to try suspension by a Sayre's apparatus. The first trial lasted twelve minutes. The time he remained suspended was increased five minutes each day, and after each time he was required to remain standing from twenty to thirty minutes in the middle of the ward hall, where he could grasp no object by which to steady himself. Of course the patient considered all this, at least so he expressed it, as malignant persecution, and protested most vigorously both by mouth and by sheer strength, fighting tooth and nail.

After two weeks of this treatment daily it was discontinued as being no longer indicated, he being then willing to exercise in walking a given length of time each day. He was never allowed a crutch or walking cane.

On April 22d, he went to the table, up and down steps, for dinner, the first time in over eight years. He now goes regularly to his meals, is friendly and good-

natured, saying that the treatment was a benefit to him. He helps with the ward work, and is in every way a changed man, standing and walking erect and firm, rarely or never indicating any inconvenience.

Was it the forcible overcoming of his delusion, or was it the actual surgical benefit that did the ultimate good?

There were two physicians, Dr. R. B. Lamb and the writer, employed in the suspensions, one appearing as the aggressor, the other as the moderator as it were. To the latter he would confide his sensations in the hope of getting his interference. In this way we could regulate the management of the whole treatment to the best good. This dual method is, I think, very often useful in the management of any fixed delusion, giving, as it usually does, the physicians a decided advantage.

MATTEAWAN STATE HOSPITAL.

THE LARGEST CATHETER, ALWAYS.

BY FERD. C. VALENTINE, M.D.,

NEW YORK.

GENITO-URINARY SURGEON, WEST SIDE GERMAN DISPENSARY, ETC.

IT seems surpassingly remarkable, in view of all that is written on catheterization of the urethra, that so many otherwise exceedingly well-informed, skilful general practitioners will persist in endeavoring to pass small catheters. A case brilliantly illustrating this error was brought to my attention May 22d of this year.

A. B——, aged sixty, a hale, well-preserved man, visiting friends in Newark, on Sunday, May 19th, found no convenience for urination, and never having had any difficulty before, reserved emptying his bladder until he would reach his home in New York. On arriving there some hours later, he discovered that all efforts at extruding urine proved absolutely futile. From Sunday night to Wednesday, several physicians had endeavored to relieve him with small instruments. They succeeded only in giving the patient much pain and drawing considerable blood, whose quantity doubtless was much exaggerated in the family's statements.

On Wednesday evening Dr. Ludwig Kohn was called and, finding the patient in the condition to be expected after passing no urine for three and one-half days, demanded a consultation. Dr. Henry Roth came for me. His history and description of the case caused me to go with him prepared for supra-pubic puncture at least.

On arrival at 10.30 P.M. I found the patient exactly as described by Drs. Kohn and Roth, the salient points being a very much distended bladder, whose fundus reached apparently to the umbilicus, a prostate hypertrophied to about the size of a large fist, with a well-defined middle lobe, and a roomy urethra with no less than half a dozen lacerations in its membranous part. Before proceeding to more serious operative measures, we naturally determined to essay the passage of a catheter. The meatus appeared as if it would comfortably admit a 10 American. On taking a Tiemann's 12, velvet-eyed, soft catheter, the comparative ease with which it passed into the bladder would be surprising to those not accustomed to such experiences.

Dr. Kohn, who continued treating the case, informs me that he had no difficulty in increasing the size of the catheters used by one number daily, having reached No. 15 on Saturday, May 25th, and that the patient is in exceedingly good condition. Manifestly, if a large catheter had at once been used, much suffering would have been spared this man.

It is a rule with me to urge upon those who favor me by attendance upon my clinics the following apparently paradoxical rule: "In retention from any cause, compare the meatus with your catheters. When you have determined upon the size which promises to pass, make your first endeavors with two sizes larger."

Posner[1] says in this connection: "In the vast majority of instances, the careful introduction of soft, elastic instruments will accomplish the desired end. At all events these instruments are recommendable to those who have not acquired considerable skill and practice. At least no injury can be done by them."

While the case above sketched contains nothing new, I feel convinced that other genito-urinary specialists will agree with me in urging upon general practitioners that the greatest possible safety lies in always using the largest possible catheter.

842 WEST FORTY-THIRD STREET.

New Instruments.

THE OPEN-AIR TREATMENT OF HIP-JOINT AND SPINAL DISEASE.

BY W. W. BREMNER, M.D.,

TORONTO, CANADA.

LATE ASSISTANT SURGEON, HOSPITAL FOR RUPTURED AND CRIPPLED, NEW YORK.

IT is now almost universally admitted that hip-joint and Pott's disease are of a tubercular nature, and that in many cases of these diseases, at some period or other in their course, recumbency becomes a necessity in the treatment. Now, it is not proposed for an instant here to lay down any rules as to what cases need recumbency, but it is desired to lay before the profession a simple method by which recumbency, with any advantage it may have, can be obtained without the counter-balancing evils which attend it when used in the general way by confining a patient to bed.

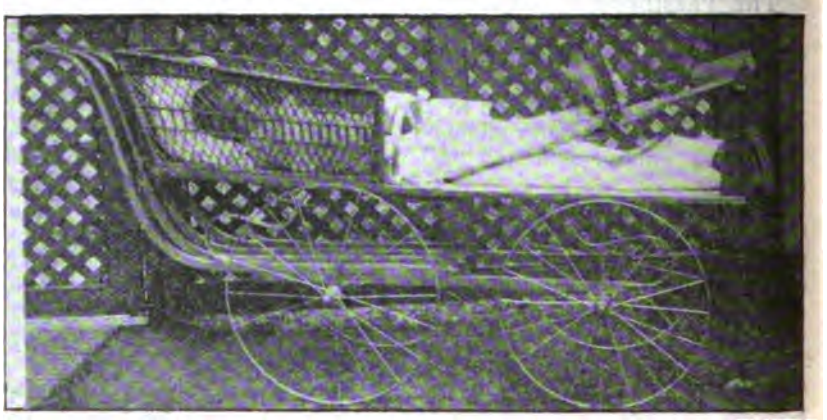


FIG. 1.

A light carriage with wicker-work sides, rubber tires, and well-tempered springs is made of a length suitable for the patient, allowing for at least three years' growth, and it is surprising how a child will grow on such a carriage in the fresh air and sunlight. A frame of hard-wood, of a length suitable for the weight of the patient, is then made; good ash (three-quarters by two and a half) is strong enough for a child under five years of age; this frame should fit snugly inside the wicker-work of the carriage and be covered with strong canvas laced beneath to keep it tight. The canvas can be made in three sections, one narrow in the middle for removal when the bed-pan is required; a better plan, however, is to use stiff brown paper for the motions and a bottle or small flat dish for the urine, according to sex. An apron, reaching from the axilla to the pubes, is sewed on either side of the canvas and fitted

[1] Therapie der Harnkrankheiten, published April, 1895, in Berlin.

with buckles to keep the patient in position; in addition, it is well to have leather straps to hold down the shoulders; the most simple way is to tack them on the sides of the frame and let them cross the chest diagonally at the top of the sternum.

The frame can be lifted in and out of the carriage as desired, but in practice it will be found very convenient to keep the patient in the carriage day and night. In warm weather a light, soft quilt under the patient or a narrow pillow is all that is required. In cold weather a small, soft mattress or a couple of pillows should be placed between the frame and the carriage to keep out the cold.

In spinal disease pads of felt should be stitched on the canvas on either side the kyphosis, to prevent undue pressure on the spinous processes. In general, it is best to fit the patient with a suitable brace as well as the carriage.

In all cases of hip-joint disease, and in those of Pott's disease where there is psoas contraction, means are provided for counter-extension by a light but stiff steel bar bent across the frame just above the pubes, and removable at pleasure by unscrewing two bolts to which perineal bands are attached by means of buckles. (See Fig. 2, which represents a child seven years of age with very severe hip-joint disease, in the upright position, which may be given at pleasure and which is very convenient when taking food.) Fig. 1 shows the same child in the horizontal position. In both figures the uprights with cross-bar at the bottom of the frame are clearly shown. These permit of extension being made in the angle of deformity, which is most necessary in order to avoid great pain. The child shown in figures, when treatment was commenced, had about thirty-five degrees of flexion and twenty degrees of adduction. In six weeks, with only eight pounds of weight, the limb was straight. The bar can be lowered one-half inch every day for a few days, and the splint on which the limb lies abducted a little at about the same intervals. Light boards are fitted on either side of the carriage to prevent the clothes falling out. During the day counter-extension is made by the perineal straps, at night the pressure on the perineum can be relieved by elevating the foot of the carriage.

FIG. 2.

This method has been tried for over a year in several cases of acute hip-joint disease, with most satisfactory results in every way, especially in regard to the general health. As far as I can find out from the literature at my command, the method is new. It is applicable to both private and dispensary patients, as no difficulty is found in getting most of the dispensary patients to pay a small monthly rent for such a carriage, and even in hospitals it might be used with advantage where there is an open-air balcony or veranda on to which the carriages could be wheeled.

These carriages are very inexpensive and can be made by any bassinet manufacturer.

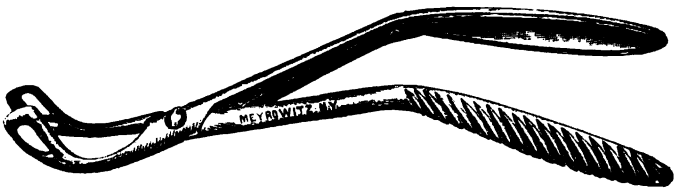
39 BLOOR STREET, EAST TORONTO.

A NEW ADENOID FORCEPS.

BY WILLIAM P. BRANDEGEE, M.D.,

ASSISTANT SURGEON, MANHATTAN EYE AND EAR HOSPITAL, THROAT AND NOSE DEPARTMENT.

WITH some hesitation, because of the long and varied list of instruments which have already been devised



for the removal of adenoid growth in the vault of the pharynx and the posterior pharyngeal wall, I present this adenoid forceps.

This instrument was designed, however, to eradicate certain defects in construction which make an adenoid forceps inefficient for operative purposes. The instrument is an evulsion and cutting forceps, strongly built and smooth on all surfaces that are brought in contact with mucous membrane. The cutting blades meet in the median line but do not cross, work laterally, and cut not only on the superior but also on the posterior surfaces.

As the blades do not cross, a space is left for the uvula so that it cannot be damaged in the course of the operation. The instrument can readily be taken apart and rendered aseptic. This forceps is introduced closed and only opened when the vault of the pharynx is reached. My thanks are due Mr. E. B. Meyrowitz for the workmanship and skill displayed in the construction of the instrument.

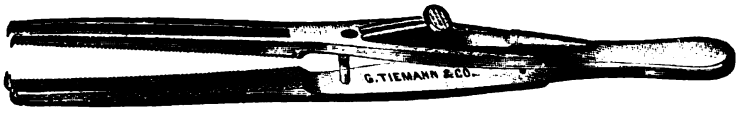
36 WEST THIRTY-THIRD STREET.

A PHIMOSIS CASE.

BY R. W. KNOX, M.D.,

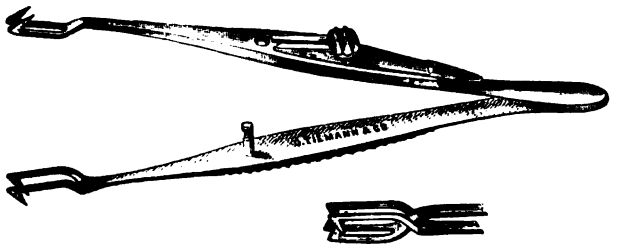
HOUSTON, TEX.

MESSRS. TIEMANN & CO. have made for me a phimosis forceps and also a prepuce-retractor. These instruments they have included in a small aseptic case containing scissors, hypodermic syringe, Grove director, narrow-bladed bistoury, and four small bottles for carrying needles, cocaine tablets, and two small sizes of silk ligatures. The phimosis forceps has been previously described. The retractor gives great assistance in applying the forceps accurately, and without the aid of an assistant. It has spring blades with double



tenaculum points, which are concealed when the instrument is closed. The cut gives a better idea of its mechanism than is possible by a description. I operate as follows: The patient is placed on a table, and the parts made as aseptic as possible with soap and water. A rubber band is placed at the root of the penis, encircling that organ in order to prevent hemorrhage during the operation, and also to confine the action of the cocaine. I find about ten minims of a four per cent. solution of cocaine injected in different points of the skin sufficient to produce complete an-

æsthesia of the parts to be incised. The retractor is now introduced a short distance within the foreskin, the blades allowed to spring apart by releasing the slide catch, and gentle traction made. The forceps is now applied and tightened at the most desirable point. The bistoury then removes the engaged prepuce with



a single stroke. If the mucous membrane is not sufficiently removed with the skin, the excess can be quickly cut away with the scissors. The foreskin can be removed much more quickly and accurately in this way than is possible by the use of knife and scissors alone. The case has the advantage that everything necessary for the operation is always at hand and can be readily carried in the pocket.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

THE PRINCE AT EPSOM COLLEGE—THE COLLEGE OF SURGEONS ELECTIONS—THE MUSEUM—POLICE SURGEONS—CAMBRIDGE SUMMER SCHOOL—CHLOROFORM FATALITIES—APPOINTMENT OF QUEEN'S SURGEON, ETC.—DR. RUFFER.

LONDON, July 13, 1895.

EPSOM was adorned in holiday attire to receive the Prince and Princess of Wales on Monday afternoon, and the inhabitants indulged to the utmost their demonstrations of loyalty. The Prince laid in a workmanlike manner the foundation-stone of the lower school which is to be added to the Royal Medical Benevolent College, mentioned that he remembered accompanying his father, more than forty years ago, to open the college, and expressed the hope that the new buildings may add in every way to the usefulness of the institution. The royal party inspected the college before leaving, amid renewed demonstrations of loyalty. The school has maintained a good position and grows in favor. Last year an act of Parliament was obtained under which the Council can open it to all classes—the special privileges of medical men's sons being reserved. It is thought that this will be better for the boys than restricting it to one class, the admission of representatives of other professions tending to widen the sympathies and enlarge the ideas. I wish it were possible for the fees to be further reduced in the case of medical men or their widows, who, though their sons are eligible for the foundation, still find education expensive.

The elections to the Council of the Royal College of Surgeons had unusual interest, as this was the first occasion on which voting papers were distributed to all the fellows. Of these 621 used their papers, and 60 voted in person. Thus upward of 400 fellows did not vote. In view of the fuss that has been made about the privilege of the fellowship, this is not a result to boast of. Perhaps the non-voters would willingly see the enfranchisement of the members. Surely these last, as qualified surgeons, might be entrusted with a vote for councillors, and perhaps for the president. There is considerable discontent at the canvassing carried on at this election, but what is to be expected in a small, exclusive constituency? Still the majority are shocked at the unblushing electioneering tactics in a body boasting of its high tone and academical distinction by examination. Outsiders say F.R.C.S., Exam., is not a synonyme for a gentleman nor an academical distinction either, as the term is usually understood.

After the election there was a display of the many interesting specimens which have been added to the museum during the past year.

It seems likely that recognized police surgeons will be appointed to examine prisoners arrested on certain charges. The matter was pressed on the Home Secretary early in the year, and before resigning Mr. Asquith issued a circular letter to certain authorities, pointing out the advantages of such appointments. Skilled evidence is certainly important in many cases and should be obtained at the earliest moment. Closely connected with this subject is a strange fact that came to light at an inquest lately on the body of a woman found in a canal. A policeman deposed that he found indications of death from drowning, that he had the body taken to the woman's house, where he had all her clothes removed, and looked for bruises or signs of violence. Surely this policeman went beyond his duties, and should have been sharply taken to task, instead of permitted to give evidence which it is a medical man's place to give.

The summer school at Cambridge for qualified men has afforded a pleasant week's outing with scientific lessons to eighty members, who have been regaled with lectures, demonstrations, and exhibitions, and provided with quarters and good fare at moderate charges. The idea seems to have "caught on," and will, perhaps, prove profitable to both professors and students.

Death from chloroform seems at times to come from recklessness. A young surgeon inhaled it to assuage the pain of sciatica, and seems to have fallen forward when insensible and so taken a fatal dose. Another man is said to have regularly taken chloroform for months past. At length, as might have been expected, he paid the penalty of his rashness with his life. Though not a doctor, he seems to have had no difficulty in obtaining a constant supply of the anæsthetic.

A sad case, apparently of abortion, has been the subject of judicial inquiry and much medical conversation. A graduate whose name had been removed from the Register had been consulted, and a registered man saw the patient and gave a certificate of death. He will probably have to appear before the Medical Council, for, surely, "covering" a man who has been removed from the Register is as bad as doing so for one who has never been on it. Unless further protection be obtained for those who are registered, there will surely be further abuses.

Sir P. Smyly has been gazetted Surgeon to the Queen in Ireland, in succession of the late Sir George Porter. The friends and admirers of Sir G. Porter propose to raise a permanent memorial of his services to the public and the profession. Mr. Lentaigne, of the Mater Misericordiæ Hospital, has been elected to succeed him in the Council of the Dublin College of Surgeons.

Dr. Ruffer, in his investigations on antitoxin, unfortunately inoculated himself with diphtheria. He was treated with serum, and has happily recovered after a severe illness. This is another illustration of the dangers incurred in the course of bacteriological researches.

The Cost of Influenza.—At a meeting of one of the large English insurance companies it was shown that more than six hundred thousand dollars had been paid out for deaths due to influenza.—*Maryland Medical Journal.*

A French Medical Authority asserts that death caused by a fall from a great height is absolutely painless. The mind acts very rapidly for a time, then unconsciousness ensues.

ON THE PHYSIOLOGICAL ACTION OF PERIODIC INDUCED CURRENTS.

To the Editor of the Medical Record.

Sir: If Dr. Goelet had been content to simply reiterate his altogether untenable statement that his permission was asked for the privilege of winding on a single spool certain lengths and thicknesses of wire, I should have been content to allow him the last word of the discussion; but as he not only denies my priority in essentials, but indulges in specific contradiction, I beg to be allowed in proof of my claim to offer the following letter:

"Dr. A. D. Rockwell.

"Dear Sir: In reply to yours of July 15th I would say that as far back as 1884 we constructed for you a coil far exceeding in length our ordinary coils, to illustrate your paper 'On the Induction Coil; its Varieties and the Differential Indications for their Use,' and in 1889 still another, of five thousand feet, made up of coils varying in lengths, and almost identical in the different sizes of wire to that of the apparatus under discussion.

"Very respectfully,

"T. F. Livingstone,
for the Kidder Mfg. Co."

It was on experience with these coils that I based my article on the "Different Physiologic and Therapeutic Properties of the Induced Current of Electricity" (Medical Record, February 14, 1891).

Dr. Goelet seems to think that the important thing is some exact number of yards in each individual coil, and because he suggested a few different numbers, requiring only a knowledge of figures, has the assurance to designate as the "Goelet Coil" a coil the essential features of which were well understood and had been thoroughly described before Dr. Goelet had begun to interest himself in electro-therapeutics.

A. D. Rockwell, M.D.

July 17, 1895.

SOME ASPECTS OF THE NEW WOMAN FROM A MEDICAL STAND-POINT.

To the Editor of the Medical Record

Sir: "The new woman" is at present merely the butt of the humorist, but I am inclined to think that to the medical profession she presents an interesting study. For many years female dress has been a *bête noir* to the doctors, and yet, despite all that has been written and said on the subject, woman, lovely woman, has had her way, and if there is to be a change it will be brought about in her own way and by herself. Concerning tight-lacing I shall say nothing, for so much has been said and written on the subject that it has become nauseous, and the evil is self-evident. But there is another evil connected with woman's present style of dress which has been pretty well ignored. I allude to the skirt. I allow that it is graceful and capable of a great amount of ornamentation, but it is unhygienic in every sense.

How often when the icy blasts of winter have been blowing with hurricane force have we seen female pedestrians clutching at their skirts to prevent them from being blown over their heads, and how often have we seen those same skirts inflated, not like a balloon with hot but with cold air. In fact, they are too often mere traps for collecting cold air. The pelvic organs are well supplied with blood-vessels, and it must follow that when the parts are suddenly chilled the blood-supply is temporarily impaired. To say such a thing is not harmful is, of course, absurd.

What is true of the full-grown woman is doubly true of her younger sister with shorter skirts. Now suppose the latest fad, bloomers, becomes the general dress of woman, all this will be done away with. The pelvic organs will be well protected from rapid changes of temperature. There will not be alternating congestion and anæmia. There will be a general tone given to the pelvis which modern dress prohibits.

Now as to the much-discussed question, bicycle riding for women. I doubt whether it is the best way of taking exercise, but I do think that it may be, indirectly, of incalculable benefit to the female race. It is undoubtedly a most fascinating pastime, and on that account many a woman will be out riding, taking in fresh air, exercising her whole muscular system, when, did she not have her wheel, she would be sitting in the house reading some novel or engaging in some sedentary occupation. Why is it that at least seventy-five per cent. of our patients are women? Has a curse been laid on the sex which condemns them to a greater share of ailments. It looks so, and laymen will say that childbirth is the cause, but it is nothing of the sort. Do mares, cows, etc., fall ill oftener than the males of the same species? No. Why? Because their hygienic surroundings and habits of life are the same. Childbirth is a physiological act, and directly it impairs health it becomes pathological. We know that the higher we go in the scale of so-called civilization the more neurotic the individual, and as society demands that its female members should do no work, so there follows a life of indolence with lack of muscular development. The new woman is changing all this. She is engaging in out-door exercise in very many different ways, and to enjoy this exercise she has had to change her style of dress.

Neurasthenia is alarmingly prevalent among our women, and, for my part, I believe it is due as much to lack of protection to the pelvic organs from climatic change as to anything else, and the next cause on the list is lack of proper, healthy exercise. A woman will sit in the house all day and at nine o'clock at night go out to a dance. She will waltz until she is in a perspiration all over. She will be very solicitous about her shoulders, but will forget that the cool air will penetrate to the pelvis, so she throws a shawl over her shoulders and goes out into the night air to get cool. She does get cool, especially the pelvic organs. The next day ovarian pain sets in, perhaps a cellulitis develops. She has a headache; the doctor comes and says, "You have caught cold," but no word of advice about avoiding cold to the pelvis. Neurasthenia supervenes. A young woman stands in a store all day; at night she is tired; she cannot find enjoyment in walking. To hire a horse is beyond her means, so she sits down and reads; in a short time she becomes hysterical and neurotic.

All this can be remedied by following the lead of the new woman in her rational dress and exercise. Of course, moderation must be exercised in all things.

I am inclined to think that the medical profession may do much in advising, or rather, approving, such measures, but I suppose that where woman is concerned we must fold our hands and say, *Che sarà sarà.*

W. H. F. Miller, M.D.

Clifton Forge, Va.

Signing One's Own Death Certificate.—In an Italian town the death took place of the communal medical officer, one of whose duties consisted in visiting the dead in the public institutions, and in writing death certificates. Among his papers was found his own death certificate, with the disease from which he suffered duly recorded, the certificate being complete in all particulars save the insertion of the date of his death. When, therefore, the new medical officer appeared on the scene, all that was deemed to be necessary was to fill in the date, and the certificate was then regarded as valid.—*Medical Press.*

MODERN GREEK AS AN INTERNATIONAL MEDICAL LANGUAGE.

To the Editor of the Medical Record.

Sir: In the *British Medical Journal* for May 18th, the fact is noted that Dr. Galabin's "Guide to the Diseases of Women" has been translated into Greek by Dr. Luke G. Nipellos, of Athens. In view of the fact that this language is urged as the international language of medicine, it is interesting to see some of the difficulties of transliteration. For instance Σύδναμ for Sydenham, Δάγκαν for Duncan; Sir John Williams and Hodge are left in Roman characters. Many words, as enucleation, decidua, prolapsus, gutta-percha are placed in brackets, after the Greek rendering, so the reader will be sure of what is meant. Some names of drugs, such as carbamide of quinine are untranslatable. Now, sir, if a modern Greek in his own study, with no limitations as to time, with access to dictionaries, vocabularies, and the like, makes such poor work of translation, what can we expect of American or English physicians who would have to speak extemporaneously, as in discussing papers? Yours truly,

George W. Smith, M.D.

Chicago, Ill.

[A modern Greek in his own study is not necessarily a master of the difficult art of translation, and the capabilities of the language should not be judged by the result of his efforts. Moreover the necessity of transferring bodily some foreign words is no more of an argument against the employment of Greek than is the common use of many English medical terms by French writers an argument against the adoption of French as the universal language.—Ed.]

THE CONDUCT OF THE PHYSICIAN IN A CASE OF CRIMINAL ABORTION.

To the Editor of the Medical Record.

Sir: In Mr. Robert C. Taylor's reply to the Medical Society of the County of New York, in regard to the status of the physician when called to cases of abortion, I read the following: "If he receives a call to attend an urgent case he cannot decline it, even though it be suspicious."

Is this law peculiar to the State of New York? It certainly differs from what I have seen heretofore. I was taught that a physician had a right absolutely to refuse any or all cases. That the fact of his being a physician did not compel him to assume undesirable calls. But if a call should be answered to attend an obstetric case, or an urgent case, he must remain and see the case through, or see that some other physician was in attendance before leaving the case.

When a physician answers a call he enters into a contract with the patient—a preferred contract to give his reasonable attention, such attention as the case requires. It goes without saying that someone must attend these cases of criminal abortion, but it seems to me to be unjust that respectable physicians should be obliged to entangle themselves in these cases.

Mr. Taylor says: "The duty of the physician in these cases relates to himself," *i.e.*, self-protection.

Now, how many physicians have taken the trouble to inform themselves in regard to the law in relation to the procuring of abortion? I think the statute reads about the same in the several States, viz.: "Any person who administers a drug, or performs an operation upon a woman, whether she be pregnant or not, for the purpose of procuring an abortion, unless such be advised by two physicians in order to save the life of mother or child, or both, is guilty of felony." In some States the clause "quick with child" is inserted.

A physician who assumes sole charge of one of these cases is very imprudent. The question arises, how am I to know that the case is due to a criminal operation, or to accidental or so-called natural causes?

In nine cases out of ten, if the woman knows she is about to die, she will tell all she knows about the case, and the attending physician should get a dying declaration. Be sure that she knows she is going to die, and what she says will be accepted by the court without question. It is the cases which die that cause trouble for the attending physician.

I suppose professional abortionists will ply their vocation as long as society demands that they exist. The daily and weekly papers insert their advertisements, and every school-boy and girl knows what they mean.

If this abominable business is allowed to be carried on, and is winked at by the public and officers of the law, let the public suffer, and not the representatives of a respectable profession, who are in many cases literal representatives of the Good Samaritan, giving time and money to alleviate the sufferings of humanity.

That they should be obliged to suffer for the crimes of those who are aided and abetted by society is a blot upon what is called a Christian civilization.

William H. Russell, M.D.

Ipswich, Mass.

THE COUNTRY PRACTITIONER.

To the Editor of the Medical Record.

Sir: Most of our medical journals are filled with articles by our city brethren of the profession, and the country practitioner does not seem to be heard from to any great extent.

The surgeon, the laboratory physician, the college professor, hospital doctor, and the specialists are the ones who generally give in their experiences through the columns of our journals, and while the articles are excellent in their way, some of them are not much help to us country practitioners in our work, embracing as it does everything in medicine from colds to small-pox and paresis, and everything in surgery from ingrowing toe-nails to laparotomy. Long reports of hip-joint operations or rare cases of skin diseases, and laboratory experiments to settle tweedledum or tweedledee of certain bacilli, are nice in their way and very interesting reading, of course, but it does not always seem to suit our case. It may be that we will have to do one hip-joint amputation in a lifetime, but the chances are that we will not, and if there are only a very few cases of the rare skin disease on record, it is hardly probable that we will make a living by our knowledge of that particular disease, however interesting it may be; and we do not see that it makes a great deal of difference in the welfare of that case of pneumonia whether the bacilli which produce it thrive best on gelatine or common boarding-house hash. Of course, these things must be known and studied. They make excellent dessert in our reading course, but they are not the substantial fare that helps us most as individual country doctors, with our many shades and phases of diseases of the more common type. We have no specialist at our elbow, nobody to send our patient to if he develops disease not exactly in our line, but must know everything ourselves and do everything ourselves. If we must know everything we cannot hope to know all of everything, so we have only time for facts about things of use to us in our work. The deeper questions of pathology, bacteriology, special operations, and new theories, we leave to our city brethren; and while we are always thankful for their labors, we cannot help but sometimes wish that they would not be continually startling us with new discoveries before they are discovered, and new inventions before they are invented.

We of the rural districts are expected by our patients to do a great many things. We are expected to pull a tooth for twenty-five cents, and do it better than

a dentist; "stop" typhoid fever at once; to make lines that erysipelas dares not cross; to cure heart disease, foretell the weather, and know what is good for bots in horses. We are expected to know what makes the baby cry without seeing it, and to send medicine by John for female trouble; to cure rheumatism with liniment and "piles" with "salve;" to "break the measles out," and dry the consumptive cough up.

Needless to say we do not do all this, but no amount of explanation will always make it clear that it was not our duty to do it.

If we had a diploma from the best medical school in the world, and had carried off the honors of our class, and were not gray-headed, we would very likely be pitied because we had not had as much experience as the old doctor in the neighboring town, who had been a nurse in the army for six months and had practised for twenty years, never having seen the inside of a medical college.

We can't telephone for an instrument and get it in a few minutes in an emergency case, but must operate with what we have, or make something to answer the purpose; yet in spite of all these things we manage to overcome the difficulties and get along fairly well, and some of the brightest names on the roll of honor of our profession are some of these same country practitioners, men who have conferred lasting benefit on their fellow-men. Still it is often noticed that the wreath of honor is often held from their living brow and afterward placed on their grass-grown graves. The picture, too, has sometimes a pleasant side, painted with brighter colors; but whether his life be bright or dark, grave or gay, all honor, say we, to the patient, toiling, enduring servant of the sick and suffering—the country practitioner.

CLEMENT C. COLLINS, M.D.

ROACHDALE, IND.

RECIPROCITY IN REGISTRATION.

[TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In the issue of July 20th "A Country Doctor" says: "I object to the methods of such States as Alabama, California, District of Columbia, Maryland, New Hampshire, Vermont, Virginia, and Wisconsin, where the examination, which is not always required, is conducted by the various medical societies."

As far as regards Virginia, both of these statements are incorrect: the examination by the State Board is always required, and the said examination is not conducted by the "various medical societies."

In justice to the Virginia Board the following facts should be stated: Virginia has had in operation an Examining Board since 1888. Said Board consists of three from each congressional district, two from State at large, and five homœopaths. These are appointed by the Governor of the State from a list of names placed before him by the Medical Society of Virginia, as being reputable physicians and learned in their profession. The homœopathic members are chosen at the option of the Governor. Boards serve four years and have examined, up to date, 887; licensed, 626; rejected and withdrawn, 261; percentage of those successful, 0.705.

The "Country Doctor" is right in having put forward the "Reciprocity in Registration," but it would seem rather extreme for a member of the profession in a State having a State Board of Registration only since July 9, 1895, to be offering uninstructed criticisms upon the methods of other States having Examining Boards in operation for many years, and with a percentage of rejections of thirty as a sample of the thoroughness of the test.

In conclusion, the writer may remark that he passed said examination in Virginia in 1892, and regards it as rigid, but fair. We are glad that Maine is setting her standard high, but "reciprocal registration" is a great way off as yet.

VIRGINIA COUNTRY DOCTOR.

WOODSTOCK, VA., July 24, 1895.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending July 27, 1895.

	Cases.	Deaths.
Tuberculosis	48	119
Typhoid fever	13	7
Scarlet fever	45	5
Cerebro-spinal meningitis	2	5
Measles	170	18
Diphtheria	174	28

Vicarious Menstruation through the Lungs and its Relation to Tuberculosis, with Remarks on the Treatment of Pulmonary Hemorrhage.—Dr. Kober describes the case of a girl of nineteen years with a tuberculous family history, who had severe hemorrhage from the lungs at the menstrual period, without previous signs of pulmonary disease. The menses proper lasted only a few hours, but the pulmonary bleeding continued for three days with great severity. The bleeding then subsided, after nausea and vomiting had come on, and these latter symptoms lasted some days longer. During this time signs of pneumonia appeared in both bases, with mild general symptoms. In about ten days the patient seemed perfectly well. At the next period a similar set of phenomena appeared, but recovery was not complete. The patient was treated for tuberculosis, although bacilli could at no time be found. Efforts were made at the same time to bring on uterine hemorrhage at the next menstrual period, but in vain, and a third time pulmonary hemorrhage appeared, the amount of blood being less than at the former periods. Vomiting, fever, and a fresh pneumonic attack followed. The cough remained, diarrhœa appeared, loss of flesh and strength, with night-sweats and high temperature, varied the picture, and in four months from the first hemorrhage the patient died. Tubercle bacilli could not be found up to the last. Kober thinks the patient had tuberculosis at the time of the first hemorrhage, and that this was the cause of the vicarious menstruation, the lung forming a *locus minoris resistentiæ* which suffers in the high arterial tension of menstruation. An interesting fact is that no remedy seemed to check the hemorrhage, but that each of the three attacks was cut short by nausea and vomiting. This recalls the treatment of Graves and Trousseau, the former using ipecac in nauseating, the latter in emetic doses. Kober proposes a combination, first causing vomiting, and then keeping up nausea by small doses of the remedy. The cause of the natural cure Kober does not explain, but suggests irritation of the vomiting-centre by lack of oxygen from loss of blood, or in a reflex way by the blood in the alveoli.—*The American Journal of the Medical Sciences.*

The Pulse in Insanity.—Abnormal sphygmographic tracings are to be found at some stage of the disease in the vast majority of cases of insanity. They are due to affections of the cortical and spinal motor and vaso-motor centres, to various lesions of the sympathetic, to disorders of the pneumogastric, to peripheral and central vascular changes, to degenerations of central organs, to toxic agents in the blood, to auto-intoxications, to cachectic and diathetic conditions, to cardiac

lesions, and to a great variety of intercurrent causes. These abnormal pulse-tracings vary much in different kinds of insanity and in different individuals suffering from the same form of mental disorder, and they are best classified according to the actual physical status of the patient and the etiology and stage of the mental disorder. No one sphygmogram is pathognomic of any particular form of insanity, but there are certain general types of tracings which are found in one form of mental disease and not in another. Sphygmographic studies, to be of special value, should be continued in the same patients throughout an attack of mental disorder, and tracings finally obtained in convalescence should be preserved for comparison. Unfortunately, studies with the sphygmograph are laborious and time-consuming, but they are of such diagnostic and prognostic value in mental disorders that they have already become an indispensable part of alienistic science.—*Theo. H. Kellogg, M.D., Medical Superintendent of Willard State Hospital.*

Myxœdema Treated with Thyroid Extract.—At a meeting some months since of the Practitioners' Society of New York, Dr. Kinnicutt exhibited photographs and reported the condition of a myxœdematous patient, fourteen months after the beginning of treatment with thyroid extract. It had been found necessary to continue the treatment, and during the past eight months about twelve minims of a glycerine extract, representing less than a quarter in weight of the average single lobe of a sheep's gland, had been given every four days. The duration of the illness before the beginning of treatment had been twelve years, and the patient, on admission to the hospital, had exhibited the stage of advanced degeneration. There was marked general muscular paresis, the patient had been bedridden for a year, and there was distinct impairment of mental vigor. The great improvement after five months of treatment had been reported previously. With the continuance of treatment the health of the patient at the present date was excellent. The muscular power and mental condition were apparently normal, the patient was cheerful and able to attend to her simple daily duties. The hair on the scalp, from having been entirely lost, had continued to grow and at the present time was very abundant and reached to the shoulder. The probabilities seemed to be that it would be necessary to continue the treatment indefinitely, but that under these conditions good health would be maintained.

Electricity and Cats.—Our lay contemporary, the New York *Press*, has apparently joined the ranks of those papers which seriously propose to bring home to the minds of plain people the more important discoveries of modern medicine. The propriety of thus encroaching upon the proper territory of medical journalism is open to grave question. The public is so apt to draw wrong conclusions from even the most simplified presentation of erudite propositions, that the danger-point may be reached before suspicion has fairly been wakened. The electrical properties of cats are knowingly referred to in the *Press*. Evidently the writer was inspired by a profound respect for an article published recently in the *British Medical Journal*. The *Press* has this to say on the subject: In England the cat has just received her scientific vindication as a factor that makes for good in modern civilization. They have a National Cat Club in Great Britain, and at the recent annual meeting of this august body the secretary announced to an admiring audience of feline fanciers that cats, and more particularly old cats, were "intense." In family circles it has been known for some time that persons of recognized "intensity" were occasionally called "old cats." But a suspicion of slight opprobrium has generally been associated with this use of the term. The purely scientific correlation of intensity and cats is undeniably English, and likely to remain so for the present.

The "intensity" of cats, even of ordinary old toms, can be demonstrated by gently rubbing their backs in cold dry weather, and, preferably, in the dark. It will then easily appear that the animal is "full of electricity." It is therefore proposed to employ old cats as convenient storage batteries for electrical accumulation. It has already been accurately computed that a really intense cat, when properly charged, will give off enough electric sparks to shatter three ordinary attacks of hysterics. People subject to this distressing form of nervous disorder can now be seen in London accompanied by their intense cats. A stock company (limited) has also been organized, and is now in a position to supply certified felines of unimpeachable pedigree and requisite intensity for all functions where hysterics are apt to go off unexpectedly. Emotional first-nighters, girls who habitually get engaged and disengaged, æsthetic tea frequenters, Paderewski worshippers, grass widows, office seekers, and all individuals whose nervous systems require occasional fortification, now never venture out in London without a duly tested intense cat within easy reach. For children's parties and charitable enterprises kittens have been found strong enough. It is further proposed to use the "living feline galvanism" for curative purposes in cases where formerly the more complex and expensive system of hypnotic suggestion was in vogue. The *British Medical Journal*, in commenting on these interesting and epoch-making researches, says: "Apart from questions of electro-physiology, it is instructive to learn that the presence of white in the color of a cat, unless the animal be whole colored, is a sign of weakness. It is also interesting to know that the National Cat Club encourages the production of whole-colored cats and would in every instance have been successful in this, had it not been for the disappointing obstinacy of the tortoise-shell 'tom,' who, it appears, resolutely declines to become a cat of another color." On the whole, the cat seems as full of promising utility as of intensity. We congratulate the British National Cat Club on the eminent success of their feline labors. We await with bated breath the advent of "intense" cats in our country. Perhaps there are some here now. Who knows!

An Original Doctor.—There is a quaint and original doctor located on one of the islands on Puget Sound. He advertises in posters and placards printed in a home outfit. In one of his announcements he says: "Legs and arms sawed off while you wate without pane. Childbirth and tumors a specialty. No odds asked in measles, hooping cough, mumps or diarrear. Bald head, bunions, corns, warts, cancer and ingrowing tow nales treated scientifically. Coleck, cramps, costiveness, and worms nailed on sight. Wringworms, pole evil, shingles, moles, and cross eye cured in one treatment or no pay. Private diseases of man, woman or beast eradicated. P. S. Terms, Cash invariably in advance. No cure, no pay. P. S. (Take Notis.) No coroner never yet sot on the remanes of my customers, and enny one hiring me doan't haf to be good layin' up money to buy a gravessone. Come won, come awl.

This man is said to do a good business, although you would not expect it, and his patients say he cures diseases, and does it thoroughly and quickly."

Railway Sanitation.—Railroad companies are not allowed to carry the dead of infectious diseases except under certain conditions; why should they carry the living without any? It is the duty of national, provincial, and State sanitary associations to educate the people in matters of this kind. When educated, the people will demand protection, and when the people demand what is right and reasonable, corporations, which are said to have no souls, generally find it convenient and advisable to comply.—*National Board of Health Magazine.*

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THE GASTRO-HEPATIC OMENTUM.

(LESSER OMENTUM, LIGAMENTUM GASTRO-HEPATICUM, MESOGASTER ANTICUM, ANTERIOR MESOGASTER, MESENTERIUM HEPATIS, EPIPLOON, OMENTUM MINUS, CAUL, MEMBRANA MACILENTIOR, MEMBRANA FENESTRA.)

BY BYRON ROBINSON, B.S., M.D.,

CHICAGO, ILL.

THE ligamentum gastro-hepaticum (or lesser omentum) is a duplicature of peritoneum extending from the œsophagus, lesser curve of the stomach, and upper portion of the duodenum on the left, to the transverse fissure of the liver on the right.

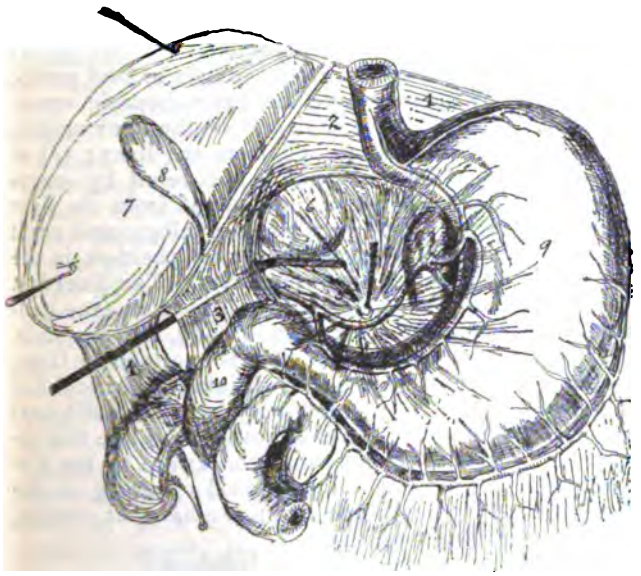

FIG. 1.—An Illustration of the Omentum Minus in Three Parts, Nos. 2, 5 and 6 and 3.

Fig. 1 is a drawing from nature, designed to illustrate the lesser omentum. I sketched it from a very spare cadaver to represent the three distinct divisions of the gastro-hepatic ligament. The liver is lifted upward by two hooks. 1 is what I term ligamentum phrenico-œsophageous; 2 is what I term pars tendineus (of the lesser omentum); 3, ligamentum hepato-duodenale; 4, ligamentum hepato-renale; 5, pars flaccida (of lesser omentum). It is a thin, fine veil, transparent, and through its walls may be observed, at No. 6, the shimmering outline of the posterior liver lobe or Spigel's lobe. The whole thin, flaccid veil is gathered into folds by a hook fastened near the centre of the lesser omentum. 7 is the liver; 8, gall-bladder; 9, stomach; 10, duodenum. The kidney and adrenal may be seen covered by a prolongation of the ligamentum hepato-duodenale. The probe passes through Winslow's foramen (foramen omenti minoris). When the probe, passing through Winslow's foramen,[1] arrives at Spigel's lobe, No. 6, it bends downward. This drawing, in shape, outline, and division of parts of the lesser omentum, may be relied on as being true to nature and a near approach to it for a spare individual. No fat is shown in the drawing in order that no structures would be obscured. The stomach is held slightly on a tension.

It may be of interest and surprise to many to learn that the literature concerning the gastro-hepatic omentum is not only limited, but of little value. I have read Gray, Quain, Morris, Aeby, Hyrtl, Henle, Luscha, and many others, yet only a bare statement of origin and insertion can be found in those anatomies, with the idea that it is a double membrane. Even the historical J. Mueller only writes the following short sentence (in German, in 1834), in regard to the lesser omentum: "On the upper part of the smaller curvature the blades again meet and form a united fold reaching to the liver." This is rather a short note for a German anatomist. The ever-memorable Huschke said, in 1844: "The lesser omentum is the result of the separation of the liver from its embryonic connection with the stomach and is the anterior right and upper, while the gastro-splenic ligament is the greater omentum and the posterior left and lower."

This comparison of spleen and liver as regards omenta is of little value, and I rather think, misleading. The spleen and liver do not develop similarly. I examined with some care about twenty-five text-books on anatomy published during the past ninety years, but scarcely any give even a common description of this peritoneal support. Gegenbauer's "Anatomy," German edition of 1888, gives a good but very short account. However, Gegenbauer's views are comprehensive, suggestive, and accurate.

Kölliker says the lesser omentum is a true liver mesentery. The master of anatomy, Henle, passes over the lesser omentum with very few words, but he gives an excellent drawing of the same in the second volume of his "Anatomie," page 899. From the above authors it may be said that the literature relating to the ligamentum gastro-hepaticum is quite barren. Toldt, formerly of Prague, now of Vienna, is the only one I am aware of who has studied the lesser omentum to any considerable extent. However, Toldt's excellent remarks are unfortunately very short, covering less than two pages. My studies of the lesser omentum were carried on with embryos of humans and animals, children, adult humans, and several species of adult animals. If one will study the lesser omentum on spare cadavers it will be very plain to observe that the ligamentum gastro-hepaticum is composed of three distinct parts. The lower ribs should be removed, and sufficient amount of the right and left liver lobes to secure ample room to expose the whole anterior surface of the ligament as it stretches between the lesser gastric curvature and the transverse fissure of the liver. I shall divide the ligamentum hepato-gastricum, or lesser omentum, into three parts for convenience of description, and also to call attention to its difference of construction. The first or upper portion I shall term the pars tendineus (Byron Robinson); the second or middle portion may be named the pars flaccida (Toldt); the third or lower part will be called pars hepato-duodenale (ancients).

The ligamentum gastro-hepaticum or lesser omentum

[1] Jacques Bénigne Winslow (1667-1769), professor of anatomy at Paris.

is a duplicature of peritoneum extending from the lesser curvature of the stomach to the transverse fissure of the liver.

As this double-bladed fold of peritoneum is only a short segment of a long fold which separates at one end to enclose the liver and the other end to embrace the stomach, we can select at will which is to be termed origin, and which insertion. As the liver is more fixed than the stomach, one might term the transverse fissure of the liver, or better, the inferior vena cava (*ligamentum venosum*), as the line of origin. The lesser curvature of the stomach being more movable, might be termed the line of insertion. However, it would probably conduce to a more definite anatomical purpose to consider the origin at the lesser stomach curvature and the insertion at the transverse fissure of the liver, because the liver is more distal than the stomach, and also because the stomach was originally probably more fixed than the liver.

To make the subject of the gastro-hepatic omentum more clear and definite we will introduce several figures. As a few pages will cover all the literature which I have been enabled to find even in the extensive Newberry Library, we shall be required to rest chiefly on our own investigations for resources. Our examinations of the lesser omentum covered over one hundred bodies of men, dogs, cats, pigs, horses, cows, etc. The gastro-hepatic omentum is very similar in shape, structure, and outline in all these animals. We will take up the description of the lesser omentum from its four borders and two surfaces.

The lesser omentum has a very uncertain variation in one of its borders, which is the right border of the pars hepato-duodenale. The variation consists in the right border of the pars hepato-duodenale extending or merging into the ligamentum hepato-colicum. This last-named ligament is brought into existence by the growing cæcum travelling toward its home in the right iliac fossa. The cæcum displaces forward the right or anterior serous layer of the meso-duodenum. The ligamentum hepato-colicum may become so large that it extends from the hepatic flexure of the colon to the top or fundus of the gall-bladder, in which case three to five inches of a double-bladed peritoneal fold is added to the ligamentum hepato-duodenale.

The ligamentum hepato-colicum no doubt plays an important rôle in circumscribing inflammations around the gall-bladder, besides aiding to conduct escaped gall-stones between its blades into the colon. I have observed the ligamentum hepato-colicum when it entirely enveloped the gall-bladder, and in some cases presented a real mesentery of several inches between the colon and the gall-bladder, and of one-half to one and one-half inch long mesentery between the gall-bladder and liver. In such cases the gall-bladder is suspended entirely between the blades of the ligamentum hepato-colicum, analogous to the position of the stomach or transverse colon between the blades of the omenta. The extension of the right border of the pars hepato-duodenale into the ligamentum hepato-colicum is a frequent variation. The accompanying cuts will aid in comprehending the shape, position, and utility of the lesser omentum.

Figure 2 is a schematic drawing to represent liver developing in the anterior mesogaster or gastro-hepatic omentum. It is a cross-section of the body. 1 is the posterior mesogaster passing from the dorsal wall to embrace the stomach, No. 2. After the stomach is enveloped by the double-bladed posterior mesogaster, the blades again come in contact with the stomach; 2, and the liver, 3, are the part of the anterior mesogaster not yet widely separated by the growing liver. 5 shows the anterior division of the non-closed peritoneum. This aperture at 5 in the peritoneum will finally represent the division between the upper and lower coronary ligaments, *i.e.*, the portion of the liver uncovered by peritoneum. In order to understand this view one must conceive that the liver has enormously shrunk and rotated extensively to the right. Also that the process is much changed by the growing diaphragm. The point at 5 will, of course, represent the place where exists the ligamentum suspensorium hepatis containing the ligamentum teres hepatis (the atrophied remains of the vena umbilicalis). The liver in the fœtus originally reached to the umbilicus, where the umbilical vein reaches the navel. Afterward the liver rapidly atrophies, and the enclosed point of the anterior mesogaster is rotated upward and backward to the point where the liver is not covered by peritoneum in the adult, *i.e.*, between the upper and lower coronary ligaments.

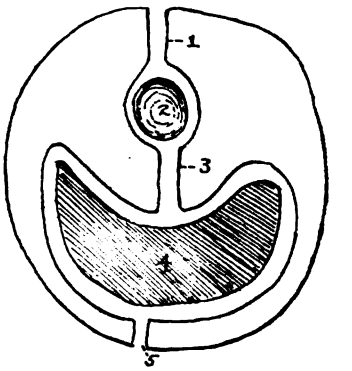

FIG. 2.—A Horizontal Illustration of the Developing Ligaments of the Liver.

Figure 3 is another schematic drawing to represent the gastro-hepatic omentum, liver, and suspensory ligament of the liver after the atrophy and rotation of the liver to the right; we now look at the gastro-hepatic omentum from its left or anterior surface. A is the stomach; B, the posterior mesogaster; C, anterior mesogaster (gastro-hepatic omentum); D, liver; L, suspensory ligament of the liver; U, umbilicus; H, hepatic artery. It will be observed from the figures that vessels enter and pass from the liver at two points, viz., (*a*) at the point where the gastro-hepatic omentum reaches the transverse fissure of the liver vessels, nerves, and ducts pass to and from the liver; (*b*) at the point of the liver where it is uncovered by serous membrane, the vessels again pass to and from the liver as the vena cava. The peculiar embryologic and adult condition of the liver accounts for its position in the anterior mesogaster or lesser omentum. The liver first budded out of the duodenum and its duct (the gall-duct) soon left the liver with a long, narrow style. Very early in the embryo the liver is enormously large, but quickly after birth it rapidly shrinks, and in so doing not only changes its position, but alters its peritoneal connection in such a manner that in adult life the uncovered portion of the liver looks backward to the diaphragm. Concerning the peritoneal covering of the liver beyond the transverse fissure we have, at present, nothing further to say, though the ligamentum suspensorium hepatis was originally a part of the anterior mesogaster.

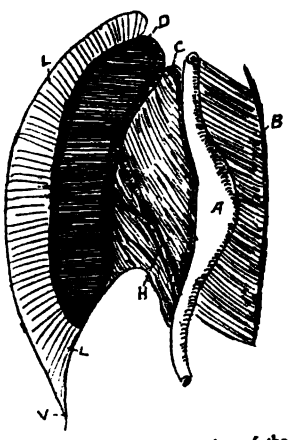

FIG. 3.—A Lateral Illustration of the Developing Ligaments of the Liver.

Figure 4 (after Henle, 1873) is an illustration of the anterior surface of the pars flaccida of the lesser omentum with the lobe of Spigel shimmering through its walls. The figure was designed to show the upper abdominal viscera by a frontal cut passing through the liver. 1, hepatic flexure of colon; 2, liver; 3, segment of gall-bladder; 4, ligamentum coronarium hepatis; 5, pylorus; 6, ligamentum teres cut through while enclosed in the substance of the liver (a kind of pars hepatis); 7 points to Spigel's lobe of the liver shimmering its outline through the pars flaccida of the gastro-hepatic omentum; 8, ligamentum triangulare sinistrum; 9, upper end of stomach; 10, diaphragm; 11, ligamentum

phrenico-gastricum (or better ligamentum phrenico-œsophageum); 12, ligamentum gastro-lineale; 13, spleen; 14, ligamentum phrenico-lineale; 15, ligamentum phrenico-colicum; 16, colon transversum; 17, ligamentum gastro-colicum; 18, gastro-colic omentum. This natural figure merits study.

Figure 5 (after Henle, 1873) is a representation of the posterior face of the gastro-hepatic omentum. The stomach is thrown upward and the colon transversum is dragged downward. A probe is passed through the foramen of Winslow (or foramen omenti minoris). The whole of the anterior wall of the lesser omental sac is cut away, as may be seen by following the line marked +. This is a very fine cut, worthy of study. 1, right liver lobe; 2, gall-bladder; 3, posterior wall of stomach; 4, posterior blade of the gastro-hepatic omentum; 5, Spigel's lobe of the liver; 6, pancreas; 7, spleen; 8, the part of the spleen covered by the lining of the lesser omental bag; 9, vena linealis; 10, colon transversum; 11, great omentum; 12, anterior or upper blade of the meso-colon transversum; 13, first flexure of the duodenum. The sound may be observed projecting through an oval aperture as also Spigel's liver lobe. This aperture I have termed Huschke's foramen in honor of the German anatomist who first gave the real scientific description of the peritoneum, in 1844. We may also term this aperture the foramen omenti majoris. Huschke's foramen is bounded by a vascular ring composed of the gastric artery above, the hepatic below, and the pyloris artery to the right; or it is bounded by the lesser curvature of the stomach, the ligamentum gastro-pancreaticum, and the pylorus.

Figure 6 (after Testut, 1894) is an excellent illustration of the gastro-hepatic omentum. The cut, however, does not show the upper portion, or pars tendineus. A probe is passed through the foramen of Winslow or foramen omenti minoris. 1, liver, right lobe; 2, left liver lobe; 3, quadrate lobe; 4, Spigel's lobe, shimmering its outline through the semi-transparent gastro-hepatic omentum, or anterior mesogaster; 5, stomach dragged downward while the liver is dragged upward; 6, duodenum; 7 is the pars hepato-duodenale, the real neuro-vascular pedicle of the liver, containing the hepatic duct, artery, portal vein, lymphatics, and nerves necessary for the maintenance of the liver. The right border of the pars hepato-duodenale bounds the foramen of Winslow. It is drawn in the figure so as to show its distinct outline and strength. Its sharply defined left border is observable where it merges into the pars flaccida. 8 (and 4) mark the pars flaccida, the transparent, lax portion of the gastro-hepatic omentum, through whose translucent walls may be seen the outline of Spigel's lobe, and the sound which has passed through the foramen omenti minoris. 9 is a slightly exaggerated illustration of the ligamentum hepato-renale; 10, right kidney; 11 right adrenal; 12, gall-bladder; 13, umbilical vein; 14, sound passing through the orificum epiploon, and its end may be observed in the atrium bursa omentalis or bursa omenti minoris.

Fig. 7 (after Henle, 1873) is an illustration of another form of the gastro-hepatic omentum on account of its different position, due to dragging the liver and colon out of their natural relations. It is a frontal view after the removal of the anterior abdominal wall. 1 is a beautiful representation of the suspensory ligament of the liver drawn to the left; 2, gall-bladder; 3, left liver lobe; 4, ligamentum teres hepatis; 5, blind sac of the stomach; 6, ligamentum hepato-duodenale; 7, ligamentum hepato-gastricum—*i.e.*, the pars flaccida, the transparent loose membrane lying precisely between the lesser stomach curve and the transverse fissure of the liver laterally, and between the ligamentum hepato-duodenale and the pars tendinea vertically. In the figure it lies between the duodenum and the lesser stomach curve on account of disturbed visceral relations; 8, lower end of spleen; 9, pylorus and beginning of duodenum; 10, meso-colon transversum; 11, colon transversum; 12, lower end of ilium; 13, vermiform appendix; 14, cæcum; 15, peritoneal covering of the right kidney; 16, ligamentum hepaticum triangulare dextrum; 17, hepatic flexure of colon; 18, upper flexure of duodenum; 19, the peritoneum on the under surface of the diaphragm. A portion of the anterior right liver lobe is cut away so as to expose the right border of the ligamentum hepato-duodenale and Winslow's foramen, which lies to the right and posterior to its edge. It may be observed at this point that the real opening, or Winslow's foramen, is an exact cone or funnel-shaped figure. Its first boundary is the ligamentum hepato-renale (see 15 in Fig. 4, and Nos. 3 and 4 in Fig. 1) and the ligamentum hepato-colicum, which is merely an extension of the ligamentum hepato-duodenale. The second opening, or the generally accepted one by anatomists, is that bounded by the ligamentum gastro-duodenale in front, and behind by the vena cava inferior

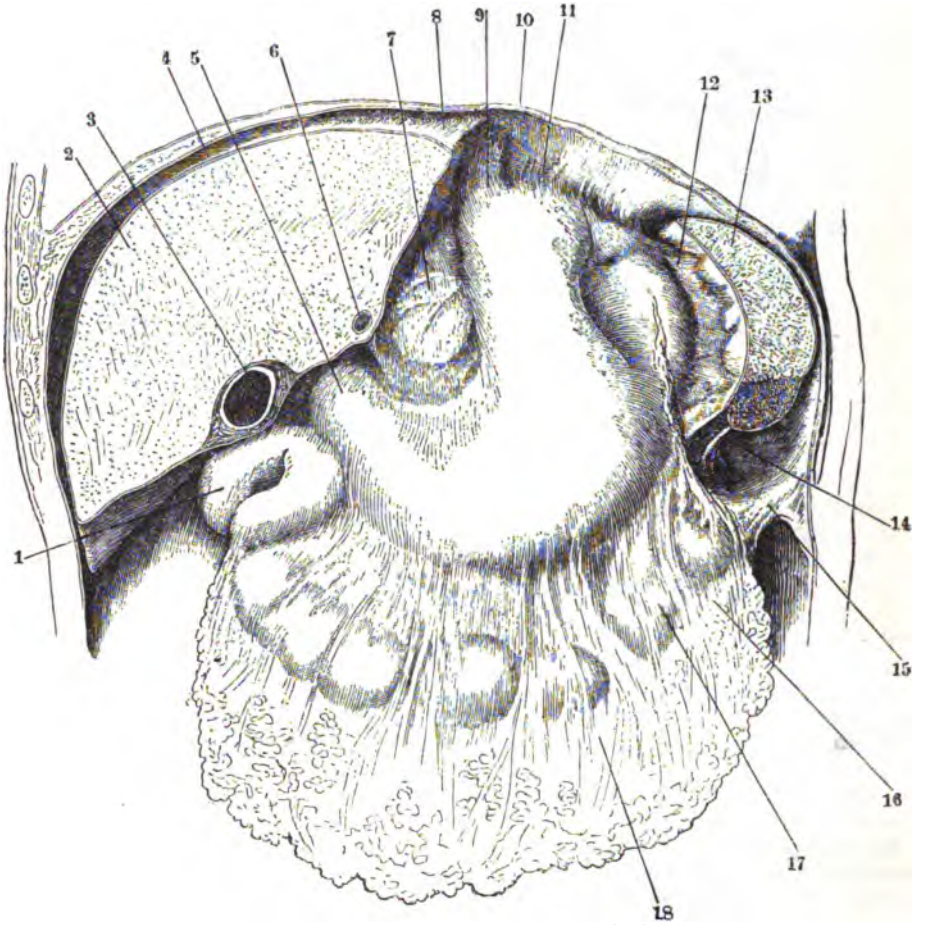

FIG. 4.—An Illustration of Hepatic, Gastric, and Splenic Ligaments.

Fig. 8 is a representation of the outlines and surfaces of the ligamentum gastro-hepaticum. 1, pars tendinea; 2 (and 5) show the pars flaccida drawn up into folds

by the two hooks (8 and 9); 4 shows the lower concave border of the pars tendinea merging into the pars flaccida; 6, 10, and 11 show the hepatic border of the lesser omentum at the transverse fissure of the liver; 5

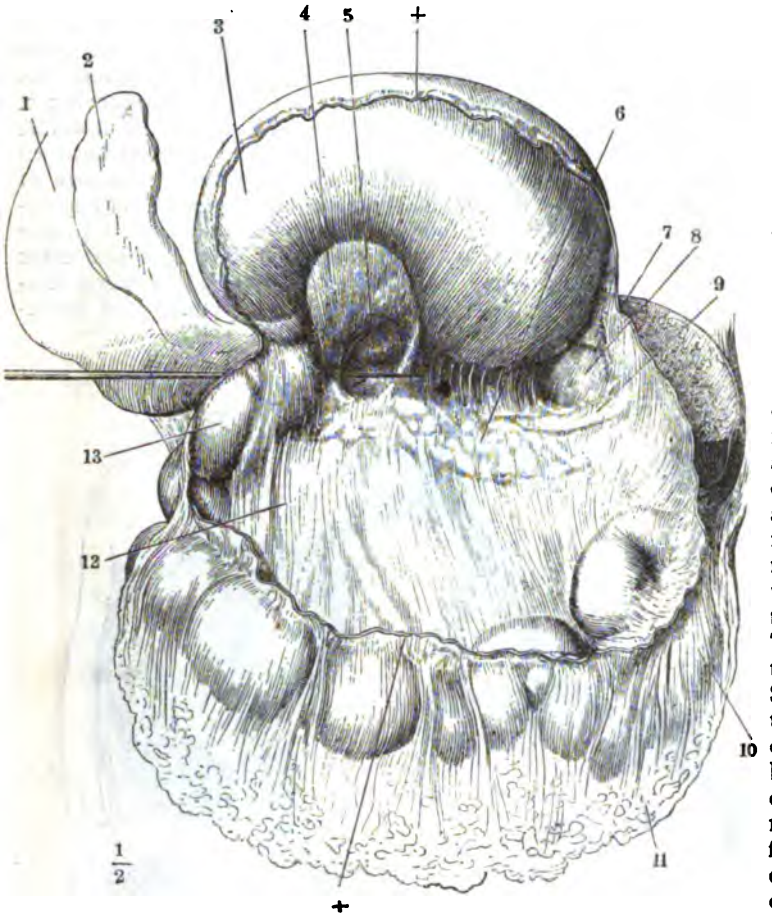

FIG. 5.—An Illustration of the Interior of the Lesser Omental Cavity.

is the border of the pars hepato-duodenale merging into the pars flaccida. Note that the fibres on the borders of the pars tendinea and pars hepato-duodenalis are directly continuous with each other at the transverse fissure of the liver, and that the pars flaccida is a mere epithelial transparent septum closing up the gap between these two strong, ligamentous structures; 12, hepatic artery; 13, portal vein; 14, cystic duct—all three enclosed with nerves and lymphatics in Glisson's capsule (Francis Glisson [1597–1677], professor of anatomy at Cambridge, England). This figure is drawn from nature, while the stomach and liver are held well apart, putting the lesser omentum on a stretch. The present figure was drawn from an adult of some sixty years of age. The stomach boundary at No. 7 is generally more prominent than the figure indicates.

The boundaries of the lesser omentum are four: (*a*) The left boundary passes from the diaphragm downward along the œsophagus to the lesser stomach curve. This includes the whole left border of the pars tendineus. The boundary continues along the lesser curve of the stomach to the pylorus, and includes all of the left border of the pars flaccida. The boundary of the left border continues on into the pars hepato-duodenalis, and includes the whole breadth of this ligament. Hence this left border of the gastro-hepatic omentum stretches from diaphragm to duodenum along the edge of the three distinct parts—pars tendinea, pars flaccida, and pars hepato-duodenalis. (*b*) The right border of the lesser omentum is simply the transverse fissure of the liver and ligamentum venosum. By forcing the liver upward and dragging the stomach downward, the finger and the eye can easily follow the right border of the lesser omentum from the right edge of the ligamentum hepato-duodenale to the diaphragm. The right border is rather thicker and whiter than the adjacent portion of the lesser omentum. (*c*) The superior border of the lesser omentum is almost a point in contact with the under surface of the diaphragm. It is the upper end of the pars tendinea. It is the point where the transverse fissure of the liver converges with the right border of the œsophagus. It is frequently, instead of a point, a border of one-half to one and one-half inch long. (*d*) The lower border of the lesser omentum is its free border, or the border of the pars hepato-duodenalis, which transmits the hepatic structures (veins, vessels, and nerves). It is the uncertain, the variable border. It is the border of the lesser omentum which forms the anterior circumference of the foramen omenti minoris, or Winslow's hiatus. The inferior border extends from the point of the duodenum between the first ascending portion of the pars descendens duodeni and the lower end of the transverse fissure of the liver. This border is round, thick, and smooth. The variation of the border is chiefly through its extension into the ligamentum hepato-colicum, when that structure exists. The border also varies with the size and condition of the gall-bladder. This ligamentum hepato-colicum varies from the neck of the gall-bladder to its fundus. Sometimes a very thin double fold of peritoneum will project one-half to two inches, or even more, beyond the smooth, round border of the ligamentum hepato-duodenale. This projecting double fold may not reach to the flexura hepatis coli, nor form any part of what one can definitely designate as the ligamentum hepato-colicum. The lesser omentum should be designated ligamentum hepato-duodeno-œsophago-gastricum to indicate its origin and insertion.

The surfaces of the gastro-hepaticum are two—posterior and anterior, or right and left. The left or anterior surface is what one sees when the liver is lifted

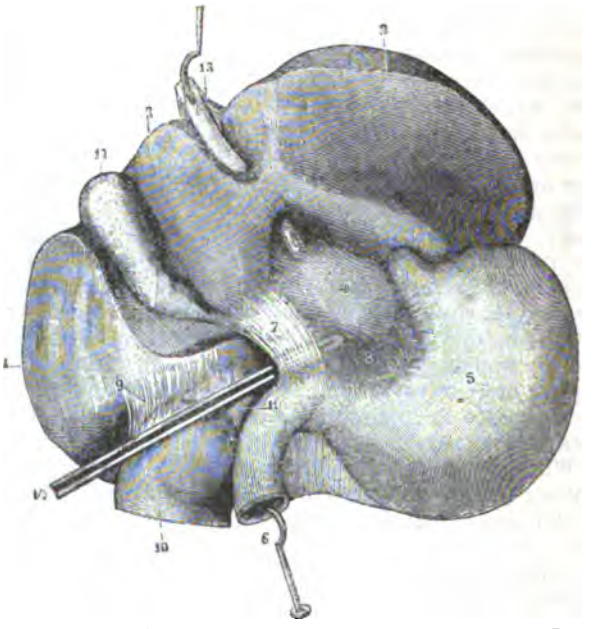

FIG. 6. — An Illustration of the Peritoneal Folds Connecting the Kidney, Duodenum, and Stomach to the Liver.

well upward and the stomach is slightly downward and to the left. The noticeable feature on first sight is the three distinct divisions, viz., the upper milk-white triangular tendinous portion lying between the œsopha-

gus and liver; the middle loose, flaccid, transparent, veil-like portion situated well in the lesser curve of the stomach, and through its walls the outline of the Spigel lobe shimmers—fat is apt to collect around the borders of this pars flaccida; finally, the lower portion of the anterior surface of the pars hepato-duodenalis, darker in color, more massive and thick in appearance, which appears to drag the duodenum toward the liver. It is smooth, gradually merges into the pars flaccida on one side, and its generally rounded free edge, which bounds the orificium epiploicum, may merge in various degrees into the ligamentum hepato-colicum. The anterior surface varies very much in the centre from the mobility of the Spigel lobe and the stomach itself, by emptying and filling. The surface increases by age (over forty) and especially by visceral prolapse. The surface reaches from the œsophagus to the gall-bladder and comprises quite a number of square inches in normal adult subjects, but in visceral prolapse may be even doubled in amount of presenting surface. The posterior or right surface is almost a duplicate of the anterior, but in general is smooth on account of the continual gliding of Spigel's lobe on it by respiration, emptying and filling of the stomach and viscera, and voluntary motion. It presents the same outlines of three anatomical divisions, but the demarcations are not so distinct. Peritonitis is apt to occur nearly always at the lower portion of this surface on account of the three points, gall-bladder, flexura hepatica coli, and the pylorus; from each of these three points infection may invade. In the following three paragraphs we will note the chief feature of each one of the three divisions of the ligamentum gastro-hepaticum.

Fig. 9 (after Henle, 1873) is a figure of a child showing the abdomen open and the liver well thrown up by dragging on the ligamentum teres, Lt. The peritoneal fold (ligamentum hepato-duodenale), which contains the duct and vessels of the liver, is split open to show the structures and relations. A probe is passed into the so-called Winslow's foramen. A, anterior liver lobe; Lt, ligamentum teres in its peritoneal fold, the ligamentum suspensorium hepatis; S, lobus sinister hepatis; V, stomach; Ct, colon transversum; D, duodenum; Ah, arteria hepatica; Vc, vena cava; Dch, ductus choledochus; Dh, ductus hepatis; Dc, ductus cysticus; D, lobus dexter. 1, ligamentum hepato-gastricum; 2, ligamentum gastro-colicum; 3, ligamentum hepato-duodenale; 4, ligamentum hepato-renale. This excellent cut merits study.

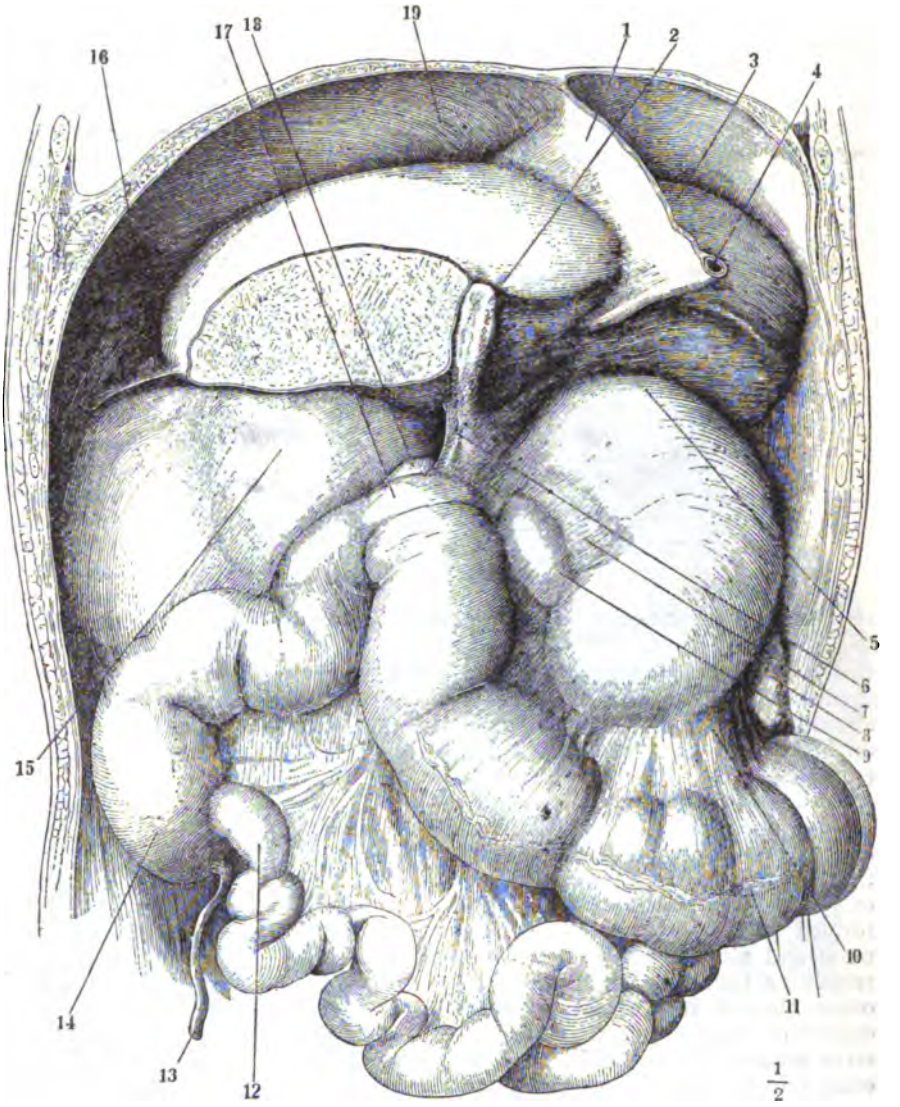

FIG. 7.—An Illustration of the Suspensory and Lateral Ligaments of the Liver.

The pars tendinea (Robinson) is the first or upper portion. It is known by its milk-white dense appearance. In adults, so far as my measurements are concerned, it averages two inches from top to bottom. The pars tendinea stretches from the œsophagus to the transverse fissure of the liver. It loses itself in the coronary ligaments and also in the suspensory ligaments of the liver. The surface of the pars tendinea is covered anterior and posterior by a shining serous, peritoneal layer. I could separate this serous layer from both the anterior and posterior surfaces quite easily. Between the two thin, serous layers lies the membrana mesenterii propria, or a very similar structure. The structure consists of dense, white connective tissue closely woven together. Its lower edge, reaching two inches below the diaphragm, along the right border of the œsophagus, is sharply defined and of a concave outline. The pars tendinea not only inserts itself into the œsophagus, but many of its fibres are inserted into the cardiac part of the stomach. As it passes toward the liver it apparently passes to the transverse fissure of the liver, but its real insertion is in dense tissue surrounding the inferior hepatic vein (ligamentum venosum). It must not be forgotten that the liver is really held in position by the connection to the inferior vena cava. All other ligaments may be cut away, yet the ligamentum venosum will retain the liver in its position. Hence, this will explain why the pars tendineus has its real insertion in the ligamentum venosum. The pars tendinea is also a passageway for blood-vessels, lymphatics, and nerves to the liver. The gastric artery and the vagus nerves can easily find routes to reach the liver by way of the pars tendinea. It can be plainly observed on a spare adult cadaver that the upper portion of the lesser omentum, the pars tendineus, merges into the coronary and suspensory ligaments of the liver. The pars tendinea is recognized by its milk-white color, its tendinous and glistening appearance. It is a dense, solid connective-tissue structure, situated between the right border of the œsophagus and the transverse liver fissure, and at the

upper part of the lesser omentum. It consists of three lamina or plates. The central one (membrana mesenteri propria) is the chief one for bulk and strength. Its origin is the right œsophageal border, and its insertion is in the ligamentum venosum on the connective tissue surrounding the vena cava. The pars tendinea, about two inches perpendicularly, is covered or faced on both sides by a very thin, shining serous layer of epithelial cells. I could easily separate both serous layers from the middle one. The lower border is concave downward and shapely defined in outline. In my examinations of fœtuses the pars tendinea is well formed by the fourth month, but more and more distinct through the remaining fœtal months. One can often observe this structure much earlier in some fœtuses. After the sixth month of fœtal life, when all essential peritoneal structures are completed, the pars tendinea is fairly plain. But, in my experience, the pars tendinea is most distinct in spare children. In children the upper part of the lesser omentum is very white, dense, distinct in outline, and very strong. After adult years (forty) the structure does not show such a plain and definite outline, and some portions may be absorbed, producing an atrophied, irregular condition. Fat accumulates in this structure very sparingly. Toldt mentions that he has observed apertures, due to absorption, in the upper portion of the lesser omentum, but I have noted this structure from fœtuses up to old age, and have never yet observed atrophic apertures in it.

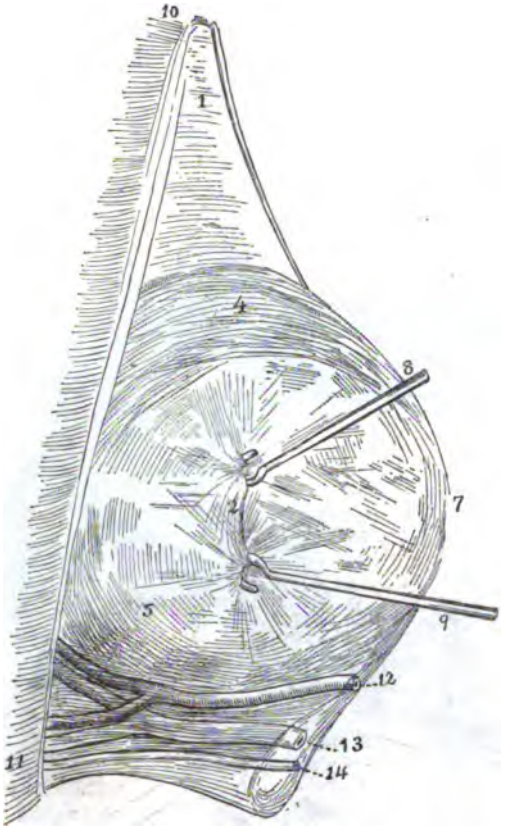

FIG. 8.—An Illustration of the Outlines and Surface of the Ligamentum Gastro-hepaticum.

The pars tendinea is bordered below and to the left by a sharp, distinct, concave border, where it merges into the pars flaccida. Its anterior and posterior surfaces are covered by a delicate, fine layer of epithelia or peritoneum paper. The middle layer, membrana mesenteri propria, is the essential layer to support and convey vessels, nerves, and lymphatics. This may be considered a secondary or collateral route to the liver for nerves and vessels. In the pars tendineus may be found branches of the vagus nerves passing to the liver. The branches of the gastric artery of various sizes may be seen imbedded in the membrana mesenteri propria of the pars tendinea. This structure also conveys lymph-vessels from the liver to the great lymph-channels. I have observed in some cadavers that the veins in the pars tendinea vary very much. In some bodies I found the veins actually double that of similarly sized bodies. This convinces one that the vessels in the pars tendinea of the lesser omentum are duplicates or compensatories of the actual hepatic vessels. These vessels (and nerves) serve to balance the liver circulation. With an overloaded liver they can act as secondary depletors both as to blood and lymph, and since the venous part varies so much in size in different bodies, it indicates that the vessels share and participate in the activities, depressions, and diseases of the liver. In the unborn and born human infant the pars tendinea is sharply defined, as it is also in the latter months of gestation and new-born of the dog, cat, and horse. It may be observed that with increasing adolescence, and especially in adult human life, the tendinous and fibrous structure of this portion of the omentum may atrophy so that one can notice an uneven condition of its surface bundles of distinct fibres with intervening depressions, particularly at its lower concave base. The posterior surface of the pars tendinea is less in extent and shorter than the anterior surface on account of the introduction of some subperitoneal tissue, and also from the liver bulging into the part from behind, also probably from some adhesive peritoneal inflammation at the borders of the reflected peritoneum, whence it passes to line the posterior surface of the lesser omental cavity. The pars tendinea forms the anterior wall of the upper portion of the antrium bursa omenti minoris. One can insert generally two or more fingers into the cavity behind the pars tendineus behind its base, gradually opening so that the point of the index-finger fills the cone-like cavity at the upper end just be-

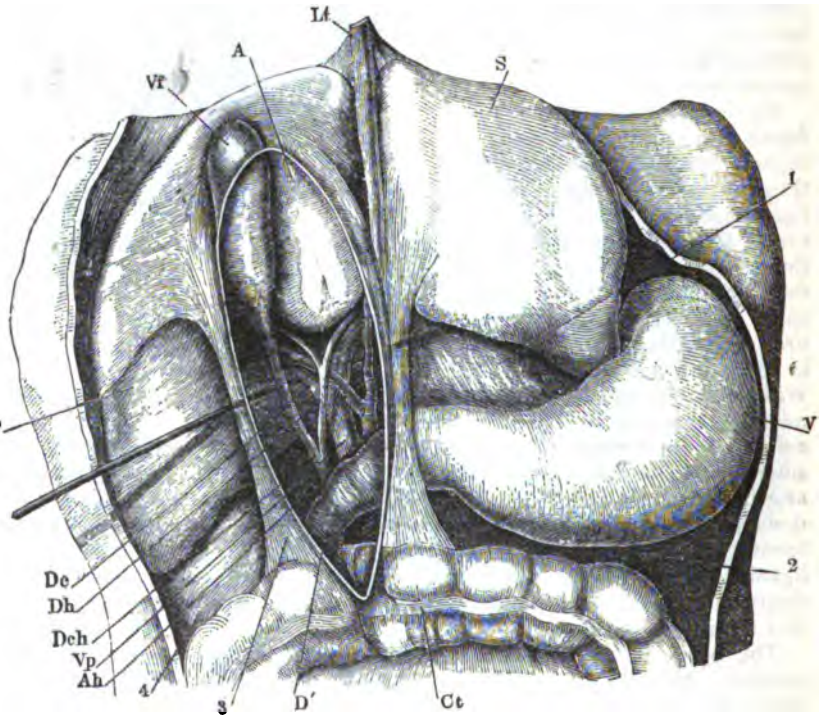

FIG. 9.—An Illustration of the Peritoneal Connection of the Liver in Adolescence.

low the diaphragm. I have seldom found (*e.g.*, in one hundred autopsies) any visible traces of distinct peritonitis in the pars tendinea. It does present a kind of peculiar atrophy in various regions, but, contrary to Toldt, I never saw a single perforation in the pars tendinea in any age. The pars tendinea varies considerably in thickness and strength in individuals. In shape the pars tendinea is an isosceles triangle with a concave base. It is analogous to the ligamentum phrenico-œsophageum, and situated on the left side of the œsophagus.

The origin of the pars tendinea is not yet definitely ascertained. Some look on it as the remnants of the meso-cardium posticum; others as the remains of the mesentery in which traversed the vena omphalo-mesenterica. It may be a relic of connection between the ligamentum venosum with the diaphragm, as in some infants I could distinctly observe the fibres passing from the ligamentum venosum to the diaphragm. It must be remembered that the original neuro-vascular pedicle of the liver is at the duodenum and is enclosed in the ligamentum hepato-duodenale. The pars flaccida and pars tendinea must then during development be acquired. It is an addition. It might be, though, derived from the diaphragm analogous to the acquisition of the ligamentum phrenico-œsophageum of the left side. Owing to the still unsettled knowledge in regard to the development of the diaphragm and liver, the origin of the pars tendinea is also indefinite. The blood-vessels do not form arcs and arcades in this portion, nor have I found definite lymph-glands.

Fig. 10 (after Luschka, 1863) represents a good view of the lesser omentum. The anterior or left blade is cut away at 21. The figure shows well the ligamentum hepato-colicum at 19. 1, right liver lobe with the impressio-renale in it; 2, left liver lobe; 3, lobus quadratus; 4, gall-bladder; 5, ligamentum hepatis; 6, stomach; 7, right kidney; 8, colon transversum; 9, diaphragm; 10, outline of vena cava inferior; 11, portal vein; 12, ductus choledochus; 13, hepatic artery; 14, recessus hepato-renalis; 15, hiatus Winslowii; 16, ligamentum triangulare hepati dextrum; 17, ligamentum hepato-renale; 18, ligamentum hepato-duodenale; 19, ligamentum hepato-colicum; 20, ligamentum duodeno-renale; 21, posterior blade of omentum minus. This figure shows typically the peritoneal connection of the liver, stomach, duodenum, and kidney. However, the suspensory ligament of the liver is drawn well to the left.

2. The pars flaccida (Toldt), or middle portion of the lesser omentum, is the next division for consideration. This part could be called very appropriately the ligamentum gastro-hepaticum. However, the structure itself has not the slightest resemblance to a ligament. It is one of the thinnest double folds of peritoneum in the body. It is a delicate, transparent, loose, fine layer of tissue resembling peritoneum. It is very easy to observe the outline of Spigel's lobe shimmering through its walls. This double-bladed plate of peritoneum does not resemble it so much as other portions of the serous sac. It has no arcs or arcades of blood-vessels like the mesentery. However, one can plainly see with the naked eye fine blood-vessels, coursing through it in various directions, with fine deposits of fat lessening as they recede from the blood-channels. It looks more like connective tissue than any other part of the peritoneal membrane. It resembles quite considerably the sub-peritoneal planes of meso-blastic tissue, especially those lying behind the peritoneum, between kidney and crest of the ilium. The pars flaccida has a sharply defined border along the ligamentum hepato-duodenale, along the transverse fissure of the liver, and along the under concave border of the pars tendineus. On the sharp edge of each of these three borders the superficial epithelial layers of the pars flaccida pass over the anterior and posterior borders as the so-called serous covering. The pars flaccida is so thin that very little membrana mesenterii propria exists—principally the two superficial epithelial layers. The border along the lesser curvature of the stomach is not so definitely defined. It is more like other peritoneal mesenteries, and is generally possessed of considerable fat deposit. Its layer at this curve is frequently manifestly thickened with white connective tissue, as it is frequently observed in the horse. At the small stomach curve the two peritoneal blades diverge to embrace the anterior and posterior surfaces of the stomach. Nerves and lymphatic vessels are very small, and not many are visible to the naked eye. I have observed no distinct lymph-glands in this membrane. Its two surfaces differ but little from each other; both are smooth, shining, and moist.

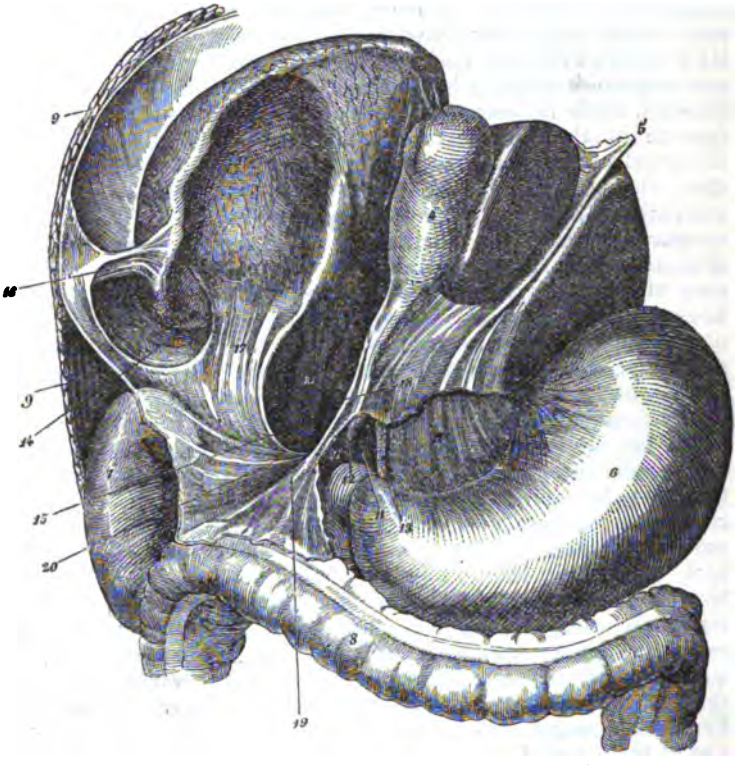

FIG. 10.—An Illustration of the Peritoneal Connection of the Liver.

The origin of the pars flaccida is the lesser curvature of the stomach. It is simply a union of the anterior and posterior blades of the peritoneum as they pass to the right from the stomach. The insertion of the pars flaccida is into the transverse fissure of the liver and the ligamentum hepatico-duodenale. Its origin is the lesser curvature of the stomach. The upper border of the pars flaccida merges into the pars tendineus by simply allowing its serous blades to divide, whence they then cover the pars tendineus on the anterior and posterior surfaces of the ligamentum hepato-duodenale. This portion of the lesser omentum is called pars flaccida on account of its extreme lax appearance and loose folds. It is as transparent as glass and delicate as a cobweb. The apparent cause of this excessive fold is the Spigel lobe of the liver. In fœtuses this factor is much plainer than in adult life. Spigel's lobe is quite large, and in very early fœtal life, and also the forcing downward of the stomach by the liver, as well as the distention and contraction of the stomach, keeps up a stretching of the double-bladed membrane. Motion and pressure are the causes of the pars flaccida being so abundant in its surface. It may be noted that the

gastric artery never divides into arcs or arcades in the pars tendinea and flaccida (lesser omentum) as the arteries do in the great omentum. Fat is very scarce in the pars flaccida, and towards its centre the double-layered membrane becomes very thin. In several cadavers I have found large apertures in the pars flaccida. The apertures had rounded, smooth borders, and would admit the index-finger. The pars flaccida, like the great omentum, is liable to frequent local atrophies and consequent perforations. In the numerous small apertures found in its walls it resembles the great omentum sufficiently to be named an omentum, or net, as the Germans call it. In advanced adult life dozens of small, irregular holes may be observed in a single pars flaccida. The pars flaccida is the anterior boundary of the antrum bursa omentalis minor. The space it encloses easily holds a fist in an adult. The space contains a viscus—Spigel lobe.

3. The pars hepato-duodenalis is the third and lowest portion of the lesser omentum. The origin of the pars hepato-duodenalis is the upper portion of the duodenum and lower end of the stomach. Its insertion is the transverse fissure of the liver, or rather in the ligamentum venosum. It merges into the pars tendinea, as one can easily prove by pulling on it, whence its insertion will show itself. The upper border of the pars hepato-duodenalis is the lower border of the pars flaccida, while its lower border is a part of the circumference of the hiatus Winslowii. The pars hepato-duodenalis contains the hepatic artery, the hepatic duct, the portal vein, lymphatics, and bundles of the sympathetic nerves, the whole being bound together by connective tissue and covered by a thin, serous layer of epithelium. The ligament forms the anterior boundary of Winslow's foramen, which generally admits two fingers in adults. It is a strong, thick ligament. The upper border of the pars hepato-duodenalis is generally somewhat sharply defined, but its lower border is broad, round, and smooth, surrounding a part of Winslow's foramen. To see the lesser omentum in an autopsy, lift up the liver and draw down the stomach, whence the three distinct portions of the lesser omentum can be viewed. The ligamentum hepato-gastricum is the anterior mesogaster. It is the double-layered membrane in which the liver developed in very early embryonic life. The irregular atrophy of the liver has directed this peritoneal duplicature to the right. It originally was in the mid-anterior region. A remnant of the mesogaster antica is the ligamentum suspensorium hepatis. One can prove it by tracing the suspensory ligament to the transverse fissure of the liver. The suspensory ligament arises from the shrinkage of the liver; for, in fœtuses, the liver reaches with its umbilical fissure directly to the navel, while its lobes (right and left) reach down to the pelvis. The lesser omentum is the true mesentery of the liver. The prolapse and dilatation of the stomach is partly due to the elongation of the œsophagus, but also to the elongation of the lesser omentum, especially the pars tendinea. The lesser omentum is as noted for want of fat as the great omentum is for its possession. The lower end of the lesser omentum forms part of the boundary of the foramen of Winslow.

The ligamentum hepato-duodenale is the real neurovascular pedicle of the liver. It formed the neck of this gland as it budded out from the duodenum. About all that I have described in regard to the lesser omentum can be observed in the fœtus of four months and upward. The chief changes of the ligamentum gastro-hepaticum during life are elongation and irregular perforations of the wall in its middle portions. The gastro-hepatic omentum arises after stomach and liver become differentiated. It is therefore a new structure, arising from differentiation and atrophy.

Caffeine has been made artificially, but at considerable cost, by Fischer and Asch.

THE THUMB AS AN INITIAL FACTOR OF CIVILIZATION.

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"*Pollex . . . manus parva, majori adjutrix.*"

Had primitive man possessed hands without thumbs, he would have been a very helpless creature, less capable of self-preservation than the thumbless spider-monkey, which has a prehensile tail useful to it in many ways. Had he possessed thumbs not better developed than those of the anthropoid apes, he could not have made and used weapons of attack and of defence, nor have made improvements in the conditions of his life. Indeed, the most essential difference between the human hand and that of these animals is that the hand of man has a thumb which is moved independently of all the other fingers by means of the long flexor muscle of the pollex, and which enables him, with the aid of the other fingers, to spin, weave, mould, and fashion articles of necessity to the various purposes of his life. It is said that this muscle was called by the late Oliver Wendell Holmes the "muscle of civilization." I believe that Dr. Holmes rightly deserved the distinction of being the first who had the genius to so name it.

No attempt will be made in this article to speculate concerning the evolutionary changes of apish hands, or to offer any suggestions as to how primeval man acquired by elimination, through disuse of certain muscles or otherwise, a separate and distinct single flexor tendon to the flexor longus pollicis muscle. That such an anatomical arrangement does exist in the human hand, and not in the hand of apes, or in that of any other creature, is a well-attested fact; and the result is, that man only can bend his thumb separately from and independently of the other fingers, which makes of it a perfectly opposable member that pre-eminently distinguishes man from all other animals, and made civilization possible. It is beyond our ken to tell how this came about, quite as much so as to explain how the eohippus became the horse of the present day, with its splint-bones as vestiges of a former five-toed and five-fingered animal.

The study of the thumb in its relations to the life of man is an extremely interesting subject. There is quite enough of interest attached to it to command the anxious attention of the physician to any conservative measures which may prevent loss or impairment of the thumb as the result of its disease or injury; and the past and present relations of the thumb to the arts of civilization, and through them to the many material comforts and conveniences of life, are sufficiently important to make this a practical subject to all. Consequently a restricted and comparative study of the human hand with that of apes, as it exists at present, and presumedly existed in primeval times, is not trenching upon the subject of evolutionary development, which required inconceivably long periods of time for its accomplishment, as shown by Haeckel and others, and to which the ordinary span of human life is but as a fleeting moment. I shall assume, therefore, as quite sufficient for my purpose, that primitive man was supplied with a long flexor muscle of the thumb having a single tendon only, and that he had suitable hands adapted to the numerous handicrafts and arts of a future civilized life. Truly this assumption is fully justified by a similar thought figuratively expressed in the following lines, attributed to Cicero, in which the human hands are typified as the serving-maids of numerous arts:

"*Natura dedit homini manus aptas, et multarum artium ministras.*"

The exquisitely shaped vase that takes form under the rapidly moving hand of the expert potter, with the aid of his wheel; the delicate outlines of a beautiful statue which seems to grow into existence, instinct with life, under the chisel of the sculptor, and the pleasing designs and harmonious blending of rich, warm colors which follow the deft use of the weaver's fingers in the making of an Oriental rug or of a Gobelin tapestry—these and a hundred other uses of the hands of man give force and realism to the above quotation, and show that primarily the perfectly opposable human thumb was indispensable to the growth of the intellectual faculties of man and to his civilization.

The flexor longus pollicis muscle of man is the great opposable muscle of the thumb, and might very properly be called the *opponens proprius pollicis*.

The opponens pollicis, more aptly called the flexor ossis metacarpi pollicis, is a weak little muscle of the outer part of the ball of the thumb which feebly flexes and partly abducts the metacarpal bone of the thumb. It is an error to speak of this muscle, which is accessory in its action to that of the abductor pollicis, as an "opponens" muscle. Such errors are misleading, but occur in anatomy as elsewhere; indeed, every practical physician knows that the rectum is misnamed, that it is not straight, and might be more properly called *curvum*.

The remarkable freedom of movement of the metacarpal bone of the thumb, due to the saddle-shaped surfaces of its arthrodial articulation with the trapezium, permits of great mobility of the entire thumb; this mobility is especially useful to the potter and to other artisans in the exercise of their crafts.

A most important structural peculiarity of the human thumb is that the whole of it is in a plane anterior to the rest of the hand, and faces across the extended palmar surfaces of the fingers and hand, so that when the phalangeal parts of the thumb are flexed, by the action of its long flexor, they are bent across the palm of the hand, and not in a direction parallel with the fingers, or nearly so, as in apes.

The short muscles which form the ball of the thumb are very similar in man to those of apes; but in the well-developed, rounded ball of the thumb of artisans they exert a powerful action in drawing the metacarpal bone inward, especially the adductor pollicis and the short bicipital flexor of the pollex. These muscles enable the sleight-of-hand performer to hold and conceal small objects in the palm of his hand, and are exceedingly useful to the mechanic in the handling of tools and in certain manipulations of the artisan.

Two extensor muscles of the thumb, the primi internodii and secundi internodii pollicis, powerfully retract the thumb, and when so retracted the tendons of these muscles form on the back of the wrist a notable depression, at the bottom of which is the radial artery as it curves in its course to form the deep palmar arch. This depression, large enough to hold a pinch of snuff, is the well-known *tabatière anatomique* of French anatomists.

The primi internodii pollicis is absent in apes, but the extensor ossis metacarpi pollicis is excessively developed in these animals, which permits of a more extended retraction of the thumb than in man, and which is especially useful to apes in their arboreal habits of climbing and of grasping of objects.

Indeed the function of the hand of apes is limited to the grasping of objects and to such simple motions as quite unfit it for mechanical or artistic work. No apes, on account of their imperfect thumbs, could balance and throw a spear with accuracy, or discharge an arrow from a bow; none could twirl the distaff and twist a thread of flax with their thumbs and index-fingers.

Even if the higher apes had possessed hands like those of man, it is extremely improbable that they would, on account of their structural dissimilarity to man in other respects, have been his rivals in the struggle for supremacy. Indeed, notwithstanding the generally man-like appearance of the higher apes, none of them are without some structural peculiarities which widely separate them from man; and which make it impossible to trace his descent to any particular kind of ape. As an illustration, the orang, which has the most human-like brain of all apes, possesses very short and imperfectly developed thumbs. It is mentioned by Mivart, as first pointed out by Gratiolet, that the spider-monkeys, which are thumbless and have long prehensile tails, have in their brains the human-like annectent or "bridging convolutions." These folds of brain substance exist in the brain of the orang. The thumbs of the gorilla, of the chimpanzee, and of gibbons are relatively smaller than in man and rather human-like, but they are not better developed than those of the Rhesus monkeys (Macacus); and indeed baboons, the most brutal appearing and lowest of the *Simiadæ*, have better-developed thumbs, and some other parts of their anatomy, as the penis and other organs, are more human-like than many apes above them. It is stated by Mivart that the thumbs of the indris and of typical lemurs, or half-apes, are more completely opposable and better developed than those of any apes. It appears that the organs of apes which most resemble the same organs of man are not all assembled in any one kind of ape, but seem to be confusedly assigned to very dissimilar apes, and even to half-apes, as if to oppose a barrier to those who shall attempt to trace a too near kinship between these animals and man.

In apes the muscular fibres of the long flexor muscle of the thumb and of the deep flexor of the fingers are more or less intimately blended, so as generally to make of these two muscles, which are separate and distinct from each other in man, a single muscle in apes which by its contraction bends the thumb and all of the fingers of the apish hand simultaneously. Hartmann claims that the long flexor muscle of the thumb is absent in the gorilla, chimpanzee, and orang, but may be traced in the white-handed gibbon. This is not confirmed by Huxley; but Hartmann's statement, however, tends to establish more fully the fact that no independent and separately acting long flexor of the thumb exists in apes as in man. According to Hartmann, Langer and Bischoff describe, in addition to the short bicipital flexor of the thumb common to man and apes, a short independent flexor muscle representing the long flexor of the thumbs of apes; but Hartmann states that he has never ascertained the existence of such a muscle. In the orang the thumb is very short and almost rudimentary, as is generally conceded, and has simply a fibrous expansion and no tendon at all to it from the long flexor muscle of the thumb. The loss of this muscle as a thumb muscle, according to Huxley, sometimes occurs in the gorilla; usually, however, he observes, the long flexor muscle of the thumb in the higher apes, as in the chimpanzee and the gorilla, is blended at its origin with the deep common flexor of the fingers, *perforans*, and instead of furnishing a single tendon which goes to the thumb supplies one to it and one also to the index-finger. The result of this, as can be readily perceived, is to make the index-finger and thumb of these apes approach each other independently of the other fingers; in fact, all apes which have this arrangement are able to seize small objects with the index-finger and thumb, as they are known to do in the removal of thorns and burrs and of parasites from the bodies of each other. As mentioned by Darwin and others, this has been often observed, and also that some monkeys open mussel-shells with their two thumbs; others crack nuts with stones and seize sticks and stones and hurl them clumsily at their enemies.

The great toe or hallux of many apes is more developed than their thumbs, which adds greatly to the grasping power of their feet. The spider-monkey, which has no thumbs at all, has a very opposable hal-

lux. This was well observed by me recently in examining a Chameck spider-monkey at the Elitch Zoölogical Gardens of Denver.

The orang, which has such a defective thumb, has an exceptionally well-developed and powerful hallux, like the spider-money. The hallux of the orang has a special muscle to flex it, known as the flexor longus hallucis, and which takes its origin from the external condyle of the femur.

The mutual relationship between the uses of the hands of man and the growth of his intellectual faculties becomes apparent in the study of the correspondence between inventions and the development of the human mind. This is especially noticeable in the study of the origin of civilization, and indeed is appreciably so in the study of the intellectual development of young children.

The natural adaptation of the hands of the child to the handling of its toys is one of the most instructive aids to the growth of the infant mind. Knowledge thus acquired is due to the natural ability of the child, on account of its perfect hands, to handle with facility and accuracy its dolls, wooden soldiers, building-blocks, animals of a Noah's ark, and other playthings at its own sweet will. Indeed, it is the delight of the child to move them about, push them along, and if so disposed to break them to pieces, and aided by its imagination make them serve as symbols of other things. To the child's imagination these objects are, in play, endowed with life and activity, and are real soldiers or living and moving beasts, or represent real houses or castles. Such playful occupations enlarge and give definite shape to the child's ideas, and develop its powers of analysis and of combination. Hence such manual adjustments and combinations of objects, characteristic of the use of the human hand because of its peculiar structure, make it a potent factor in the growth of the intellect. Primarily, without this influence of the uses of the hand on the mind there would necessarily have been an arrest of mental development; hence it is not astonishing that Anaxagoras and some other eminent philosophers thought that man's superiority was attributable to his hand.

From the dawn of civilization to the present time, the growth of the human intellect has been in close and more or less dependent relationship with the different arts and handicrafts of man. The invention of machinery and of labor-saving appliances and the fuller development of the mind has made it apparently the dominant factor in human progress, as it now really is.

The extremely tardy growth at first of the intellectual faculties is shown by the history of early inventions. Mental development was primarily dependent on scant knowledge, irregularly, painfully, and patiently acquired, during enormous periods of time, evidenced by the paucity of inventions and by the immature art discoveries of remote ages. The development of the human mind beyond the intelligence of brutes would never have had a beginning if primitive man had not possessed perfect hands with perfect thumbs, adapted to the use of weapons of attack and of defence and of primitive implements of general service.

Some savage tribes of Australia and of Africa, as quoted by Sir John Lubbock in his "Origin of Civilization, etc.," attached such great importance to the thumb that they cut off the right thumb of a dead foe, believing that the spirit of the deceased, thus unable to throw the spear or use other weapons efficiently, could do them little injury.

As an early result of mental growth, articulate speech was slowly and gradually evolved, and also gesture and sign language, which facilitated the interchange of the ideas of primeval men concerning matters of mutual necessity, such as the fashioning of their weapons or of fire-making; all of which required the associate working of the hands and brain. Indeed, the lighting of a fire in a primitive manner, as Peschel, E. B. Tylor, and others have so fully explained, was often not unattended with some difficulty, and exacted the laborious use of the hands and the practised exercise of the fingers and thumbs to start a blaze. But no uncivilized races of men, according to Peschel, have ever been found unacquainted with the art of lighting a fire, and who were without an articulate language more or less regular and complex, which last, probably, led to the belief in the divine origin of articulate speech, and which is truly one of the greatest aids to the growth of the intellectual faculties. Spoken language, however, is not indispensable to the cultivation of the mind, as is evident from the sign language of deaf-mutes, whose thumbs and fingers express in a most intelligible manner to each other the thoughts and activity of their minds, which are capable of a very considerable development.

Darwin remarks that man could not have attained to his present dominant position in the world without the use of his hands, and further pertinently quotes Sir Charles Bell as saying that the hand supplies all instruments, and by its correspondence with the intellect gives to man universal dominion.

Prominent writers on primitive man and kindred subjects, and most anatomists, notwithstanding they are probably acquainted with the anatomical difference between the thumbs of apes and of man, seem, however, to have overlooked or failed to appreciate this difference as originally the chief and initial cause of the mental development of man.

The intimate relationship between the uses of the human hand and the growth of the intellectual faculties, so different from that of the highest apes, enlarged to an almost illimitable extent the capability of man to effect improvements in the conditions of his life. In addition to his capacity for mental development, to his ability to acquire articulate speech, and to his possession of perfect hands, adapted to the uses of the craftsman, modeller, sculptor, and artist, man is distinguished from all other creatures by his erect posture, his firm and well-balanced step, and by his graceful and commanding form. The harmonious adjustment of these human qualities to the conjoined uses of the hands and intellect, mutually reacting on each other, has gained for man his dominant position in the world.

It is upon an intelligent artisan class, necessarily restricted in its numbers and more skilled than ordinary mechanics, that the world depends to model and make the machinery and appliances now necessary for the manufacture of things formerly made only by hand. Thus it has been, and always will be, primarily, to the cunning of the human hand that nations are indebted for their superiority in the mechanic arts. Should, from any causes, this class become inefficient, or be driven out of a country, a retrograde movement in national prosperity must inevitably follow, as was the case in Spain, time of Philip II., and in France, time of Louis XIV.

Wise is the policy of that government which fosters the mechanical industries of its own people. Indeed, the greatest material progress and prosperity, in these times, is for that nation which can make and use the best machinery and the best cannon.

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UMBILICAL HEMORRHAGE IN NEWLY BORN INFANTS.[1]

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It is doubtful whether any disease having a correspondingly high mortality-rate has received so little attention as spontaneous bleeding from the navel in neonati. The infrequency of reported cases may account for this, as the issue is generally fatal, and cases with a fatal termination do not find their way into print with the same facility as do successful cases. It is probable that the death certificates of the fatal cases are filled out as hæmophilia; but the disease under consideration differs from hæmophilia in that it affects subjects much earlier in life than does the hemorrhagic diathesis, which seldom shows itself before the end of the first year. The blood in hæmophilia is usually coagulable, and not so in the disease here spoken of.[2]

Spontaneous umbilical hemorrhage is also a disease of a self-limited character, cases either going on to death or recovery within a few days,[3] whereas bleeders are apt to have a succession of hemorrhages from different points and extending over a longer period of time. Bovee[4] has collected all the cases in literature, from 1635 to 1891, to the number of five hundred and eighteen, and his article shows exhaustive study and research. He writes that the most prolific causes are hereditary diseases, such as syphilis and dyscrasiæ, either local or constitutional. Van Cott[5] thinks that there is overwhelming clinical evidence that jaundice exerts a profound influence toward producing the hemorrhagic condition, and says that of general causes syphilis should stand first and tuberculosis next, while of special conditions, absorption of sepsis at navel takes first rank.

The frequency of the disease in hospital practice, and its definite self-limited character, suggest its infectious nature, yet the records of eighty-one autopsies show nothing, in the majority of cases, except the hemorrhages and the resulting anæmia.[6]

C. F. Craig[7] says that the causes are: 1, A faulty condition of the blood; and 2, a pathologic condition of the vessel-wall, or a combination of both conditions. He quotes Sir J. Y. Simpson's opinion that syphilis causes thickening and infiltration, loss of contractility, and, therefore, a patulous condition of the vessel-walls.[8]

Albert Seppel[9] records an interesting case in which the cord fell on the seventh day, and hemorrhage, beginning on the eleventh day, proved fatal. Autopsy showed the right umbilical artery to be firmly closed, while through the left a fairly thick sound passed easily. Microscopical examination failed to disclose the reason for this disparity, as both vessels contained thrombi in various stages of organization, the thrombus in the right artery filling out entirely the lumen of the vessel, while that in the left artery left a space between the arterial walls. Bacteriological examination showed only the ordinary post-mortem microbes, no specific agent being found.

Klebs and Eppinger[10] have described a micrococcus found in this malady, which they called monas hæmorrhagicum.

Dr. Lefour[11] gives the history of a family of five children. The first two died from umbilical hemorrhage. The cord of the second was examined microscopically, and endarteritis was found. The third and fourth children were raised without accident. The fifth child was born at term, and the cord tied with a caoutchouc thread. On the fourth day hemorrhage occurred and was controlled by ligature *en masse*.

Dr. P. Lugeal[1] reports five cases, which do not throw any light on either the etiology or the pathology of the condition.

Helen F. Warner[2] publishes three cases, of which two recovered.

J. Taylor[3] narrates three cases in the same family, the first two of which were fatal. The third recovered under the local use of a solution of one ounce tannin in one ounce rectified spirits. Taylor thinks it would be worth while to give chloride of calcium by the mouth in these cases. This therapeutic possibility has been recently spoken of by W. Gilman Thompson.[4] The symptomatology of this disease is typically illustrated by the narration of the following case:

Sarah L——, aged four days, was sent to Gouverneur Hospital, March 1, 1895, with the following history: She is the sixth child. The other five were still-born prematurely on account of syphilis in the mother. During the sixth pregnancy the mother received constantly anti-syphilitic treatment, and was delivered at term by a midwife, without any difficulty, of an apparently healthy child. On the third day jaundice developed, and on the fourth day the cord became detached spontaneously. Shortly after, hemorrhage from the navel began and was checked by styptic cotton and a bandage. It soon recurred, and the child was taken to a dispensary, where a plaster bandage was applied. This checked the bleeding for a brief time only, and on its reappearance the baby was brought to the hospital. On admission she was markedly jaundiced and profoundly anæmic. The bleeding resisted attempts at compression, and the visiting surgeon, Dr. Henry M. Silver, applied a purse-string suture which checked the oozing for several hours. It came on again, however, and the child died on the sixth day after birth, and twenty-four hours after admission to the hospital.

Regarding the pathology of the affection it will be seen that there is a decided lack of unanimity on the part of writers, and it is probable that widely different pathological causes may give rise to the condition. The "American Text-book of the Diseases of Children," p. 86, says that "in cases where syphilis, hæmophilia, septic infection, and acute fatty degeneration with hæmoglobinuria, are present, hemorrhage may occur when the cord separates, or even before that time."

Hæmophilia, as a causative factor, may be excluded for the reasons already given. Septic infection may reasonably be expected to present a different clinical history from that which obtains in typical cases of spontaneous umbilical hemorrhage. Acute fatty degeneration has been made the subject of careful study by Dr. Mary Putnam-Jacobi,[5] and Partridge[6] seems inclined to accept this condition as the essential cause. In the hope of adding something to our knowledge of the pathology of the affection, the coroner's consent to the removal of some of the organs in the writer's case was obtained, and Dr. F. Ferguson, pathologist to the New York Hospital, kindly undertook their examination and has furnished the following report:

The material consists of the heart, lungs, liver, kidneys, stomach, and portion of intestines. Also the integument surrounding the umbilicus with the umbilical vessels attached. The heart and blood-vessels appear normal. There are a few hemorrhages in the lungs and liver. Otherwise all the organs appear normal. There is an opening at the site of the umbilicus, dark in color,

[1] Read before the Section in Obstetrics, New York Academy of Medicine, April 25, 1895.
[2] Bovee: Journal of the American Medical Association, April 18, 1891, p. 542.
[3] Townsend: Archives of Pediatrics, 1894, pp. 559-565.
[4] Journal of the American Medical Association, April 18, 1891.
[5] Brooklyn Medical Journal, 1888.
[6] Townsend: Archives of Pediatrics, 1894.
[7] Medical News, Philadelphia, 1894, vol. lxv., p. 569.
[8] Vide J. Lewis Smith: Seventh edition, 1890, p. 130.
[9] Centralblatt f. Gynecologie, 1892, pp. 470-473.
[10] Ziegler's Text-book on Pathology, William Wood & Co., 1887 p. 303.
[11] Gazette des Hôpitaux de Toulouse, 1893, p. 217.

[1] Journal de Méd. de Bordeaux, 1891, p. 181.
[2] Annals of Gynecology and Pediatrics, June, 1891.
[3] Bristol Medico-Chirurgical Journal, 1893.
[4] MEDICAL RECORD, April 13, 1895, p. 451.
[5] American Journal of Obstetrics, 1878, p. 499.
[6] MEDICAL RECORD, August 23, 1890.

and 1 ctm. in diameter. A probe, ½ ctm. in diameter, passes freely through the opening up to the liver.

Microscopical examination was as follows: Transverse sections of the cord at different levels show the umbilical arteries contracted and apparently normal. The cord is extensively infiltrated with small round cells which form areas of considerable extent and are very rich in vascular supply. Those small vessels vary greatly in the thickness of their walls and all of them are intensely hyperæmic. Many of them are surrounded by hemorrhages which are of considerable extent. The hemorrhages are seen to be more abundant and extensive as the sections approach the union of the cord with the integument. In some of the sections only a few vessels are observed, but the hemorrhages into the tissues are most extensive. None of the sections made shows the vessels to be the seat of thrombi. The wall of the umbilical vein is not well defined, and the vessel is surrounded by small round cells which are closely packed together. The hemorrhages in the cord are the result of defective small vessels, and the larger hemorrhages come from the umbilical arteries, neither of which is found occluded. Examinations of the vessels of other organs reveal no lesion, but there are hemorrhages of minute sizes in the spleen and kidneys. The cells of the liver refuse very generally the hæmatoxyline stain, and vast numbers of streptococci are found in the liver, spleen, and kidneys. These are seen between and within the tubules in the kidneys, and in the liver within the vessels, on the surface of the cells, and in the stroma.

From the pathologist's report it would seem that the essential cause of the hemorrhages in this case was a degeneration of the walls of the vessels, and from the clinical history the conclusion is inevitable that syphilis caused the degeneration.

J. Collins Warren[1] adopts the opinion that the umbilical arteries are closed by a growth which takes place from the intima, by which the calibre of the vessel is narrowed, and that new walls are thus formed within the old, the complete closure of the vessel depending upon a proliferation of endothelial cells rather than upon a thrombus. Further on he states (p. 136) that Thoma's assumption that a portion of the newly found tissue is of a muscular character is fully confirmed.

Tight Lacing and Gall-stones.—Professor Marchand, of Marburg, has again called attention to the fact that gall-stones and tight lacing are frequent coincidents. The furrow caused by lacing runs directly across the right lobe of the liver, causing a tendency to atrophy of the gall-bladder. When tight lacing has been extreme, an artificial fissure is formed in the liver, giving rise to what is termed the "lacing lobe," which carries with it the gall-bladder. Stagnation of the bile is well known to be one of the most important causes of the formation of gall-stones. A change in the composition of the bile, from catarrh resulting from congestion of the mucous membrane and the thickening of the bile due to failure of the gall-bladder to completely evacuate itself, gives rise to the formation of small masses which serve as nuclei for calculi; hence, anything which obstructs the free outflow of bile through the cystic duct must favor the formation of gall-stones. Marchand is also of the opinion that many cases of cancer of the liver should be attributed to tight lacing. It is only a few years since a German surgeon was obliged to open an abdomen to remove a "lacing lobe" of the liver, which had been so completely separated from the rest of the organ as to cause its death, rendering its removal necessary.—*Modern Medicine.*

In 1781 Ramdohr first successfully united the human bowel by suture, after complete division.

[1] The Healing of Arteries after Ligature. Wm. Wood & Co., 1886, p. 129.

A CLINICAL STUDY OF CASES OF PERSISTENT ABSENCE OF THE GASTRIC SECRETORY FUNCTION.[1]

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GRATITUDE is due to Leube for the introduction of modern methods of research that have made a diagnosis of atrophy of the gastric tubules possible, and to Javorski, whose method of stimulating the indolent secretory follicles in cases of fictitious atrophy has allowed of the certain diagnosis of arrested secretory function, although it does not at once permit the pathological diagnosis, that of atrophy. This last and the separation of curable cases of neurosal inhibition from those of true atrophy can be made clinically with great positiveness after a time. This separation is arrived at by the long and steady duration of the secretory loss and total lack of response to treatment to provoke return, in face of complete restoration to function of the coincident disturbed motility—the actual cause of most of the symptoms, direct and remote, of the affection. The separation from latent gastric carcinoma, especially from the infiltrating form, is made by the absence of cachexia, of wasting, by the duration of the case, and if atony prevail, as is common, by the presence of marked and persistent lactic-acid production. In gastric carcinoma, save in its terminal stage, as also in chronic gastritis, although free HCl is absent, and the gastric secretion after a trial-meal shows no digestive activity, a fair amount of pepsin and rennin may be readily extracted from the tubules by Javorski's method, unlike what is the case in primary atrophy of the tubules. These ferments have existed in the formative or potential stage as proenzymes, and needed but the stimulating influence of HCl, under certain favorable conditions, for their conversion into active digestants easily recognizable. In these cases of carcinoma, and in cases of chronic gastritis where there is doubt as to diagnosis, it is shown that the amount of acidity, the presence of indications of bound HCl, and of certain fermentative changes in the filtrate, greatly assist in diagnosis from atrophy, as do also the appearance in the wash-water of shreds of mucous membrane and always of epithelial cells; these, and in cancer sometimes cell-nests or small pieces of the growth, assist in the exclusion of atrophy of the gastric tubules, especially as a primary affection. The acidity of the removed contents in cases of primary arrest of gastric secretion is always very low, and consists, save in exceptional instances, only of that of the food eaten, as I have shown by experiment.

The cases here described are of especial interest, occurring as they do as an idiopathic affection, unlike many cases described by Reichmann, Javorski, and many others, in which there was often antecedent history of chronic gastritis or the presence of carcinoma.

I have followed these cases for several years; two for nearly three years; the other for over four years. One, the most instructive, first came under observation with symptoms of chronic arthritis, due to the deposit of urates in the joints, as was shown by the presence of certain symptoms and a careful study of the urine over a long period. She was an invalid—chair-ridden. Gastric symptoms were practically absent. Symptoms of renal fibrosis were evident, and were regarded as in the early stage. Marked atony of the stomach existed, and, as in all the cases I describe, total and continuous absence of secretion of gastric juice—of HCl, of pepsin, and of the milk-curdling ferment.

The second case presented herself for treatment with symptoms of grave anæmia, which had recurred in at-

[1] Abstract of a paper read before the College of Physicians of Philadelphia, April, 1895.

tacks of months in duration for several years. With these symptoms were those indicative of the condition described by our President as cardiac asthenia. Gastric symptoms were in the background. Neither of these cases showed the slightest indication of a neurosis. One is in middle life; the second is thirty-five years of age. The third case, also a woman, thirty-three years of age, is a typical neurotic. In this case more doubt has all along existed as to the condition underlying the absent secretory function. I feel that I may now say concerning it that, although its origin may be regarded as neurosal, its long and steady continuance over an observed period of four years is very suggestive of atrophy of the tubules.

In the first two of the cases a complete removal of all symptoms occurred under treatment directed to re-establishing secretion, in all probability through it equally influencing the impaired motility. The treatment consisted chiefly in the use of the hot stomach douche, intra-gastric electricity, and of large doses of HCl. In the other cases the douches and intra-gastric electricity could not be employed. In the second the free use of HCl and intestinal disinfectants seemed mainly the cause of the improvement. Both of these two cases have been in perfect health for over a year, have gained largely in weight (both weigh more now than ever before), and eat and digest without discomfort, like ordinary normal individuals, although no secretion of gastric juice ever occurs. Digestion, of course, goes on in the bowels by the aid of the pancreatic secretion. It is here pointed out that the conduct of these and similar cases clearly establishes the truth of Bernard's belief that the stomach, even under the most favorable conditions, can be regarded as little more than a reservoir for food and as a conduit to the duodenum, where perfect digestion occurs. They certainly prove that the secretory function is secondary in importance to that of motility. Recent experiments of Kuhne and Chittenden have shown that even under the most favorable circumstances true peptonization occurs only to a limited extent in the stomach, and that gastric digestion is but a preliminary stage to more perfect intestinal proteolysis. But on account of the almost certain likelihood in the great majority of cases of absent gastric secretion, as in other affections of the stomach characterized by mere diminution of the same, of coincident involvement of motility, thus originating atony and its train of ills, loss of secretory function must be viewed with great gravity. Hence Meyer believes that these cases, whether secondary or idiopathic, rarely last more than a few months to two or three years.

The third of my cases is a chlorotic woman, in whom a decided neurotic element has rendered her less susceptible to general improvement. She had had epileptoid seizures for several years before she came under observation. She would submit to the tube only for diagnostic purposes, and even then with reluctance, its employment often causing an hysteroidal seizure. The douche and the use of intra-gastric electricity could not be employed for these reasons. Her nutrition is now always fair, and at times very good. Gastric symptoms of the sort described by Boas and others did not occur at all in Case I. and were slight in Case II. Case III. had the characteristic vomiting and pain after meals. These were removed by the free employment of HCl, and do not recur on its continuance. She has voluntarily continued it quite steadily in large doses for four years.

In none of the three is there gastrectasia, a symptom regarded as common by Meyer and others.

In the first and second cases the origin of the secretory loss is most obscure; in the third a neurotic element is so prominent that it may be regarded as the source of the disorder. In the others none exists. In origin all of these cases may have been those of neurosal suppression of secretion — inhibition arising through some long-continued reflex irritation not now evident. Whatever the primary determining cause may have been, the long duration of the affection, with perfect restoration of motility, in the face, in two, of complete, and thus far permanent restoration to health, renders the continued absence of gastric secretion of great significance and grave omen. For because of the functions of secretion and motility being, as they are, so intimately connected by innervation through the vagus and sympathetic, it is reasonable to suppose that complete restoration of impaired nerve functioning in one, as in restored motility, would, after so long a time in which restoration has continued, lead to at least partial return of secretory power. This should especially be were the trouble merely functional, when treatment as successful in restoring secretion in other gastric affections has here been long tried resultlessly. These cases in origin may have been, through causes not apparent in at least two, those of neurosal suppression of secretion, and have arisen through long-continued reflected disturbance in gastric innervation, impairing jointly motility and secretion. I regard in this particular a suggestion of Stockton's as especially worthy of attention. He asks if we may not have to do here with an affection which at the start is functional merely, but the long-continued inhibition of glands is succeeded by atrophy. This had been my own thought, although I am unable to accept his evident preference for eye-strain as the source of reflected irritation. In every case observed by him, curiously, a very similar condition of high refractive error existed in all—unsymmetrical astigmatism of high degree, varying from 1 to 5 D. There also was noted, in all, irregular ametropia, myopia in one eye, hyperopia in the other, with a lack of correspondence in the axes of astigmatism. It is interesting that the one case (the neurotic) in which such errors would be more operative has practically no eye-strain. Apart from a low hyperopia the eyes were quite normal. In Case I. some refractive error existed, but not of the pronounced character noted in Stockton's cases. She is a woman of strong will and sound nervous organization, one little likely to be affected by such a reflected condition as is present. In Case II. less refractive error was found than in Case I.—too slight error, according to Dr. Gould, to cause any serious reflex. Inquiry of Dr. Einhorn as to the condition of refraction in his four cases elicited the response that no refractive trouble was found to exist in two of the four A third is crossed-eye. No examination had yet been made in the fourth at the date of Dr. Einhorn's letter.

As concerns therapy, it is practically useless, after long trial to hope to restore secretory activity, although, since the same remedies are applicable to maintain the motor function, they may be resorted to for periods of a few weeks or months from time to time. The remedies most useful are those influencing motility, obviating stagnation, and maintaining good motor power when re-established. The chief of these remedies, incomparably superior to all others, is the intra-gastric use of electricity, contrasted with which drugs, such as strychnine, are as nothing. As the use of HCl, which favors secretory return, seems also to influence the impaired motility, it may also be employed. HCl is more especially indicated when the case first comes under observation and doubt exists as to the pathological condition underlying the absent secretory function. It should then be used for months at a time. It must be employed in rather large doses, such as from 4 to 8 c.c. (3 j. to 3 ij.) of the dilute acid, and for best effect as a secretory stimulant should be given before meals. I give it in this amount in decinormal solution (0.364 per cent. absolute HCl), preferably introducing it through a soft stomach-tube, which the patient enters to the first part of the œsophagus. Even in one unaccustomed to the tube and prejudiced to its employment, so little discomfort after a trial or two is experienced by its introduction only thus far, especially if cocaine is first

used for a few times, that it is in nearly all cases willingly resorted to. Thus is avoided the disagreeable taste and the effects upon the teeth of the large volume of acid necessary in these cases.

Artificial digestants are rarely required in these cases. What is essential is attention to the motor function. If for any reason digestion is regarded as imperfect in the bowel, through coincident failure of pancreative secretion, certain digestive agents are of use for a time. Should failure of a good digestive secretion on the part of the pancreas be permanent, nothing then can, of course, hope to avail for more than a short time. The administration of HCl or of HCl and pepsin as digestants, for obvious reasons, fully considered, are utterly unphysiological. HCl alone can, of course, be of no utility, unlike the case in gastric catarrh or in simple nervous depression of secretion. Secretion of pepsin cannot be hoped to be stimulated by it from glands long the seat of atrophy. With pepsin it is also inutile, as sufficient cannot conveniently be constantly taken to completely saturate the albuminoids and salts of the food after a moderately large meal. To support this may be cited the interesting experiments of Blum (recently quoted by Chittenden in his Cartwright lectures), who shows that with a daily consumption of 100 grammes of proteid, a fair average, there would be required no less that 4½ litres of 0.2 per cent. of HCl daily, and even this would not suffice to give free acid. The only physiological digestant in these cases is a pancreatic preparation, or one of the vegetable digestants, papain or pineapple juice.

THE CURATIVE VALUE OF THE ANTITOXIN.[1]

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DURING the past century innumerable agents have been employed in the treatment of infectious diseases with varying degrees of success. When the micro-organismal nature of the infectious diseases was established the antiseptics were brought into use. Their action outside the body, however, is no criterion of their action when introduced into the body, as experience has clearly shown that it is useless to aim at disinfection within the body. Through bacteriological research the situation has changed, and we have every reason to believe that for the various specific diseases specific remedies may be found. Science has at last triumphed and given to the world the long sought for specific for diphtheria in the antitoxin serum. Behring, of Berlin, began his experiments with this new therapeutic agent in 1890, and in August, 1891, read a paper at London before the Seventh International Congress of Hygiene and Demography, in which he detailed his methods and results. Roux, of Paris, after pursuing a series of experiments in the treatment of diphtheria by the antitoxin serum, since 1891, and thereby having obtained a sufficient number of facts to enable him to judge the method properly, read a "Contribution to the Study of Serum Therapy in Diphtheria" before the Eighth International Congress of Hygiene and Demography, held at Buda-Pesth in September, 1894. In this paper M. Roux sets forth that his results fully confirm in all essential points those that have been published by Behring and his collaborators.

The Technique.—As this method of treating diphtheria is about to become general, I will briefly refer to the technique of the operation. Of primary importance is the selection of a reliable preparation of the serum. Having had personal experience in the administration of both American and German solutions, the results obtained justify me in giving the preference to the former. The home product has in my hands proven itself to be of greater efficiency, and can be obtained in a much fresher state. Antitoxin serum being administered hypodermically, it is therefore necessary to use a suitable syringe. As the required dose should be administered at one injection, the ordinary hypodermic syringe, on account of its limited capacity and the small calibre of its needles, will not answer the purpose. My first experience was with a Pasteur syringe. This I found unsatisfactory on account of its having leather fittings, which make it almost impossible to sterilize and render aseptic, and frequently dry out in such a manner as to make the syringe useless. The syringe now used by me was devised by Dr. Louis Fischer, of the New York Post-Graduate Medical School, and is made by George Ermold, No. 312 East 22d Street, New York. It consists of a glass barrel like any ordinary aspirating syringe, with asbestos fittings, and has a capacity of 15 c.c. The calibre of the needles is large, owing to the thick consistency of the serum. This syringe is entirely aseptic and can be sterilized without being taken apart, and its asbestos packing can be properly regulated by screwing the ring handle to tighten or loosen the packing. The technique of injection is simple. It should be borne in mind that the serum being aseptic, the entire operation must be conducted under the strictest antiseptic precautions, just the same as though we were performing any important surgical operation. I now properly sterilize the syringe by boiling and using 0.1 per cent. solution of lysol. On account of it being necessary to inject so large an amount of the serum, the locality selected should be one over which the skin is quite free. The region preferred by me being in the intra-scapular space. The serum should be injected slowly, the puncture sealed with cotton and five per cent. iodoformized collodion. The injections are almost painless and massage is unnecessary, as the swelling caused by the fluid disappears quickly. The following six cases of diphtheria came under my observation, during the past winter and spring. These were treated by antitoxin, and the results were so uniformly favorable that I feel it my duty to report them, thus adding my small tribute to one of the greatest discoveries of the nineteenth century.

CASE I.—Child, female, aged 5; occurred in the practice of Dr. A. T. Rutledge, of Blairsville, and was seen by me in consultation, January 26, 1895. For the appended notes on the cases given below I hereby acknowledge my indebtedness to the attending physician. First visit, January 24, 1895, when I found a well-defined case of diphtheria on fifth day of disease; temperature, 102° F.; pulse, 120; the tonsils and uvula being covered with diphtheritic membrane, submaxillary glands enlarged and tender, characteristic odor well marked, child suffering from prostration and very dull and listless. At once informed the family that their child was suffering from diphtheria. Prescribed the usual remedies until 2 P.M. January 26th, when the case was seen in consultation by Dr. I. P. Klingensmith. As at that time the general septic condition of the patient was so manifest, we looked upon the case not only as hopeless for recovery, but questioned the propriety of administering the antitoxin, not desiring to bring the remedy into disrepute in the event of failure. But notwithstanding this unfavorable outlook, we administered 15 c.c. Gibier's antitoxin. This was followed, at 6 A.M. on the 27th, with 10 c.c.; February 5th, 10 c.c.; February 8th, 10 c.c.; and on February 12th, 5 c.c. On making my visit at 6 o'clock on the morning of the 27th, sixteen hours after the administration

[1] Read before the Indiana County (Pa.) Medical Society] May 13, 1895.

of the first dose of antitoxin, I found marked improvement of the patient, general and local symptoms were more favorable, temperature lower and pulse stronger. The child passed through a gradual and uneventful convalescence to a complete recovery.

CASE II.—Iola T——, aged two years and nine months. Saw this case March 8, 1895. This patient presented all the clinical manifestations of the malignant type of diphtheria. Pulse, 140; temperature, 103° F. My supply of antitoxin at the time being limited to 3.5 c.c. Gibier's antitoxin, at 11 P.M. administered the same.

March 9th, 9 A.M.: Pulse, 130; temperature, 102.5° F. No improvement, except that the small dose of antitoxin administered the previous night stayed the further progress of the disease.

March 9th, 7 P.M.: Pulse, 135; temperature, 102.5° F. Administered 4 c.c. Behring's serum No. 3. March 10th, 10 A.M.: Pulse, 130; temperature, 101° F. Administered 4 c.c. Behring's serum No. 3. March 10th, 5 P.M.: Pulse, 135; temperature, 100.5° F. March 11th, 10 A.M.: Pulse, 100; temperature, 99° F. After the administration of the second dose the child made a rapid recovery.

CASE III.—Ida M——, aged twenty-one. Was called to see this patient at 10 P.M., March 9th: Pulse, 140; temperature, 103° F.; general constitutional disturbance. Diphtheria suspected in consequence of having been exposed in a case which resulted fatally.

March 10th, 12 M.: Disease well developed, tonsils covered with exudation, submaxillary enlargement, and characteristic odor of diphtheria. March 10th, 3.30 P.M.: Pulse, 140; temperature, 103° F.; 15 c.c. Gibier's antitoxin. March 10th, 9 P.M.: Pulse, 140; temperature, 103.5° F. March 11th, 9 A.M.: Pulse, 110; temperature, 101.8° F.; 10 c.c. Gibier's antitoxin. March 11th, 4 P.M.: Pulse, 100; temperature, 102° F. March 12th, 9 A.M.: Pulse, 96; temperature, 99° F. March 12th, 4.45 P.M.: Pulse, 98; temperature, 99° F. March 13th, 10.15 A.M.: Pulse 84; temperature 99° F. March 13th, 4.10 P.M.: Pulse, 90; temperature 98° F. March 14th, 9.50 A.M.: Pulse, 98; temperature, 98.5° F. March 14th, 5.20 P.M.: Pulse, 90; temperature, 98.5° F.

Two days later found no further visits indicated, as patient was practically convalescent. On March 10th administered immunizing dose, 3 c.c. Gibier's antitoxin, to each of five other members of that family, none of whom contracted the disease.

CASE IV.—Female, aged twenty-seven. This case first came under my observation March 8th, and from the history given, elicited the information that she had been sick since February 15th, when an attack of tonsillitis resulting in suppuration was followed by laryngitis, which by February 26th had rendered her unable to speak beyond a whisper.

When I first saw this case on the evening of March 8th, she was suffering from subacute laryngitis, and unable to speak except in aspirates, very rapid pulse, and patient suffering from prostration to an extreme degree. Upon inspection, found redness of the fauces, with slight submaxillary tenderness.

March 9th: Small patch of exudation on right tonsil, submaxillary glands enlarged and more tender. March 10th, 4.45 P.M.: Pulse, 130; temperature, 99.5° F. Exudation on both tonsils, submaxillary glands more tender.

March 10th, 4.45 P.M.: Pulse, 130; temperature, 99.5° F. Exudation on both tonsils, submaxillary glands more tender and much enlarged. Administered 15 c.c. Gibier's antitoxin. March 11th, 10 A.M.: Pulse, 110; temperature, 100° F. Administered 4 c.c. Behring's serum No. 2. March 11th, 5 P.M.; Pulse, 120; temperature, 101.5° F. March 12th, 10 A.M.: Pulse, 120; temperature, 102° F. Administered 8 c.c. Behring's serum No. 2. March 12th, 5 P.M.: Pulse, 110; temperature, 101° F. March 13th, 10.30 A.M.: Pulse, 110; temperature, 99.5° F. March 13th, 4.30 P.M.: Pulse, 110; temperature, 99.5° F. Some diphtheritic exudation still existing, I administered a final dose of 15 c.c. Gibier's antitoxin. From this on the convalescence was uneventful, resulting in complete recovery.

CASE V.—Jennie W——, aged nineteen. March 12th, 4.30 P.M.: On third day of the disease, pulse, 120; temperature, 104° F.; both tonsils completely covered with heavy diphtheritic exudation, very extensive submaxillary enlargement, and, in fact, presenting all the clinical manifestations of a case of diphtheria of a very grave type. In the presence of Dr. L. S. Clagett, of Blairsville, administered 15 c.c. Gibier's antitoxin. March 13th, 11.15 A.M: Pulse, 90; temperature, 99.5° F. Diminution of submaxillary enlargement, no further extension of exudate, and improvement of general condition of patient. Administered 10 c.c. Gibier's antitoxin. March 14th, 9.30 A.M.: Pulse, 78; temperature, 98° F. March 15th, 9.20 A.M.: Pulse, 78; temperature, 98° F. March 16th, 9.40 A.M.: Pulse, 72; temperature, 98.5° F. Throat free from membrane, very rapid convalescence to complete recovery.

CASE VI.—Earl R——, aged six. March 18th, 3 P.M.: Saw this case in consultation with Dr. E. W. Blackburn, of Latrobe, Pa. Both tonsils were covered with a thick exudate with an offensive odor. Disease had progressed for three days. Pulse, 100; temperature, 99° F. Administered 15 c.c. Gibier's antitoxin. 6 P.M.: Pulse, 108; temperature, 100.5° F. March 19th, 8.30 A.M.: Pulse, 90; temperature, 99.5° F. 6.30 P.M.: Pulse, 100; temperature, 100° F. General improvement. Administered 10 c.c. Gibier's antitoxin. March 20th, 10 A.M.: Pulse, 84; temperature, 99° F. 6 P.M.: Pulse, 96; temperature, 99.5° F. March 21st, 9 A.M.: Pulse, 88; temperature, 99° F. 6 P.M.: Pulse, 84; temperature, 98° F.

Throat entirely free from membrane, pulse and temperature remaining normal, child made rapid recovery. For the above notes my thanks are due to the attending physician.

In Cases I. and II. no local treatment was carried out; in the other cases Seiler's solution, or a solution of peroxide of hydrogen, was used to assist in removing the membranes as they became detached. Stimulants should be used freely in all cases. In a family in which a case of diphtheria occurs, the other members should be at once immunized. It is needless to say that these cases are not selected mainly for publication, but are such as presented themselves consecutively in practice. It should be here remarked that the infection propagating the disease in Cases II., III., IV., and V., emanated from the same source, viz., from the case of a child who died in the family where Cases II. and III. followed. From my experience in the management of the above six cases, I feel perfectly free to say that antitoxin is a safe remedy, and therefore in any case presenting the clinical manifestations of the disease I would be willing to err by giving too much rather than too little of the serum. In the months of September, October, and November, 1891, during the prevalence of the disease at Blairsville at that time, I treated thirteen cases, with eight deaths and five recoveries, making a mortality of about sixty-two per cent. These cases were treated by the most approved methods then known to the medical profession.

These eight cases, which in 1891 resulted fatally, presented no greater degree of malignancy than Cases I., II., III., and V., that were recently treated with antitoxin and progressed to rapid and complete recovery. At the Congress of Internal Medicine recently held at Munich, Huebner communicated new statistics regarding the effects of the antitoxin treatment of diphtheria. In a total of three thousand cases collected from different parts of the world, the mortality was twenty per cent. Baginsky reported that at the Kaiserin Hospital the mortality, which used to range about forty per cent., has been reduced to thirteen per cent. Ranke, of Munich, found that under serum

therapy the mortality-rate fell from forty-two per cent. to 18.6 per cent. Statistics of the Paris hospitals show that the death-rate of diphtheria has decreased from sixty per cent. to twelve per cent. In the face of this record of the wonderful decrease in the mortality-rate of this dreaded disease, it seems to require no prophetic power to foresee that we are on the threshold of discoveries in medicine such as will eclipse all that have preceded them.

Progress of Medical Science.

A Modification of the Invagination Method of Operating for the Radical Cure of Hernia.—At a recent meeting of the Philadelphia Academy of Surgery, Dr. John H. Packard detailed a method of operating for the radical cure of hernia, which consists essentially in the invagination of the isolated sac (*Medical News*). The hernia is exposed by a curved incision describing a semicircular flap of ample size. In this manner the cicatrix is carried away from the seat of trouble, which is afterward covered in by sound skin. The sac is laid bare and isolated from the external ring down to its tip. Sometimes it is better to empty it during this process, which may often be accomplished by tearing with the fingers. It is well to begin the isolation at the ring and to proceed downward. In order to secure control of the empty sac a silk thread is now passed through its wall at either side ; the two ends of each are left long and caught in hæmostatic forceps. With the forefinger of the left hand the tip of the sac is inverted and pushed up as far as the internal ring, or as near it as possible. Next, a slightly curved needle, with an eye near the point, and armed with a thoroughly sterilized silk thread, is passed up along the finger as a guide, to be pushed out at one side of the tip through the tendon of the external oblique muscle. One end of the thread being caught, the needle is withdrawn slightly, and again pushed through the tendon at the other side of the tip. The other end of the silk thread is now detached from the needle, which is wholly withdrawn, and the two ends left slack are caught together in a hæmostatic forceps. Now, by means of the two lateral threads, and by grasping in the fingers, the doubled sac is drawn down carefully, and with a small curved needle a fine silk suture is passed through it from side to side, from below upward as far as possible, and then from above downward, so that its two ends, when drawn tight, will crumple up the sac into a solid mass. These ends are tied and cut off short. The lateral threads are now removed, and the other silk thread is drawn up tight, pulling the plug formed of the sac into place at the internal ring ; its two ends are tied on the outer surface of the tendon of the external oblique and cut off short. The skin-flap is laid over in place again, the wound closed by sutures, and the ordinary antiseptic dressings applied. The patient is kept in bed until the wound is completely healed.

The Blood in Chronic Cyanosis.—In studying the blood of eight cases of chronic cyanosis from congenital heart-disease, Dr. Vacquez found marked changes. In all cases the number of red corpuscles per cubic millimetre was increased, the increase being in direct ratio to the intensity of the cyanosis. Besides the increase in the number of the red corpuscles, an increase in size was also noted, though not until the cyanosis had become quite marked ; in fact, in the earlier years of cyanosis the increase in number was only relative. In individuals of from twelve to twenty years of age blood-counts of from 5,600,000 to 6,300,000 were found, the diameter of the corpuscles varying from 7.9μ to 12μ. Vacquez does not think that the increase in number of the corpuscles was parallel to the increase in diameter, but thinks that both are due to the same cause. At the same time with the increase in size and number of the corpuscles, there is an increase in the amount of hæmoglobin in each individual corpuscle, so that the hæmoglobin does not show its normal relation to the number of corpuscles. The question as to whether the increase in size of the corpuscle or the increase in hæmoglobin is the primary process cannot well be answered. The process has been explained on the grounds that in cyanosis the supply of oxygen carried to the tissues is insufficient, and that the corpuscular new-formation is compensatory. Gibson, in *The Lancet*, reports a case of a boy, aged eight years, whose red blood-corpuscles were 8,470,000 per c.c., and the hæmoglobin one hundred and ten per cent. He refers to other instances in which this increase in the blood-corpuscles has been noted, and suggests the following interesting explanation : " In venous stasis the corpuscles are insufficiently oxygenated ; they cannot perform such an active part as oxygen-carriers, and they cannot yield too much oxygen to the tissues. It must further be remembered that in cyanosis there is less metabolism in the tissues, and therefore less waste produced. In a word, the functions of the corpuscles being lessened, the tear and wear which they undergo are reduced and the duration of their individual existence increased. The number of the corpuscles must in this way be proportionately augmented, and this must lead to the numerical increase as well as to the high percentage of hæmoglobin, until a balance is struck between the production and the destruction of the blood-corpuscles.—*The American Journal of the Medical Sciences.*

Nucleated Red Corpuscles in the Blood.—Zenoni says that Bizzozero, Rieder, and others have noticed the appearance of nucleated red corpuscles in the blood after considerable or repeated hemorrhage. These corpuscles were usually noticed some days only after the occurrence of the hemorrhage, but Zenoni, in consequence of his experiments, places their appearance much earlier (*The British Medical Journal*). His experiments were made on dogs, guinea-pigs, and rabbits, in whose blood he had previously satisfied himself that there were no circulating nucleated red blood corpuscles. He chose a dog weighing 6,700 kilog., and in ten repeated operations withdrew from it a total of 1,830 c.c. of its blood ; then, after defibrinating the blood, he reinjected it into the circulation, and in an hour and a half after the operation noticed the appearance of nucleated red corpuscles in the circulating blood on examining a specimen under the microscope. In two other dogs similarly treated the appearances of these corpuscles in the circulating blood took place five hours and a half and seven hours and a half after the operation. In another dog, two rabbits, and four guinea-pigs, in whom a moderate amount of blood was withdrawn at a single operation, the appearance of nucleated red corpuscles occurred between eighteen and forty-eight hours after the operation. Zenoni thinks that the rapid appearance of these corpuscles is due to the mechanical effect produced by the withdrawal of blood, for after repeated bleedings they appear too soon for their reappearance to be due to a hæmatopoietic reaction ; moreover, eight or nine days afterward they are no longer noticed, exactly when the hæmatopoietic reaction is at its maximum. He further thinks that after loss of blood these corpuscles are mechanically drawn into the circulation from their normal site, the bone marrow ; that a certain number of them get stopped in the spleen, proliferate there, and give to the spleen that fœtal hæmatopoietic function which has been ascribed to it by Bizzozero as taking place after hemorrhages.

A Medical Witness in a Tacoma court, being asked whether medicine was an art or a science, replied with a sigh that it was neither one nor the other, but as yet merely an experiment.

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THE CAUSE AND TREATMENT OF FLATULENCE.

IN an article in the *Practitioner* for July, 1895, Dr. Stephen McKenzie gives a very interesting and practical discussion on the subject of the treatment of flatulence. There are, he says, probably few diseases which, without being of a serious nature, give rise to such discomfort as flatulence. The usual story is that soon after a meal, or, perhaps, quite independent of the partaking of food, there is a feeling of fulness at the epigastrium. The patient loosens the waist-band, and all constricting garments; there is a painful sense of oppression, a difficulty in breathing, perhaps palpitation of the heart, and, not infrequently, flushing of the face, with cold hands and feet. An actual vertigo may occur, and, if the patient is of a nervous temperament, he or she may become almost hysterical, or, at least, go into a state of profound nervous depression and alarm. After a time the cardia relaxes, some gas escapes, and rapid relief occurs.

Dr. McKenzie discusses the causes of this flatulence. A certain amount of air, he says, is swallowed in the process of mastication and deglutition; but he does not consider that this swallowed air ever produces any of the phenomena associated with flatulence. The second and the common cause to which flatulence is attributed is fermentation occurring in the food in the stomach. Dr. McKenzie does not believe, however, that the gas of flatulence is the result of food fermentation. He cites the experiments of Sir William Roberts, who shows that fermentative processes are too slow for the rapid development of flatulence in dyspepsia, and shows further that the gas which results from fermentation can only develop when food is retained in the stomach for from twenty-four to forty-eight hours. The use of anti-zymotics, which is so popular for fermentative dyspepsia, and which undoubtedly has a beneficial effect, cannot act by stopping the fermentation of food, since, as Dr. McGuire has shown, the amount of creosote and other antiseptics given is quite insufficient to stop putrefactive changes. The fermentation theory of flatulent dyspepsia must, therefore, be dismissed.

Sir William Roberts has shown that a certain amount of flatulence may occur in acid dyspepsia, through the action of an acid mucus upon an alkaline saliva, swallowed with the food; but this is certainly a rare and minor factor in the production of gas. The regurgitation of carbonic-acid gas from the duodenum may sometimes occur and cause a flatulent distention of the stomach, but this is also a rare phenomenon, and only occurs when the gastric juice is hyper-acid.

Dr. McKenzie, therefore, after discussing all other theories, and dismissing them as incomplete, comes to the conclusion that flatulent dyspepsia is due to a lack of gastric tonicity. In other words, the walls of the stomach, being weak and flabby and lacking in tone, suddenly dilate, and the volume of gas, which was before somewhat compressed, expands and fills out the enlarged viscus. Dr. McKenzie states that the gas does not increase in quantity in the stomach, but only in volume. These two things, quantity and volume, which are identical in the case of solid bodies, are not so with gases. The sudden development of flatulent distention of the stomach, its also rather sudden disappearance, its occurrence in hysterical individuals, the prevalence of flatulent dyspepsia in persons of a weak nervous condition, and the relief obtained by treatment directed to nerve tonicity, are all facts that support Dr. McKenzie's theory. Associated with this gastric atony and, perhaps, dilatation, there is often a slight catarrhal condition of the stomach, which lessens the power of normal gastric digestion, and helps, also, to weaken the walls of the stomach.

The chief thing in attempting to treat flatulent dyspepsia is to use remedies which will increase the nervous vigor, and, hence, according to Dr. McKenzie, tonics, especially nerve tonics, are of the greatest importance. Nux vomica and strychnine are placed at the head of the list. We believe, from statistics collected regarding the frequency of different drugs prescribed in the British Isles, that this drug leads all others, and we have a suspicion that the Englishman has, after all, about as much nervous dyspepsia as the American.

When there is some gastritis associated with this flatulent dyspepsia, and when the tongue is coated, Dr. McKenzie gives a prescription containing bicarbonate of soda, strychnine, spirit of chloroform — which is another inevitable ingredient of British prescriptions — all dissolved in a bitter infusion of calumba or gentian. He gives two ounces of this bitter mixture three times a day, between meals. The English habit of giving large draughts is one which physicians in this country have not adopted, and we doubt if it is necessary.

If there is a good deal of pain in the stomach, as well as flatulence, bismuth is added to the mixture, and a pill containing carbolic acid, valerianate of zinc, and aloine is given. The compound asafœtida pill and the extract of belladonna are sometimes useful.

In enteralgia, when the pain is located lower than the stomach, Indian hemp often answers better than any other remedy, given in doses of one-third of a grain. For the violent spasmodic attacks, which these sufferers often have, associated with distention of the stomach and intestines, a mixture is given composed of equal parts of spirit of cajuput, aromatic spirit of ammonia, and spirit of chloroform; a teaspoonful of this in a wine-glass of water is given every half or quarter of an hour.

Dr. McKenzie does not believe in the use of charcoal in flatulence, nor does he place great stress upon

the value of bismuth. The gist of the paper is, he says, to urge the importance of tonics and antispasmodics, as the rational and effective treatment of flatulence by improving the muscular tone of the stomach.

EXPERT TESTIMONY AS VIEWED IN ILLINOIS.

Illinois is still very far from being completely civilized. Circuit Court Judge Creighton, of Sangamon County, has recently been unburdening his mind on the subject of expert testimony and allied topics, and the burden drops off with a gentle splash that recalls the fall of the buffalo chip, in days when that animal roamed over the judge's prairies. Speaking of experts, he says that "of course the court has no power to compel an expert to make an examination or prepare himself to testify without payment, but he thinks that an expert can be made to testify, provided he is not obliged to make special preparation." From which it seems that the judge thinks the chemist or surgeon or physician can go and testify upon any case, if he chooses, without preparation. The learned judge furthermore says that physicians in Illinois are "favored children of the State." "A department of the State Government," he says, "is maintained very largely for their benefit, and they are so protected by the laws of the State and by public opinion and confidence that in five minutes' time a doctor may earn more than an ordinary laborer could in a day!" If our Illinois *confrères* are really earning $2.00 every five minutes, we trust that the fact will not be made known, for all other regions of the country will immediately lose their medical citizens. The argument that the doctor is so favored by the State that he can earn $2.00 in five minutes is worthy of a giant mind, and deserves to go down in the history of medical jurisprudence emblazoned in letters of gold, or wafted through the empyrean by the swiftest and most characteristic cyclonic whirlwind that the prairies of Illinois can generate. The theory that the State of Illinois has a department of its government—viz., the Health Department—largely for the benefit of the medical profession is also extremely unique and could hardly have come from any mind but one highly trained in Sangamon County. To the common-sense of mankind it has heretofore seemed that the creation of the Health Department was, if anything, prejudicial to the medical profession, since it cuts down mortality and prevents sickness and epidemics, by all of which the medical man is supposed to, and does, gain his livelihood. Medical literature is at least enriched by the marvellous brain of Judge Creighton, which thus, in one single effort, is able to overturn common knowledge and place before the eyes of the astonished world more facts in medical jurisprudence than were ever dreamed of by any philosopher from Descartes to B. O. Flower.

Dr. Lusk's Text-book on Midwifery is to be translated into Arabic for the use of students in the Government Medical School and in the School for Midwives at Cairo.

THE WORLD'S MEDICAL CENTRE.

The history of our schools of learning within the present century shows with what comparative rapidity the centres of great medical activity shift themselves, and it also shows that there is no longer any special great single fountain-head of medical learning, such as used to exist fifty or a hundred years ago. Undoubtedly, in the early half of this century, Paris was conceded to be the great medical centre. The activity and prestige of this school, however, waned very rapidly, and for many years it has possessed few attractions, at least for American students, the foreign student population of Paris being largely Latin and Russian. After Paris, Vienna for a long time was supreme as a medical centre. Of late years this place has to some extent declined in relative popularity. Now, perhaps, medical students find as much at Berlin as at any other single educational centre. We notice recently a claim put forth for Edinburgh as the foremost place for medical undergraduates. Edinburgh, we are told, has more than three thousand medical students, and claims to be as great a place for medical education as it ever was in its palmiest days. Of all the great cities of the world, London alone has failed to make itself felt as an educational centre for medical students. This is due, we presume, to the number of schools and to the absence of a great central educational institution. London is, however, awakening to the fact that it should utilize its vast clinical facilities more efficiently than it has done in the past.

DRUMMING FOR DOCTORS AT HOT SPRINGS.

Probably nothing has placed the Hot Springs of Arkansas and its medical attendants in more thorough disrepute than the practice of drumming up visitors on behalf of the different hotels and doctors. Nothing so absolutely repugnant to the self-respect of all reputable medical men could possibly be undertaken, and we have no doubt that hundreds and even thousands of physicians throughout the country have deliberately warned people against the Hot Springs, on account of their distrust of the physicians who are in attendance there. We are very glad to record the fact, therefore, that some systematic efforts are being made to stop this practice of "doctor-drumming." At a meeting of the Hot Springs Medical Society, held recently, resolutions were passed condemning the practice, and the *Hot Springs Medical Journal* states that "a feeling against this nefarious business is becoming general." The Mayor of the city, even, seems determined to help the good cause. The city council has licensed the business of drumming for hotels and doctors, and it requires now that the drummer shall wear a badge stating his occupation, the object being to put the intended victim on his guard.

We learn that at one time doctor-drumming was stopped through the distribution of circulars on the railroads, warning visitors to look out for the friendly young man who solicited their patronage. This, however, while effective, was found by the city council to be too much against the interests of important persons

in the city, and they stopped the practice. It is hoped that by making the doctor-drummers wear their badge, the business will be lessened if not stopped. A more efficient way, it seems to us, would be to place the ban of absolute disreputability on all physicians who send out drummers.

News of the Week.

Award of the Hodgkins Prizes.—The authorities of the Smithsonian Institution have awarded the Hodgkins prizes as follows: First prize of $10,000 to Lord Rayleigh and Professor Ramsey, of London, for their discovery of argon as a constituent element of the atmosphere. Third prize, $1,000, to Henry de Varigny, of Paris, for the best popular essay on the properties of the atmosphere, entitled "L'Air et la Vie." The second prize of $5,000, was not awarded, none of the contestants having fulfilled the conditions. There were 218 papers submitted from all parts of the world, a number of which received honorable mention, coupled in three instances with a silver medal and in six with a bronze medal.

The Cholera is still epidemic in many parts of Russia, although St. Petersburg and the northern cities are officially declared to be free from it. The provinces of Bessarabia, Podolia, Kiev, and Kherson are infected, many towns in Podolia especially suffering severely. In Podolsk recently, the inhabitants took fright as usual at the measures taken to protect them and resisted the erection of temporary hospitals for the accommodation of the sufferers from the disease, and began rioting so fiercely that it was found necessary to call out a body of troops to quell the disturbance.

Yellow Fever is actively helping the insurgent cause in Cuba. A recent despatch states that more than half of the Spanish troops stationed at Vera Cruz have died of the disease, and many new cases are occurring daily. Among the dead was the surgeon of the regiment.

Dr. William A. Betts, of Red Bank, N. J., died on August 4th, aged sixty-one. He was graduated from the College of Physicians and Surgeons of New York in 1861.

A Congregation Struck by Lightning.—During a storm on Sunday last, a Methodist church at Quakertown, N. J., was struck by lightning and over twenty persons in the congregation were injured more or less seriously, and many of them are still suffering from shock. Two among the number are not expected to recover.

The Health of Paris.—Reports were circulated recently on the Continent that a mysterious and fatal epidemic existed in Paris. This the sanitary authorities of the city emphatically deny, affirming that the general health of the city is excellent, that the number of cases of typhoid is smaller than usual, the mortality from diphtheria is almost nil, and that no disease exists in an epidemic form.

Dr. Elias Rodriguez, Professor of Therapeutics and Forensic Medicine in the University of Caracas, Venezuela, died in that city a few weeks ago.

Professor Mikulicz, of Breslau, who was invited to succeed Professor Trendelenburg in the Chair of Surgery, having declined the call, the post has been offered to Dr. Schede, director of the Surgical Side of the Eppendorf General Hospital, Hamburg.

American Editions of Foreign Journals.—The *Annales d'Oculistique* has commenced its fifty-eighth year with an edition in the English language, published in New York under the editorial charge of Dr. George T. Stevens. Commencing with the May number, an American edition of the *British Gynæcological Journal*, the organ of the British Gynæcological Society, was undertaken by Hirschfeld Brothers, of this city.

The Montreal Medical Journal for July comes to us in new and enlarged form and with an increased editorial staff. We congratulate our esteemed contemporary on its improved appearance, which is indicative of a well-deserved success.

The Report of the Pasteur Institute in Paris states that 1,387 patients were treated there during 1894, 7 of whom died. This is 261 less than in 1893. Two hundred and twenty-six of the patients were foreigners, 128 coming from England and only 1 from Russia.

New Orleans is to have a new system of sewerage, which it will take several years to complete and which will cost over $8,000,000.

Vital Statistics of Michigan.—According to the State report for 1893, just issued, there were registered in Michigan during that year 19,197 marriages, 47,722 births, and 21,982 deaths. Of the deaths returned, 2,154 were due to consumption; 1,218 to diphtheria and croup; 689 to typhoid fever; 360 to scarlet fever. There were 644 deaths from cancer, 555 from influenza, and 1,385 from pneumonia.

Cholera in Japan.—In Osaka and Hiogo, Japan, in the week ended July 6th there were 104 new cases of cholera, with 79 deaths.

The American Pharmaceutical Association will hold its annual meeting in Denver during the last week in August. The Brown Palace Hotel will be the headquarters of the Association. It is expected that over one thousand members will be present.

Dr. S. Weir Mitchell received the degree of LL.D. from the University of Edinburgh on August 1st. In the university oration he was described as "the chief ornament to medical science in the New World."

The Report of the New York State Board of Pharmacy for the year ending June 21st shows that 238 certificates were issued during the year, 408 candidates were examined, and 207 were licensed to practise. Ninety-nine candidates were re-examined. There were 33 complaints against alleged violators of the Pharmacy law during the year, and 6 convictions.

A Cholera Antitoxin has been discovered by Dr. Kanson, one of Behring's assistants. It is claimed that experiments upon animals have proved its immunizing and curative properties, but it has not yet been tried in the human subject.

The Italian Congress of Internal Medicine will be held in Rome in October of the present year.

Macao, in China, which escaped the plague last year when it was prevalent in Canton and Hong Kong, has this year been most severely affected. The disease first appeared there in February and has been epidemic ever since. Its neighbors, Canton and Hong Kong, on the other hand, have suffered but little this year.

Dr. Daniel Lewis, of this city, has been appointed President of the State Board of Health.

The Memory of Professor Ludwig Traube has been honored by the placing of his bust in the garden of the Charité Hospital in Berlin. Professor Traube died in 1876.

The Royal College of Surgeons.—Mr. Christopher Heath has been re-elected President of the Royal College of Surgeons, England. Mr. Reginald Harrison and Mr. Pickering Pick have been appointed Vice-Presidents.

The California State Medical Society has reprimanded one of its members for telling a prospective patient that he had succeeded in curing some cases of consumption.

Increase of Lunacy in England.—According to the report of the British Commissioners in Lunacy, recently issued, the total number of lunatics, idiots, and persons of unsound mind was, on January 1, 1895, 94,081, an increase of 2,014 over the number for the previous year. The increase was confined almost wholly to the pauper class, and is due, apparently, to the more general reception in asylums of cases of simple mental decay, resulting from extreme old age.

Laparotomy in a Man Aged Eighty-five.—Drs. J. Greig Smith and C. E. S. Flemming report, in the *British Medical Journal*, the case of a man, eighty-five years of age, suffering from volvulus of the sigmoid flexure. There had been complete obstruction of the bowels for a week, and there was also a small umbilical hernia. Cœliotomy was performed, intestinal drainage instituted and maintained for three days, and the wound then closed. The man made a perfect recovery.

The Charcot Monument Fund now amounts to over 40,000 francs, nearly half of which sum has been contributed by foreigners.

Women at the Door of the Royal College of Surgeons.—At the last meeting of the Council of the Royal College of Surgeons, England, a petition was presented from the London School of Medicine for Women praying that women medical students might be admitted to the examinations for the diplomas of the college. The matter was referred to a committee of the Council for consideration and report. The movement to admit women to the Royal College of Surgeons, and to that of Physicians as well, is strongly supported by influential members of the profession in London, and more or less pressure has been brought to bear upon members of the Council of the College of Surgeons to grant the petition.

A Large Brain.—Dr. G. C. Grant reports in *The Lancet* of July 20th a case of a man, forty-three years of age, who had suffered from epilepsy for seven years and died from congestion of the lungs following a succession of fits. The circumference of the head above the eyebrows was 25½ inches. Clear of all membranes the brain weighed 67 ounces; the convolutions were plump and well formed, and no pathological changes were discoverable except enlargement of both choroid plexuses and a partial ossification of the left one.

Anthrax in New Jersey.—In consequence of a report that anthrax was prevalent in certain parts of New Jersey, a State Milk Inspector was sent to investigate. He states that seventy-two cattle have died in Cumberland County from that disease, and that many others are sick and will probably die. The report has had the effect of preventing the shipping of milk to Philadelphia from the infected locality.

King Christian of Denmark is seriously ill with catarrhal cystitis, and it is feared, by reason of his advanced age, that he cannot recover.

Miss Eleonora Duse, the Italian actress, is reported to be suffering from melancholia, and her condition is such as to cause her friends and admirers much uneasiness.

The Temperance Movement in France.—For some time past French medical writers have been urging the necessity for a resolute stand being made against the ravages of alcoholism. Many of the leading medical journals have inveighed in the strongest language against the heavy mortality from alcohol, compared to which that from cholera is declared to be absolutely benign. In little less than half a century, since 1850, the consumption of alcohol has quadrupled in France, averaging in 1894 four litres per head. Dr. Legrain, Physician to the Insane Asylums in the Department of the Seine, has made an extended study of alcoholic heredity, from which he formulates the following conclusions: 1. Double parental alcoholism creates an irresistible tendency to drinking in the children. 2. Parental absinthism seems to transmit epilepsy directly to the offspring. 3. The parental combination of absinthe drinking and epilepsy is a common cause of epilepsy in the children. Dr. Moreau de Tours says that even children, in certain parts of France, drink large quantities of brandy on holidays. Dr. Roubinovitch, of St. Anne's Asylum, has begun to lecture on drunkenness and alcoholism to teachers and pupils in the schools of his neighborhood, and many other medical men have engaged in the new crusade against intemperance. A French Temperance Society has been recently formed, the members of which do not pledge themselves to teetotalism, but simply to abstinence from spirits and strict moderation in wines, malt liquors, and cider.

The Commission on Leprosy in India has concluded its work. The Commissioners have arrived at the conclusion that the alarm at the spread of leprosy in India is groundless, for they find that the number of cases of the disease has decreased. Many interesting facts and statistics have been brought to light during the holding of the Commission.

An Electrotherapeutic Service, under the direction of Dr. Plicqué, has been established at the Lariboisière Hospital in Paris.

Reviews and Notices.

DEMON POSSESSION. Being an Inductive Study of the Phenomenon of our Times. By REV. JOHN. L. NEVIUS, D.D., (for forty years a missionary to the Chinese). With an introduction by REV. F. F. ELLINWOOD, D.D. With an Index Bibliographical, Biblical, Pathological, and General. Small 8vo, pp. 482. Chicago, New York, and Toronto: Fleming H. Revell Co.

THIS is a curious book, and one written with such sincerity of purpose and painstaking attempt at accuracy that we feel somewhat disarmed in an attempt to criticise it. An author who at this period of our civilization sits down deliberately to establish a thesis that demoniac possession exists, certainly awakens our wonder. The idea that human beings are at times possessed by spirits, evil or good, has certainly never been held by even the average theologian of late years, much less by men who have studied the question medically. The medical view of those cases in which people are supposed to be demoniacally possessed is that they are suffering from epilepsy, hysteria, or insanity. This interpretation is abundantly supported by facts and is sufficient to explain the phenomena; sufficient, at least, for most minds. Dr. Nevius, however, thinks that in certain parts of China demon possession exists, and in proof of this he collects a large number of stories of various people who were, as the people believe, possessed of spirits. The theory of demon possession is ingeniously supported by quotations from the works of medical authors and psychologists and by the teachings of Scripture. There is also appended a chapter upon the facts and literature of the occult. In fact, the book contains a great deal that is curious and interesting to all persons interested in psychology, particularly pathological psychology, and it will have its use even for those who do not and cannot at all believe in the theory that the author tries to maintain.

THE PATHOLOGY OF THE MIND. A Study of its Distempers, Deformities, and Disorders. By HENRY MAUDSLY, M.D. 8vo, pp. 571. London and New York: Macmillan & Co. 1895.

THIS book, according to the author's statement, while retaining the old name is virtually a new work. Much old matter has been left out, fresh matter added, and the work has been quite recast and the text entirely rewritten. While we have no doubt that Dr. Maudsly has done all this, and while we confess freely that the book is a brilliant academic discussion of insanity, we must admit to being personally much disappointed in it. Dr. Maudsly writes from his study for the benefit of literary men and philosophers, and he moves in an atmosphere somewhat superior to that occupied by the every-day alienist. We are sure that a study of such a treatise is useful as an intellectual exercise for those who are preparing to take up the special study of insanity, but for those who are practising this branch of medicine it really has mainly a philosophic and literary value. We would add that we do not think that any man, however experienced or eminent, can write a treatise on insanity in the present day and not give some account of the work and views of others than himself. One would think from Dr. Maudsly's book that there really was no other writer on insanity or practitioner in that branch of medicine. To be sure in his chapter on morbid anatomy, which, by the way, is very inadequate, there is some brief acknowledgment of the work done by Bevan Lewis and Wigglesworth, and we here also find a reference to Meynert and Esquirol, but there is still more about Othello and Desdemona, and the longest quotation of all is from *Les Pensées* of Pascal. Altogether, we must repeat that Dr. Maudsly's book is distinctly disappointing, especially after having read his announcement in the preface. The book, however, perhaps ought not to be judged by ordinary standards. It is really a discussion of the philosophy of the subject, with some finely written clinical pictures, but it is not a practical text-book. Viewing it from this standpoint it deserves great praise for the analytical insight and literary form displayed by the distinguished author.

HYPNOTISM. How it is Done; its Uses and Dangers. By JAMES M. COCKE, M.D. 8vo, pp. 373. Boston: Arena Publishing Company. 1894.

IT is difficult to see, with the excellent works on hypnotism already published by Tuckey, Moll, and Bernheim, the need of another book upon this subject. However, Dr. Cocke asserts that he has had great experience in hypnotizing Americans, and has some special knowledge of hypnotism as it affects his countrymen. We have looked through his book, however, in hopes of discovering some new light upon the subject or some new results from hypnotism as a therapeutic agent, and we find nothing that really satisfies our expectations. The work is a fairly good presentation of the general subject of hypnotism, and the author's views seem to be on the whole not extravagant. His experience in the use of hypnotism with dipsomaniacs is given with some detail, and the fact that the results were so slight gives us a good impression of Dr. Cocke's candor in confessing to the inefficacy of the method in treating this class of cases at least.

THE ELEMENTS OF PATHOLOGICAL HISTOLOGY. By DR. ANTON WEICHSELBAUM. Translated by W. R. DAWSON, M.D. (Dublin.) With eight Plates and a large number of Illustrations in the Text, some of which are colored. Large 8vo, pp. 456. London and New York: Longmans, Green & Co. 1894.

THIS book is a translation by a well-known English pathologist of the work of Professor Weichselbaum. The German author is well known to our readers and his reputation is sufficient to assure us of a sound and useful book. Dr. Dawson has added a few things in his translation, namely, a note on the gum freezing method, and a brief account of Bevan Lewis's method of staining nerve-cells. The general purpose of the author is to provide the beginner in the study of pathological histology with a guide for the work that he is preparing to take up. The various chapters treat, therefore, first, of methods of investigation, which are given in detail and include bacteriological methods. The next part is devoted to general pathological histology and includes various forms of degeneration, progressive tissue changes, inflammation, and infective granulation-tissue tumors. Subsequent chapters include tumors and parasites. The third and last part of the book is devoted to special pathological histology, and this is the part in which the medical practitioner who has already equipped himself for the study of pathology will feel himself most interested. The work is not bulky, it presents the subjects in a thorough manner, and it should form a very useful addition to the physician's library. The typographical work is excellent, though some of the woodcuts have an ancient and familiar air.

THE EXTRA PHARMACOPŒIA. By WILLIAM MARTINDALE, F.C.S., late examiner of the Pharmaceutical Society, and late Teacher of Pharmacy and Demonstrator of Materia Medica at University College. Medical References and a Therapeutic Index of Diseases and Symptoms. By W. WYNN WESTCOTT, M.B. Lond., Coroner for North-East London. Eighth edition. London: H. K. Lewis. 1895.

THE striking feature of this new edition is the incorporation of chapters on antitoxins, serums, lymphs, extracts of animal glands and tissues. Many newer drugs, and especially those of synthetic origin, have received attention, while the preparations recently added to the French Codex and German Pharmacopœia, have been included in the additions. Our previous good opinion of the work remains unchanged, and the druggist as well as the practitioner will find it useful.

DIAGNOSTIK UND THERAPIE DER MAGENKRANKHEITEN, nach dem heutigen Stand der Wissenschaft Bearbeitet. Von DR. I. BOAS, Specialarzt für Magen und Darm Krankheiten in Berlin. II. Theil. Specielle Diagnostik und Therapie der Magenkrankheiten, mit 8 Holzschnitten, Zweite gänzlich umgearbeitete Auflage. Leipzig: Verlag von Georg Thieme. 1895.

THE second edition of this book has been entirely rewritten. It was only a few months after the appearance of the first edition that the author was compelled to enlarge the present one, and owing to the new theories and points of experience gained in the meantime, he has been compelled to change many former chapters. The author starts by dividing Chapter I. into: 1. Gastritis Simplex. 2. Gastritis Infectiosa. 3. Gastritis Phlegmonosa. 4. Gastritis Toxica. A new chapter entitled Gastritis Acida has here been added.

In the chapter on gastric neuroses we find a new clinical picture which the author designates as "Die Schmerzhafte Magenleere," "Painful condition of an empty stomach." We find that he has united the former chapters entitled "Atonie" and "Ectasie," and made one chapter which he calls "Mechanical Insufficiency," in which, however, he still insists that the affections are distinctly different. There are also numerous additions to the pathology and therapeutics of the gastric affections.

While the work as a whole is full of practical points pertaining to the methods, both chemical and clinical, of examining all gastric disorders, still, too much stress cannot be laid on the importance of carefully diagnosticating cancer. And this is really the stronghold of the whole book. Boas's views have been accepted and he is looked upon as an authority in this affection. His papers in *Deutsche med. Wochenschrift*, 1892, No. 17, and in *Münchener med. Wochenschrift*, 1893, No. 43, on the presence of lactic acid as a diagnostic factor in carcinoma are still authoritative the world over. On page 177 of this volume he again reiterates his views, and believes that the presence of lactic acid can be looked upon as a positive proof of the existence of cancer. The aldehyde test of Boas can only be here referred to. At any rate Boas has found that he can frequently diagnose by chemical examination of stomach contents the presence of a cancer long before a tumor can be palpated. We congratulate the author on the successful outcome of the present volume and trust that it will vindicate the claims of a conscientious student and accomplished clinician, and hope the book will be as carefully studied as it really deserves.

CHIRURGIE DE L'URÈTHRE, DE LA VESSIE, DE LA PROSTATE (indications—Manuel Opératoire). Par V. ROCHET, Chirurgien de l'Antiquaille, Professeur Agrégé à la Faculté de Lyon. Paris: G. Steinheil. 1895.

THE object of this small volume is to point out the indications for operation in genito-urinary diseases, and then to point out the most approved manner of operating.

While not at all intended for the specialist in these diseases, even the skilled surgeon might here and there find something to his advantage.

Illustrations of a schematic order are freely scattered through the text. In one the figures referred to in the description have no corresponding figures on the plate, a fault, which, as the reviewer knows, is often to be laid at the door of the publisher rather than at that of the editor. Just enough regional anatomy is given to refresh the operator's memory and make the steps clear. It is an interesting little work, especially as showing the methods most in vogue in France for bladder, urethral, and prostatic operations.

DISEASES OF CHILDREN AND THEIR HOMŒOPATHIC TREATMENT. By ROBERT N. TOOKER, M.D. Chicago: Gross & Delbridge. 1895.

THE author states that this volume of over eight hundred pages is the outcome of thirty years of practical medical work. It treats of all branches of pediatrics and contains many useful hints.

All modern authors have been consulted and due credit given, so that the book presents a combination of the views of both medical schools and seems to have aimed at giving the best advice, forgetting the homœopathic title of the work.

LABORATORY GUIDE FOR THE BACTERIOLOGIST. By LANGDON FROTHINGHAM, M.D. Philadelphia: W. B. Saunders. 1896.

THIS neat little book is merely intended as a guide for practical work in the laboratory. It has fulfilled its mission and is full of practical points and directions for rapid diffusion of knowledge otherwise hard to obtain.

LA MÉTHODE BROWN-SÉQUARD: Traité d'Historique, La Thérapeutique des Tissus, Compendium de Médications. Par le DOCTEUR M. BRA, ouvrage précedé de lettres et préfaces de MM. les PROFESSEURS CONSTANTIN PAUL, MENDEL EWALD, BRUNS, EMMINGHAUS, et BYROM BRAMWELL. Large 8vo, 624 pages. Paris: J. Rothschild. 1895.

JUST as we are being told that the method of Brown-Séquard is an entire failure and was but the offspring of a restless senility, we receive a treatise of nearly seven hundred pages devoted to the therapeutics of the tissues. The book, of course, includes much more than the method suggested by the late Dr. Brown-Séquard, for in it we have full directions for the preparation and use of the thyroid gland, the medulla of bones, the pancreatic gland, and the super-renal capsule. The book is preceded by letters from men of eminence, who have confined their commendations of histotherapy mainly to the use of the thyroid gland, or to expressions of general approval of the purpose of the work. The book begins with a history of the method, then a chapter upon the technique of the preparation of organic liquids in general, dosage and methods of use, and we then have separate chapters devoted to the use of the orchitic extract, the ovarian and cerebral extracts, then a long chapter upon the use of the extracts of the heart, pancreas, liver, supra-renal capsule, muscle, kidneys, lungs, spleen, medulla of bones, and of the lymphatic glands. The book is valuable because it classifies and presents a systematic review of all that is known of an important branch of therapeutics, rather than because it shows any remarkable discrimination with regard to the results obtained by the use of this method.

M. Bra says that the book was not originally intended for publication, the substance of it being written for the *Archives*, which the late Dr. Brown-Séquard edited. The death of his distinguished master, however, led M. Bra to think that he could best promote the interests of science and honor the memory of his friend by collecting and placing in book form the observations and experiments which have been made upon the subject of the therapeutics of the tissues.

TRAITÉ CLINIQUE ET THÉRAPEUTIQUE D'APRÈS L'ENSEIGNEMENT DE LA SALPÊTRIÈRE. Par le DOCTEUR GILLES DE LA TOURETTE; preface de M. le PROFESSEUR J. M. CHARCOT. Seconde Partie, Hysterie Paroxystique, avec 63 figures dans le texte. 2 vols., 8vo. Paris: E. Plon, Nourrit et Cie. 1895.

THIS book is a continuation of Dr. Tourette's elaborate work upon hysteria. The first volume was termed interparoxysmal hysteria; the second part is devoted to paroxysmal hysteria. The work begins with a description of hysterical convulsions, and naturally the author follows very closely the description of the different phases of hysteria, as studied and photographed at La Salpêtrière. We find the same old pictures which have served French and other neurologists now for fifteen or twenty years, but which, we must say, do not accurately represent anything that is seen on this side of the Atlantic. The subsequent chapters are devoted to rhythmical chorea, convulsive tic, myoclonus, electric chorea, catalepsy, mania, somnambulism, hypnotism, etc. In the second volume the writer takes up the subject of paralyses and contractures, and then the subject of the visceral manifestations of hysteria. The book, as a whole, is a very complete treatise upon hysteria in all of its aspects. The author announces that it is a treatise on hysteria "according to the teaching at Salpêtrière," and this is to a large extent the case. The book, we believe, would have been a better one if the author had seen hysteria in other countries, and had not written it from so strictly a Salpêtrière and French stand-point, but if the reader bears this provincial characteristic in mind, he will find the book not misleading and, as a rule, most useful to him.

CYSTITE ET INFECTION URINAIRE. Par le DR. MAX MELCHIOR, Chef de Clinique, Ancien Chef de Laboratoire à l'Hôpital Frédéric de Copenhague. Translation from the Danish-French Edition, revised and annotated by DR. NOËL HALLÉ, Chef de Laboratoire à l'Hôpital Necker. Paris: G. Steinheil. 1895.

THIS French edition of Dr. Melchior's important work has a preface by Professor F. Guyon, who thinks highly of the work done by the Danish investigator. A historical *résumé* covering the features of the question of urinary infection is followed by a chapter on the technique employed by the author in collecting and analyzing the urine, the steps of which are characterized by the most painstaking asepsis and attention to detail. Chapter III. is devoted to clinical observations and bacteriological investigations. The etiology and pathogeny of cystitis are treated in a most interesting manner. He shows that ammoniacal changes, instead of being the primary and necessary condition for the development of cystitis, are only a contingent phenomenon, often secondary, and due to the action of several varieties of microbes. The therapeutics and prophylaxis of vesical infection, based on clear scientific premises, have an importance which claims attention, and still it is interesting to note how often the conclusions agree with those reached from purely clinical study. The translator has, with the author's sanction, incorporated a number of notes based upon his own laboratory work in the same direction.

PETIT COMPENDIUM MÉDICAL. Quintessence de Pathologie, Thérapeutique, et Médecine Usuelle. Par le DOCTEUR ANTONIN BOSSU, Médecin Honoraire de l'Infirmerie Marie-Thérèse. Third edition, revised and enlarged. Paris: Ancienne Librairie Germer Baillière et Cie. Felix Alcan. 1895.

WHEN we read that this is an enlarged edition we wonder what the earlier ones were, for it is the smallest volume that

one could well think of as a medical work. It does not contain much to interest the American student unless it be used as an aid in acquiring French medical terms. The arrangement is alphabetical, but the word you seek is usually the one which has been left out.

ATLAS OF THE DISEASES OF THE SKIN. In a Series of Illustrations from Original Drawings with Descriptive Letterpress. By H. RADCLIFFE CROCKER, M.D., F.R.C.P., Physician, Skin Department, University College Hospital, London; formerly Physician to the East London Hospital for Children; Examiner in Medicine, Apothecaries' Hall, London. Fasciculus IX. Edinburgh and London: Young J. Pentland. New York: Macmillan & Co.

WE have already noticed the preceding eight fasciculi of this important work. The ninth begins the second half of the series. The plates comprise lithographs of Hydroa Herpetiforme, Pityriasis Rubra, both of which deserve special mention; Ichthyosis Hystrix and Tylosis, well illustrated in six figures; Psoriasis Punctata, Ichthyosis Congenita, and Lupus Erythematosus. The last-named plate has three figures, showing the affection as it involves the scalp, the face, and the nose. In some instances it is fortunate that the descriptive text contains a history of the case portrayed, since there are occasional departures from the type which would without this not be so clear or instructive. Dermatologists will be much more interested in this production than general practitioners, and indeed few could afford the outlay. There will, as inferred, be sixteen parts at six dollars each. It has the merit of being strictly original, for the most part personal to the author, and the execution has been accomplished with all the modern improvements in the art of plate-making.

THE DEFORMITIES OF THE HUMAN FOOT. With their Treatment. By W. J. WALSHAM, M.B., C.M. Aberd., F.R.C.S. Eng., Senior Assistant-Surgeon, Surgeon in Charge of the Orthopedic Department, and Lecturer in Anatomy, St. Bartholomew's Hospital; and WILLIAM KENT HUGHES, M.B. Lond., M.B. Melb., M.R.S.C. Eng., L.R.C.P. Lond.; Orthopedic Surgeon, St. Vincent's Hospital; Assistant-Surgeon, Children's Hospital, Melbourne; Surgical Tutor, Trinity College, Melbourne. New York: William Wood & Co. 1895.

THE writers of this work have done a service to their fellows in giving them within the covers of a single volume all that they can possibly need or want to know in respect to deformities of the foot. The only fault is that the writers have perhaps been too thorough in their review of orthopedic practice, and have given the perplexed physician the choice of so many methods and forms of appliances that he is left in almost as much doubt as before. However, the writers always state their preference and practice in the case of the deformity in question, and the reader will not go far astray if he follow them. The work is excellently gotten up, with numerous original and well-executed illustrations of casts and dissections of deformities, and of instruments. The book is one that will serve as a work of reference for the general practitioner as well as a reliable and complete text-book for the orthopedic student and specialist.

A SYSTEM OF SURGERY. By AMERICAN AUTHORS. Edited by FREDERIC S. DENNIS, M.D., Professor of the Principles and Practice of Surgery, Bellevue Hospital Medical College, New York; President of the American Surgical Association, etc., assisted by JOHN S. BILLINGS, M.D., LL.D., D.C.L., Deputy Surgeon-General, U. S. A. Vols. I. and II. Philadelphia: Lea Brothers & Co. 1895.

THIS system of surgery edited by Professor Dennis is intended to represent American surgery pure and simple, and numbers among its contributors a goodly share of representative men. It is to be completed in four volumes. Although not professedly a pioneer in the matter of strictly American authorship in its own branch it promises to cover the field very effectually and elaborately. The present volumes contain the History and Literature of Surgery, by Dr. Billings; Surgical Pathology, including Inflammation and the Repair of Wounds, by Dr. William T. Councilman; General Bacteriology of Surgical Infections, by Dr. William H. Welch; Symptoms, Diagnosis, and Treatment of Inflammation, Abscess, Ulcer, Gangrene, by Dr. Charles B. Nancrede; Septicæmia, Pyæmia, and Poisoned Wounds, by Dr. W. H. Carmalt; Traumatic Fever, Erysipelas, and Tetanus, by Dr. J. Collins Warren; Rabies and Hydrophobia, by Dr. Herman M. Biggs; Gun-shot Wounds, by Dr. P. S. Conner; Fractures and Dislocations, by Dr. Frederic S. Dennis; Anæsthesia, by Dr. Horatio C. Wood; The Technique of Antiseptic and Aseptic Surgery, by Dr. Arpad G. Gerster; Operative Surgery, by Dr. Stephen Smith; Minor Surgery, by Dr. Henry R. Wharton; Plastic Surgery, by Dr. George R. Fowler; Military Surgery and the Care of the Wounded on the Battle-field, by Dr. William H. Forwood; Diseases of the Bones, by Dr. Nicholas Senn; Orthopædic Surgery, by Dr. Virgil P. Gibney; Aneurism, by Dr. Lewis A. Stimson; Surgery of the Arteries and Veins (exclusive of Aneurism), by Dr. Frederic S. Dennis; Surgery of the Lymphatic System, by Dr. Frederic H. Gerrish; Diseases and Injuries of the Head, by Dr. Roswell Park; Surgery of the Spine, by Dr. W. N. Keen; and Surgery of the Nerves, by Dr. John B. Roberts.

It will be seen that the subjects are reasonably well selected to give variety and interest to the publication, and are unquestionably representative and distributive. Some of the authors have succeeded admirably in their management of subjects, while others have evidently found it impossible to compass many of the important points within the required scope. There is this to be said in qualification, that all the writers are experienced men, and it is fair to assume that the best has been done to fulfil the laudably ambitious endeavors of the talented editor. The article by Dr. Billings is a masterpiece of thoroughness, but is much too long for a work of this size. The articles on surgical pathology, bacteriology, septicæmia, and traumatic fever are models of their kind and amply fulfil the expectations of their readers. The same may be said of those on antiseptic and operative surgery, and on fractures and dislocations. The indexes are by no means as complete as they ought to be in a work of this kind. The work is profusely illustrated, is fairly printed, but very slovenly bound.

ABSTRACT OF SANITARY REPORTS. Vol. IX. Washington, D. C. 1895.

VOLUME IX. of this interesting and instructive series is of unusually large size, and contains much valuable material for the student of public health. The supervising surgeon-general of the Marine Hospital is to be congratulated on the success of his endeavors to so admirably systematize the work of his bureau.

THE HISTORY OF PROSTITUTION, ITS EXTENT, CAUSES, AND EFFECTS THROUGHOUT THE WORLD. By WILLIAM W. SANGER, M.D., late Resident Physician Blackwell's Island, N. Y., etc. 8vo, pp. 709. New York: American Medical Press.

THIS work, first published over thirty years ago, again makes its appearance with additions and comments from the well-known syphilographers, Drs. R. W. Taylor, Prince A. Morrow, and F. R. Sturgis. The elaborate study of the subject by the original author gave it long since a leading position as a thoroughly scientific contribution to a much tabooed topic. The chaste and discretionary methods of presentation prove how much science can make pure everything it touches. As the title indicates, the work treats of prostitution from the earliest times to the present in every country. To the student of sociology the data are of more than ordinary interest, as proving how even general and varied effects depend upon common and well-recognized causes. The question of control of prostitution by legal enactments is very fully discussed, and all its different aspects are quite impartially considered, not only in reference to its bearing on social questions, but what is equally important, to the possibility of control of sexual diseases.

TREATMENT OF FRACTURES BY MASSAGE AND MOBILIZATION (MOVEMENT). By DR. JUST LUCAS-CHAMPIONNIÈRE, Surgeon to Hospital Beaujou, Member of Academy of Medicine, President of the Surgical Society of Paris. Paris: Rueff & Co. 1895.

THIS work is a distinct innovation regarding the generally accepted treatment of fractures by rest and immobility. The author believes that massage in given quantity and quality should be the essential feature in the treatment of all cases of fracture, and more particularly in those involving the joints. His arguments in favor of his method are ingenious, and in some respects are quite plausible, especially such as refer to the maintenance of stimulated circulation as an important element of repair. His remarks on the necessity of maintaining mobility in joint fractures commend themselves to the good judgment of surgeons, and altogether the work is a very suggestive one, and from such a

stand-point is well worthy of perusal. The very novelty of the ideas advanced will doubtless attract much attention to this work. As might be expected the author does not favor splints save in exceptional instances, but prefers well-adjusted bandages, after massage has, according to him, done its perfect work.

THE FILTRATION OF PUBLIC WATER-SUPPLIES. By ALLEN HAZEN, late Chemist in Charge of the Lawrence Experiment Station of the Massachusetts State Board of Health. 8vo, pp. 197. New York: John Wiley & Sons. 1895.

THE author has presented a very thorough work on the subject in question, dealing with all the different varieties of filtration, and offers some very conclusive arguments in favor of its adoption in all the usual methods of water-supply. The work also contains a very instructive appendix giving the German official regulation in regard to filtration.

TRANSACTIONS OF THE SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION. Vol. VII. 8vo, pp. 336. Published by the Association. 1895.

THIS volume contains a very good variety of practical subjects bearing upon surgical and gynecological matters and will take a worthy place with its predecessors.

VITAL STATISTICS OF BOSTON AND PHILADELPHIA FOR SIX YEARS ENDING MAY 31, 1890. By JOHN S. BILLINGS, M.D., Deputy Surgeon-General United States Army, Expert Special Agent. 4to, pp. 266. Washington, D. C., Government Printing Office. 1895.

THIS is a very elaborate and instructive report of the vital statistics of the cities named, and contains their divisions in sanitary districts, indicating the prevalent diseases of the same as shown by maps in different colors. Compiled as they are from the health-board reports they are as reliable as they can be made, and present statistical information which is of the greatest value to the statistician and hygienist.

BURIED ALIVE. An Examination into the Occult Causes of Apparent Death, Trance, and Catalepsy. By FRANZ HARTMANN, M.D. 1895.

THIS work treats in a very serious mood the possibility of being buried alive, relates some probable instances of such a calamity, and insists upon the value of putrefaction as a test of actual death.

Clinical Department.

A CASE OF PRIMARY POST-PARTUM HEMORRHAGE — PUERPERAL SEPTICÆMIA AND DEATH.

BY W. D. HUMPHREY, A.M., M.D.,

VIRGINIA, ILL.

IN the April number of the *American Journal of Obstetrics* a case of "Secondary Post-partum Hemorrhage—Septicæmia and Death," was reported by Dr. E. L. Tompkins, of Washington, D.C. I desire to report a case of "Primary Post-partum Hemorrhage—Puerperal Septicæmia and Death." In the former case the hemorrhage was due to disturbance of the nervous system, mental grief. In the latter, the hemorrhage is of an entirely different origin.

I was summoned by a messenger on Sunday morning, February 17th, to the residence of Mrs. C. F. C——, who resided three miles in the country. I arrived about seven thirty, and found her engaged in the second stage of labor, with the third child. I barely had time to get my coat off and thoroughly disinfect my hands when the labor was abruptly terminated. I handed the child to the attendant, and was preparing to extract the placenta, when I felt another head presenting. In a few minutes the second child was born, and in a short time the large placentæ were expelled, but the uterus failed to retract. In less time than it takes to tell it, a violent hemorrhage occurred. The flood-gates seemed to have been thrown wide open, for the blood gushed out in a perfect torrent. An immense amount of blood was lost. It soaked through two or three thicknesses of an old quilt, a mattress, and formed a large pool on the floor. The patient was rendered pulseless and collapse seemed imminent. I had the head lowered, placed hot irons to the extremities, administered ergot by the mouth, and injected hypodermatically whiskey and digitalis. I introduced one hand into the vagina, and with the other grasped the uterus through the abdominal wall. Under the above methods the uterus soon contracted and hemorrhage was under control. Whiskey in a little hot water was given occasionally. The pulse soon began to improve in force, and by noon the patient had rallied from her perilous condition. I saw the case in the afternoon about four o'clock. She was able to talk and laugh some. Pulse still improving. Temperature, normal. I ordered a saline laxative to be given in the morning, which moved the bowels freely. I called again on Monday morning and found her feeling quite well. Temperature, normal. Uterus, well contracted. She complained of nothing, except occasionally of after-pains. After giving the necessary instructions I left, expecting that all would be well; but such was not the case. She was taken with a chill on Monday night about nine o'clock. I was not sent for until Tuesday morning. The temperature then was 104° F.; respiration, 40; pulse, 120. She complained of intense pain over uterus. There was some slight tenderness, but the abdomen was not tympanitic. The skin was hot and dry; the tongue was dry and covered with thick brown coat, and the thirst was intense. The lochial discharge was scanty and quite offensive. I remained all day Wednesday. The temperature was 105° F.; pulse, 140; respiration, 40. The intense thirst continued. The face was pinched and bore an anxious expression, and was occasionally bathed in profuse perspiration. It now began to assume a livid hue. Great irritability of the stomach began and continued with unabated frequency. She vomited a large quantity of black, grumous matter, which proved to be disintegrated blood, indicating an extensive capillary hemorrhage from the walls of the stomach. She continued to grow worse, and died comatose at nine o'clock Wednesday, about seventy-two hours after the confinement.

It is hardly necessary to go into details in regard to the treatment of the case. Strict antisepsis was carried out. Treatment was local and constitutional. A three per cent. solution of carbolic acid and creolin was employed for irrigating. Alcohol and quinine were administered internally, and they, together with cold sponging, proved most useful in reduction of temperature. By cold sponging the temperature was reduced from 105° to 102° F., but it returned again to the old mark in two hours.

The important point to call attention to is the cause of hemorrhage. While inertia of the uterus is probably the most frequent cause, there are others of equal importance. Inertia is most often manifested after a rapid or an exceedingly long labor; or it may be due to great distention of the uterus, as in twins, polyhydramnois, etc. Although due to the above factors, it is frequently associated with certain pathological conditions. In this case I do not think that the inertia was due entirely to the rapid labor and extreme distention of the uterus, but to a deranged condition of the blood. The primary cause was, no doubt, of constitutional origin; and if the full history of the case could have been elicited the exact condition might have been known, but it was probably splenic anæmia or some allied condition. The puerperal septicæmia which followed had no connection whatever with the hemorrhage. They are separate and distinct conditions, and the former was not a sequencé of the latter. I am unable to account for the origin of the septicæmia which destroyed this woman's life. I know that this awful disease, this terror of the puerperium, is due to the

introduction of septic bacteria into the genital tract. Puerperal septicæmia is heterogenetic and contagious. The doctrine of autogenesis has been exploded. The poison must come from without, and in this case either the attendants or physician were to blame. I am able to exonerate myself, from the fact that I was not attending on any contagious disease at the time, and had employed antiseptic precautions. The husband of the patient, being exceedingly penurious, refused to employ a nurse until it was too late. She was, therefore, attended by persons who had no experience whatever in the management of such cases, and did not receive the proper care and attention which she ought to have had.

DOUBLE OVARIOTOMY IN A WOMAN SEVENTY-ONE YEARS OF AGE—RECOVERY.

By F. F. LAWRENCE, M.D.,

COLUMBUS, O.

The following case presents some features not frequently encountered by the abdominal surgeon, viz., the extreme age of the patient, the size of the tumor, the fusion of the cystic and solid growths, each having separate pedicles, the cyst from left, and solid from right side; and, finally, the complete recovery of the patient.

Mrs. B——, aged seventy-one, first noticed a tumor two and a half years ago. The growth was very rapid. In April, 1894, she was tapped and thirty-eight pounds of fluid removed. The sac refilled rapidly, and was again tapped in November, when fifty-eight pounds were removed. The tumor rapidly refilled, and in January, 1895, she was again tapped, but owing to the occurrence of shock only thirty-four pounds of fluid were withdrawn. After the second and third tappings there was some peritonitis. After the third tapping a large solid mass was discovered in right side.

The operation was performed on February 16th. There were extensive adhesions to the parietes, intestine, omentum, diaphragm, and bladder. While I was breaking loose the broad band of adhesion to the diaphragm respiration stopped. Aside from this, the operation was without incident. On turning out the tumor it was discovered to have two distinct pedicles. That from the left side being long and broad, and in it the left Fallopian tube could be noted. That from the right side to the solid portion of the tumor was broad and short, and contained the right Fallopian tube. Both pedicles were tied off; the numerous adhesions were tied and the wound closed, a drainage-tube being inserted in the lower angle. The patient was put to bed forty-three minutes after the beginning of the administration of chloroform. Shock was quite severe. The drainage-tube was removed at 3 A.M. on February 17th. The progress from that on was uneventful. The patient sat up in bed on the fourteenth day, and in the chair on the sixteenth day.

The weight of the tumor was eighty-four pounds. The cyst is a simple multilocular one. The solid portion is not simply adherent to the cyst, but there is absolute fusion.

Another feature of the case worthy of note is, that in 1887 the woman had right hemiplegia, which did not entirely disappear for two years. Up to the present date, March 8th, there has been absolutely no indication of any trouble of any kind. The highest pulse has been 88, and the highest temperature 99.2° F. So that I presume it is fair to call it a complete surgical recovery. To-day the patient is sitting up and feeling "better than for years."

103 NORTH FOURTH STREET.

P.S.—After the patient was convalescent—in fact, after she had been sitting up for ten days or more—she had an apoplectic seizure, resulting in complete right hemiplegia, involving even the muscles of deglutition to such a degree that it was necessary to feed her per rectum for five days. She died thirty-two days after operation, and yet from a cause in no way connected with the operation, as she had been the victim of right hemiplegia (in a less degree) seven and nine years ago; *i.e.*, this was the third attack.

VAGINAL HYSTERECTOMY FOR CARCINOMA OF THE NECK OF UTERUS.

By A. ERNEST McMAHON, M.D.,

MARSHALL, TEX.

About five weeks since I was called upon to operate upon a patient of Drs. Blalock, of Woodlawn, Tex., and Baldwin, of Ferns, Tex., for carcinoma of the neck of the uterus. Hemorrhages had been very severe, but as yet no fixation had taken place, so I decided to perform vaginal hysterectomy. The patient was a white woman, very anæmic, and forty-three years of age.

After preparing patient and anæsthetizing her, Dr. Baldwin administering the chloroform, I proceeded to operate, and removed the uterus by the method described by Dr. Garceau, in the *American Journal of Obstetrics*, March, 1895.

The patient has made a complete and uninterrupted recovery—at no time did the temperature go above 99° F., and she is now enjoying good health and walking about.

The operation of vaginal hysterectomy I consider a good one whenever it can be carried out, and all that is necessary is a thorough knowledge of the anatomy of the parts and a careful operator.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON GENERAL MEDICINE.

Tuesday Evening, May 21, 1895.

LOUIS FAUGÉRES BISHOP, M.D., CHAIRMAN, PRO TEM.

Further Report of Achylia Gastrica.—DR. MAX EINHORN read the paper (see p. 5). In discussing the subject DR. FENTON B. TURCK said that the paper was a most excellent one, and he had no criticism to offer upon it, yet he wished to say that he saw no reason for the name achylia gastrica. That which was called achylia was a symptom and must be due to some pathological cause, and he thought the name was hardly justifiable as being applied to a symptom. The glandular elements of the stomach seemed to suspend their functions for a time, but the motor elements remained active. The same nerves controlled both these functions, and paralysis would cause the paralysis of both, but as the motor function was not affected it could not be considered a paralysis with atrophy of the glands. Dr. Stewart, of Philadelphia, had found cases in which there was a return of glandular activity after suspension for a period of nine years, so it seemed possible that in some cases there might be partial atrophy of the glandular elements. This partial atrophy might be due to anæmia, or to a lack of nutrition, for the glands must receive a proper amount of blood, and if this, for any reason, was insufficient, the secretions would be suspended, but would appear with the return of the proper blood-supply. This was illustrated in shock, where there was an arrest and then a return of the blood-supply. He had known of cases in which the glandular secretions had been restored by the use of hot water and massage, and one case in which, after an absence for three years, hydrochloric

acid was obtained by irritation of the mucous membrane for fifteen minutes with the gyrometer.

The cases which the writer had mentioned in his paper were especially interesting as showing that the mucous membrane was not necessarily affected. An analogy of this condition was found in a number of organs of the body, as in the kidney where there was a suspension of function without atrophy of the glandular structure. He had obtained from the stomach in which glandular activity had ceased shreds of mucous membrane, and found on examination that the glands were not atrophied.

Dr. Louis F. Bishop thought the author of the paper deserved much credit for the work which he had done upon the subject. It took a great deal of time and care in carrying out the investigations. The work of applying the different tests, and the extreme care that was necessary to avoid error, made the task very arduous.

In closing the discussion Dr. Einhorn said he thought he was justified in giving the name achylia, as it was possible for patients to get along very well without the gastric juice if the intestines had adapted themselves to that condition. Moreover, he did not see any reason for not giving the name when the whole line of treatment depended upon this condition found in the stomach. In some cases there was atrophy of the glands and in some not, and if, after a time, there was a return of gastric juice, it must be concluded that there was some other reason for the previous condition than the atrophy of the glands.

The Flechsig Method in the Treatment of Insane Epileptics.—Dr. L. Pierce Clark read the paper on the above subject. He said that the treatment and the etiology were so closely related that he would have to mention them together. It was his opinion that trauma, as an etiological factor, had been over-estimated, for friends of the unfortunate patient would easily remember some fall or slight injury that had been received at sometime, and thus would the conclusion be reached that trauma was the cause. Heredity was undoubtedly the most important factor in the etiology of epilepsy, and he believed that it was the cause in more than fifty per cent. of the cases. There was no doubt that in many families it was Nature's law of the survival of the fittest, for these persons were not fit to propagate the species, and so Nature placed her seal upon one as a criminal, another as a consumptive, etc., but as the physician could not judge, he had to do the best he could to relieve the condition as it was found.

It could be reasonably hoped that the researches that were being made as to changes in the nervous system and the degeneration of the nerve-cells would throw more light upon this subject of epilepsy. There were patients who contracted epilepsy, though living under good conditions and at that age when least expected, *i.e.*, fifty to sixty years, and others seemed to get well of themselves.

The bromide treatment had held its sway, and, though good, yet in most cases, and especially in cases of epileptic insanity, it only held back the attacks for a time, and finally there was a breaking over. It was seldom given, therefore, with the idea of effecting a cure, but by helping to restrain the fits it made matters easier for the keepers.

In order to give the Flechsig method of treating epilepsy a trial, the writer had used it on ten patients in the Connecticut Insane Asylum. The first patient had a history of hereditary epilepsy, and fifteen years ago had begun to have epileptic fits, and at present has about the intelligence of an eight-year-old child. The bromide treatment had restrained the attacks for awhile, but they had broken over the restraint. She was put on the opium-bromide treatment, and though the attacks were less frequent for a time, they returned, but she was more easily managed.

In the second patient the attacks were rendered less frequent, but the stupor was increased and the dementia hastened. The third patient gave the peculiar history of contracting acute Bright's disease during the opium treatment. It was generally agreed that the bromides act upon the epithelium of the kidney, and it was probable that in this case the opium had just begun to have an effect, and the bromide caused the albumin. The opium affected the fourth patient very badly and the gastric disturbances were severe.

The fifth case was a woman, forty-seven years of age, with a history of hereditary epilepsy. She had the first fit on her twelfth birthday and since then at various times. The bromide treatment affected her badly at all times and the opium had no influence for good. The treatment increased her stupor. The sixth case received no benefit from the opium treatment. When the seventh case was put upon it the patient said he felt better, but the number of fits was increased. He improved on the bromide treatment, but was the only one that did. The eighth case was very much reduced in strength by the bromide necessary to have an effect, and opium rapidly increased the dementia. The ninth patient enjoyed the drowsiness produced by the opium, which increased the stupor and dementia. The tenth patient suffered from aura rising from the epigastrium to the third rib, and an accumulation of saliva, so that when speaking it sounded like a blubbering through water. This case was somewhat uncommon in the fact that the expulsion of saliva often took the place of the fit. The patient improved for a time under the Flechsig treatment, but within seven months the power of control had ceased.

It seemed proper to conclude, therefore, that there was no fixed law by which we could prescribe, and we were forced to the conclusion that the Flechsig treatment was little better than the bromide treatment.

Though epilepsy was a mental degeneration, the body was generally healthy. Muscular exertion had a tendency to sustain the bodily health. The question was important whether the restraining of cell explosion gradually diminished the tendency to explode, or whether it was but a damming back for a time, to be followed with a severer outbreak with its consequent effects. It seemed proper to conclude, at least, that the use of the opium treatment was of little value.

In discussing the preceding paper, Dr. Frederick Peterson stated that he had tried the Flechsig method of treating epilepsy with opium and bromides in a large number of cases since the publication of the new treatment by its author. In cases which resisted ordinary methods, in the obstinate chronic cases with frequent attacks where nothing seemed to avail, it often produced very beneficial results. It is a means which should only be resorted to, he believed, in this particular class of epileptics. Certain cases which he had observed had presented some of the mental symptoms characteristic to the disease, and in these the opium-bromide treatment had on several occasions proved surprisingly useful. In some private patients he had employed codeine in the place of opium with success. He had less fear of inducing the opium habit when codeine was used, though with due caution opium could be given without any particular danger.

Dr. Joseph Collins said he thought trauma was a very important factor in the etiology of epilepsy, and cited a case of a boy that had been treated for hysteria, but an operation demonstrated Jacksonian epilepsy from trauma. He thought the plan of treatment of the patients referred to in the paper was not carried out as Flechsig's method required, for the opium treatment had not been continued long enough, and the amount of bromide following was not enough. It was his opinion that in opium the practitioner would find a drug that would be of great benefit in the treatment of epilepsy. In cases of long standing, where the bromides would not have an influence, the desired effect

could be produced by the use of opium. He remembered a patient who was brought to the clinic last fall by a policeman, and whose mother said that he was generally out of his right mind for two or three days, and then would get better for a few days. He was put on the opium treatment, and was now able to earn his living, was much improved mentally, and had had only three or four attacks.

As to the statement that the effect of the opium would be lost in eight or twelve months, he would like to ask what would be the objection to repeating the treatment. Had anyone seen the opium habit formed by it, or the health injured? He thought not. As there was a close relation between the epileptic fits, the dementia, and the cell degeneration, he did not think it was fair to take those who were so near dementia to test the effectiveness of the treatment. If it was expected to control the cells, it was important that the cells be not so degenerated that they could not be affected. Flechsig had kept his patients under observation for five years, they had observed theirs for one year, and he did not think we ought to accept as conclusive the author's cases which had been observed for only two months. He thought the Flechsig method was an important measure in the treatment of epilepsy.

Dr. T. H. Manley said he thought trauma in producing epilepsy was of minor importance. He had treated cases by trephining and had seen others do the same, and had never seen one in which perfect recovery took place.

In closing the discussion Dr. Clark said Dr. Collins had had a more favorable lot of patients to treat than his own. The reason why he did not continue the opium treatment longer was that he had to stop it or lose his patients' lives. He thought that dementia was much more rapid in those cases of hereditary epilepsy.

At the close of the meeting Dr. Fenton B. Turck, of Chicago, presented several instruments which could be used in the diagnosis and treatment of gastric disturbances. The gyrometer was valuable in determining the size of the stomach, the resistance of its walls, in washing it out, and for stimulating its walls by a kind of massage. He also presented and described an instrument for the introduction of oil of cloves and cinnamon into the stomach in the form of spray, so there would be no irritation of the mucous membrane, yet the walls of the stomach would be thoroughly disinfected. This instrument was made with double tubes so that air which might be pumped into the stomach during the treatment could escape and nausea be thus obviated.

The next instrument presented was for determining the muscular power of the stomach, and consisted of a dilatable rubber bag that communicated with an apparatus which recorded the slightest variation in pressure. When the rubber bag had been introduced into the stomach it was inflated and the power of the muscular contraction of the stomach was recorded. It was hoped that by extended investigation there could be determined a gastric unit which would be valuable in diagnosing atonic conditions of the stomach. He also presented an instrument for diagnosis of stricture or obstruction of the œsophagus. With this the examiner could judge as to the consistency of the obstruction or the extent of stricture by the resistance communicated to the hand. It was also easy to tell when the bulb of the instrument had passed into the stomach.

SECTION ON OBSTETRICS AND GYNECOLOGY.

Stated Meeting, April 25, 1895.

Henry C. Coe, M.D., Chairman.

Fatal Case of Umbilical Hemorrhage in a Newly Born Child.—Dr. Charles E. Nammack reported the case. (See p. 191.)

Uterus Containing Fully Developed Fœtus Removed Post Mortem.—Dr. S. Marx presented a uterus, with a fully developed fœtus and membranes, removed post mortem from the body of a woman who had died during labor from some obscure pulmonary trouble.

Dr. Garrigues remarked that such specimens were rare, and this one had been very nicely preserved.

United Twins.—Dr. Teinberg presented photographs of female twins united at the coccyx by a band two and a half inches long, and five inches in circumference. They were born on April 15th, and were reported in the daily papers as another instance of Siamese twins. The labor had been very puzzling, and the union of the twins was not recognized until the birth of the second one. They weighed about nine pounds, and were doing well. They were joined from the top of the sacrum to the tip of the coccyx, and the two coccyxes were undoubtedly amalgamated. There was only one anus, but the rectum was believed to bifurcate above. The external genitals were placed farther back than normal. All organs were believed to be separate, excepting the common anus. There was a normal placenta of one childbirth. The common cord bifurcated about an inch from the placenta, one branch going to each child. The question of separating the twins would come up later. The speaker was disposed to think it could be done successfully by a plastic operation.

Multiple Fibroids of the Uterus Removed by Abdominal Section.—Dr. Paul F. Mundé presented a uterus containing multiple fibroids which he had removed about six weeks ago by abdominal section from a single woman, thirty-two years of age. As he had stated on former occasions, he was not disposed to remove the uterus for fibroids unless the symptoms gave plain indication, and in the present instance two years had passed between the time when he had first seen the patient and the operation. He had left a little of the cervix in order not to destroy the vaginal roof.

Fibroid Removed Through Vagina.—Dr. Mundé also presented a fibroid tumor of the cervix uteri, in a virgin of forty-one years, removed with some difficulty through the narrow vagina after cutting into the capsule of the tumor, inserting forceps, and spreading the blades in order to obtain a firmer hold. The perineum and vagina were torn. The rents were sewed up and the patient made a good recovery. The tumor weighed two pounds. In a former similar case the tumor had weighed three pounds. Dr. Mundé said he had several times been called upon to remove fibroids which had become vaginal in elderly virgins, oftener than in women who had borne children.

Dr. H. L. Collyer was reminded of a case which he had seen in Connecticut, one of fibroid tumor of the uterus filling the vagina, which had been mistaken by the local physician for inversion of the uterus. The woman has borne many children. The perineum was torn to the third degree; the tumor filled the pelvis so completely that he found extraction impossible until he had made a V-shaped incision, cutting out the larger central portion.

Twin Pregnancy with Blighted Fœtus, Illustrated with a Case.—Dr. Grace Peckham-Murray read the paper. (See p. 711, vol. 47.)

The Chairman, Dr. Coe, said that a few months ago he had shown a second fœtus, acephalic, poorly developed, which lived but a few hours. He supposed it would be classed under the head of blighted fœtus, blighted from overgrowth of the other fœtus, which was fully developed.

Triplet Pregnancy with Blighted Fœtus.—Dr. E. A. Tucker showed photographs of a case at the Sloane Maternity, triplets, two of which were born alive, the third mummified and flattened. The author of the paper had mentioned the fact that in many cases it was difficult to determine the cause of death, but in this instance it could be shown that the fœtus had caused its own death by twisting the cord and shutting off the circulation. There had been plenty of room for its devel-

opment, as there was hydramnios. The two living babes were small, but had plenty of vitality. There were three distinct placentæ and sacs. The third had undergone so-called fatty degeneration, which he believed had followed, not preceded, the death of the child. All three children were females. The mother was thirty years old. It was her fourth pregnancy.

Cæsarean Section Versus Symphyseotomy, with Report of Cases.—Dr. Edward P. Davis, of Philadelphia, read a paper on this subject. The case of symphyseotomy was in a slightly built negress, who had registered before her confinement at the hospital dispensary, but who was not taken to the hospital until a number of hours after the commencement of labor and efforts had been made to engage the head by posture and by forceps. The external pelvic measurements were: Anterior superior spines, 22 ctm.; iliac crests, 23.5 ctm.; trochanters, 27.5 ctm.; external conjugate, 19 ctm. The patient was a primipara, aged twenty-seven. Finally her husband consented to her being taken to the hospital in a carriage, where symphyseotomy was performed. On opening the symphysis the pubic bones separated an inch and a half and the child's head immediately descended to the pelvic floor. Extraction was made with Simpson's forceps; the child was asphyxiated, but was resuscitated. The cranial diameters were large: Biparietal, 11; bitemporal, 9; occipito-mental, 14 ctm. The uterus was packed with iodoform gauze, the symphyseotomy wound was also tamponed with iodoform gauze and closed, except that the last suture was left untied. The vaginal wall had sustained injury by the head. A band of adhesive plaster was drawn around the trochanters. For eighteen hours the patient passed no urine and the nurse made unsuccessful attempts to introduce the catheter, after which catheterization was performed successfully by a medical assistant, and the following night the patient urinated spontaneously. She died on the third day following delivery. The child survived. It was thought infection had taken place through the vaginal injury, which was due to the unusual breadth of the child's head, 11 ctm., instead of 9 ctm., which was the ordinary breadth, and also to the inelasticity of the vagina and vulva. Then, too, the patient's powers of resistance to germ infection had been diminished. The case showed that the obstetrician, before choosing symphyseotomy, should study carefully the elasticity of the vagina and vulva as well as the pelvic and cranial dimensions.

The case of Cæsarean section was also in a negress, aged eighteen; strong family history of tuberculosis; poorly developed; height, four feet, eight inches; illegitimate pregnancy. Pelvic measurements: Iliac spines, 23 ctm.; iliac crests, 24 ctm.; external conjugate, 17 ctm.; true conjugate, 7.75 ctm. Right and left diagonal unequal. After careful pelvic measurement and attempt to determine the size of the child's head, it was decided best to induce labor, as the pregnancy was near full term. After the patient had been in labor twenty-seven hours, following the introduction of a bougie, Dr. Hirst agreed with Dr. Davis that it was best to perform Cæsarean section and make it impossible for the patient to become pregnant again. Consequently the abdomen was opened, the child extracted from the uterus, and the uterus removed. The patient made a good recovery, and was now nursing her own child and also helping to nurse another. The child's head measured: Biparietal diameter, 8.4 ctm.; occipito-frontal, 11.25 ctm. The child's weight was four pounds and fifteen ounces. It was evident from the measurements that the method of delivery was based on relative indications. The indication for cœliotomy in his judgment rested not merely upon the small size of the mother's pelvis, but also upon her illy developed birth canal and her failure to make the child engage by spontaneous effort. Had the Saenger operation been done, leaving the uterus, the patient would have been exposed again to illegitimate pregnancy. Only a year and a half ago a woman had been submitted to the Saenger operation in Philadelphia, and was now suffering the disappointment of a second pregnancy.

Regarding the permanent results of symphyseotomy, Dr. Davis had delivered two other women by this method, in neither of whom could any abnormality now be discovered in the pelvis.

In conclusion, Dr. Davis said his experience in five symphyseotomies had led him to believe that the operation was a child-saving one, as in these cases the children had been saved where otherwise no alternative remained but craniotomy or delivery through the abdomen. One of the cases was taken from a tenement-house while the patient was suffering from pneumonia, and she survived the operation two days. The cases reported this evening led him to believe that symphyseotomy was most successful in women not weakened by prolonged labor, in whom there was slight contraction of the pelvis, no great disproportion between the pelvis and head, and in women in whom the vagina and vulva were well developed and distensible. The Saenger operation was indicated where there was marked disproportion between the head and pelvis, as shown by failure of the head to engage, where the vagina was poorly developed, and in married women who were willing to run the risk of a future pregnancy. Where, as in his case, the patient had a poor constitution and was liable again to pregnancy, he would advise cœliotomy followed by hysterectomy.

The Chairman, Dr. Coe, mentioned as among the chief points for discussion in connection with Dr. Davis's paper, 1, an elective operation depended not so much upon the mere presence of pelvic deformity as upon disproportion between the head and pelvis; 2, supra-vaginal hysterectomy as opposed to the Saenger operation; 3, the ultimate results of symphyseotomy, which he was sorry to say had not been so good in this city as in some others; 4, that symphyseotomy ought to be an elective operation, and was most apt to be successful where there was not too great disproportion between the head and soft parts.

Five Cases of Symphyseotomy.—Dr. J. Clifton Edgar thought the discussion was a little premature in its bearing upon the relative value of symphyseotomy and cœliotomy. He believed that about seventy-four cases of symphyseotomy had been reported in this country, with a maternal mortality of twelve or fourteen per cent. The mortality from the Saenger operation was known to range anywhere from one per cent. up to forty. Undoubtedly if cases of late operation were ruled out the mortality from symphyseotomy could be reduced almost to nothing, as it had been done in the Saenger operation. Some time ago, Dr. Reynolds, of Boston, had gone over the statistics of the world with regard to the Saenger operation, and had collected thirty-nine cases in which the operation was done within twenty-four hours after the onset of labor, no previous attempts at delivery, no complications except bony obstruction, and all these patients had recovered. The operations were done by thirty different operators. Under the same circumstances equally good results should follow symphyseotomy.

Symphyseotomy was not in any sense a simple operation. In the majority of cases, too, it was attended with subsequent complications, but of these we had heard little from Europe, although, no doubt, they occurred there as elsewhere. It had been claimed that there would not be danger of injury to the vagina and bladder unless the pubic separation were extended to four inches. But it had been shown in Italy that the vagina began to be stretched at 7 ctm., and there was dangerous stretching at 10 ctm.

In reviewing his five cases, Dr. Edgar said that in none did the pubic separation approach four inches; in one there was marked hemorrhage from the vessels of the clitoris; in one there was vaginal laceration and

the woman still had a sinus, although she was in good condition. The permanent results were good, for in two of his patients, observed a year or two after the operation, no evidence existed of injury to the pelvis. It had been shown in Italy that the periosteum on the front of the pubic bone would stand stretching 7 or 8 ctm., and if this were not cut through with the knife solid union would take place more quickly. Necrosis of the bone did not mean that the woman was doomed to be a cripple, for in one of his cases suppuration and necrosis took place, and although the convalescence was protracted over five months, yet the woman was now able to do laborious work.

Dr. Edgar had found attempts to estimate the size of the child's head by pushing it down into the mother's pelvis rather unsatisfactory. Faraheuf had invented a kind of forceps for measuring the child's head.

All of Dr. Edgar's cases of symphyseotomy had been in tenements. In one the conjugate before symphyseotomy measured 3.25 inches; in the next labor the woman was delivered by version.

Dr. W. T. Lusk could report two cases of symphyseotomy. The first patient had been submitted to various efforts at delivery before admittance to the hospital and was in a dying condition. Symphyseotomy was done to save the child. The mother died after seventeen hours, and the child also died after eleven hours, having had its jaw broken before he saw the patient.

Dr. Lusk had had a second case quite recently, in a patient aged nineteen, in the Infant Asylum. The estimated antero-posterior diameter was 3 or 3.25 inches, the transverse very narrow. The woman had been in labor nineteen hours, the cervix was pretty well dilated, the head was still above the brim. The conditions for operation at the hospital were not very good. During the operation he remembered many times a statement of Pinard, that no man should undertake symphyseotomy without having a chain-saw at hand, and he regretted that he had none in this instance, since for a part of the distance the symphysis presented bony union, and it took him thirty minutes to effect division when under ordinary circumstances it should have required not more than three minutes. The rest of the operation was simple, and was performed after the manner which he had lately seen practised by Pinard in Paris. Performed in this way, very little blood, not more than twenty drops, need be lost. In his case the pubic bones were not separated more than 6 ctm., by measure with the instrument used in Paris. The child was extracted with forceps, without any injury to the soft parts. An attempt was made to sew up the fibrous tissue in order to hold the symphysis together, as suggested by Faraheuf. The patient died seven days after the operation, with all the symptoms of septic peritonitis. The autopsy showed that the symphysis was zigzag, partly bony, and that a saw would have quickly divided it. The sutures had not held and there was considerable separation. The uterus, tubes, and ovaries were healthy. There was peritonitis, and the intestines were glued together. Dr. Lusk said he would not think of undertaking symphyseotomy in a tenement or under conditions which did not offer the best opportunities for antisepsis. The trouble in this case had arisen from the fact that separation of the pubes had stripped off the periosteum to quite a distance, the tissue had necrosed and led to infection.

Dr. Lusk was not sure but what under similar circumstances he would on another occasion choose Cæsarean section. On going over the statistics of symphyseotomy he had found that the great successes had been confined to comparatively few men, who had operated under favorable conditions.

Symphyseotomy Has a Limited Field.—Dr. Charles Jewett thought symphyseotomy would hold a prominent place in obstetrical surgery, but the fact became very obvious as experience increased that its field was a narrow one. In equally competent hands Cæsarean section and symphyseotomy had given about the same success. Symphyseotomy labored under two marked disadvantages. In the first place, its use was determined by little more than half an inch variation in the diameter of the pelvis. If a mistake were made in its indication it might be fatal to the child and prove dangerous to the mother, whereas if one chose Cæsarean section the chances for both mother and child would be good. The other disadvantage under which symphyseotomy labored was the great difficulty in the after-care, whereas in Cæsarean section this was very simple. If sepsis already existed, especially in the uterus, symphyseotomy was preferable to simple Cæsarean section, but the latter operation followed by removal of the uterus gave the mother as good a chance as symphyseotomy.

Named for the Wrong Men.—Dr. H. J. Garrigues said he had had an equal experience with Cæsarean section and with symphyseotomy, having done both operations twice. One of the patients submitted to Cæsarean section died, all the others lived. The first case of Cæsarean section was of some historical interest, since it was the first one performed according to the so-called Saenger method after Leopold's two cases, while Saenger himself was eighth in the list of operators by this method. The only original idea of Saenger connected with Cæsarean section was to cut out a piece of the muscular tissue of the womb and then fold in the peritoneum, a thing which was speedily given up. In this country, too, we heard of the Trendelenburg position, while in Germany they did not so name it, for the position had been used by Badenhauer in 1881, and probably earlier by Billroth. Trendelenburg had only popularized it.

Where symphyseotomy was applicable, Dr. Garrigues decidedly preferred it to Cæsarean section. It was safer. He had operated once in a dirty house, but he would never do it again if it were possible to convey the patient to a hospital. He might say that in his second case the pubic separation by actual measurement was five inches, yet no damage was done. This great amount of separation had taken place while the patient was under the care of assistants who knew little about symphyseotomy. He was resuscitating the asphyxiated child in an adjoining room. As to statistics in Germany, they performed Cæsarean section if the case were known to be aseptic; otherwise they took their chances with symphyseotomy, which, of course, made a worse showing for the latter.

Two Cases of Symphyseotomy.—Dr. Edward A. Ayres had had two cases of symphyseotomy which he had not yet reported, one last autumn, the other on Monday preceding the meeting. The conjugate in the first case measured 3⅓ inches. The child died before it could be extracted, hence craniotomy was performed. The pubic bones separated three-fourths of an inch. The mother made a perfect recovery. In the last case the conjugate measured 3⅛ inches, the separation was a little over two inches, the child weighed nearly ten pounds, but its heart had ceased to beat before it was brought into the world. The mother was fleshy, and much difficulty was experienced in bringing the pubic bones together again. She was now doing well. Dr. Ayers spoke very highly of the bed used in the Polyclinic Hospital in these cases. A wire mattress bed, a wooden frame on top with canvas stretched across it, a hole in the canvas at the buttock, rope and pulley to lift the wooden frame. One strong argument in favor of Cæsarean section was the much smaller fœtal mortality. He did not think the fœtal death-rate following symphyseotomy would be greatly reduced below twenty-six per cent. Regarding the method of extracting the child, Dr. Ayers said that internal version had never been a favorite procedure with him, and in symphyseotomy it would increase the fœtal death-rate.

Dr. G. W. Jarman remarked that these women did

not always fall into the hands of men of much operative experience, nor were hospitals always accessible, and he would ask Dr. Davis which, in his opinion, was the safer procedure for men of limited experience, Cæsarean section or symphyseotomy.

Six Cases of Symphyseotomy.—Dr. Coe thought stress should be laid on the point made by Dr. Ayers, namely, that symphyseotomy was intended as a life-saving operation for the child, and when it failed in this it failed of its purpose, for a dead child could be extracted through a pelvis of such dimensions by craniotomy. They had had six cases of symphyseotomy at the Maternity Hospital within a comparatively short period of time. One of the children died. In this case the cervix was well dilated. The child was not large. Dr. Coe had expected an easy delivery after symphyseotomy, and was surprised at the difficulty of getting the head through. Version had been performed. There was no doubt but what the mother could have been saved as well by Cæsarean section as by symphyseotomy, and the child would not have died. In cases of elective Cæsarean section the child had been extracted with ease, and the mother had made a smooth recovery. Against symphyseotomy was the difficulty of determining the size of the child's head. He had had one case of at least half an inch separation of the pubes six months after symphyseotomy, and the patient walked with a waddling motion. There were probably other similar cases which had not been reported. Such a result in some families would prove a very serious affair.

Dr. Davis closed the discussion. Replying to Dr. Jarman's question, he thought that under the circumstances named the general practitioner, with the assistance of a single cool-headed medical neighbor, could do Cæsarean section more safely to mother and child than symphyseotomy.

Stated Meeting, May 23, 1895.

Henry C. Coe, M.D., Chairman.

Cephalopagus.—Dr. Charles E. Nammack presented a double fœtal monstrosity, the principal and the parasite being joined at the head. Abortion had taken place about the fifth month. The specimens had been preserved for some months before he saw them, so that they were useless for studying the blood-supply.

Conservative Vaginal Gynecology.—Dr. H. N. Vineberg presented specimens from two cases. The first patient had suffered from backache, migraine, profuse menstruation. He found retroversion of the uterus in third degree, with marked prolapsus of both tubes and ovaries, but he was unable to make out distinct disease until he had made an incision in front of the vagina. The left tube was thickened, the left ovary contained some small cysts, which he punctured and returned the organs to the abdominal cavity. The right ovary contained a cyst as large as an almond, which he incised, whipped over the defect with running catgut, returned the organ, and fixed the uterus to the anterior abdominal wall. The girl had been well since, and expressed herself as feeling like a different person. To his mind the uterus was now in ideal anteversion.

In the second case the patient had suffered from a good many symptoms relating to retroversion which he had corrected in a similar manner, leaving the organ in good anteversion. There was still some pain from a thickened tube.

Ectopic Pregnancy.—The Chairman, Dr. Coe, presented a specimen of tubal pregnancy, and stated that the case impressed the danger of delay. The patient gave a history of having skipped one period and thought she was pregnant. The night before, when her period was due, she had very severe abdominal pain. On examination, some hours later, Dr. Coe found a small uterus, but an enlarged left tube. That was all, and there were no subjective symptoms at this time, the pulse and temperature being normal. He made the diagnosis of possible ectopic pregnancy, and requested to be notified at once in case symptoms arose. Symptoms did arise that night, but they failed to notify him until the next afternoon, when she was practically moribund. He gave an absolutely bad prognosis, but operated, found the abdomen full of blood, and death occurred soon afterward. He believed that if he had insisted on operating when he first saw the patient her life would have been saved.

Dr. Nammack thought the cause of delay was the teaching of the books that the hemorrhage might take place into the broad ligament, instead of into the free cavity, and become shut off and cause no further trouble.

Cœliotomy for Fibroids.—Dr. Francis Foerster presented large fibroids from three cases, removed with the uterus through the abdomen. The first tumor and uterus weighed fifteen pounds. This case was complicated by pregnancy at the seventh month. The woman had been almost exhausted by hemorrhages. Scarcely any blood was lost during the operation. She recovered. The second specimen was a large myomatous tumor of the uterus, pus tubes, and an ovarian cyst the size of a child's head. The patient had suffered since the birth of her child eighteen years before. She was extremely anæmic and shock was profound. She died on the third day.

The tumor and uterus in the third case weighed twenty pounds. This patient had also suffered greatly in general health from hemorrhage, etc., was jaundiced, the heart beat 120 to 140. Little blood was lost, but as a precaution he injected three hundred grammes of salt solution. She was doing well since the operation two days ago.

The Chairman thought it was remarkable that Dr. Foerster's patient with large fibroid had not died of shock. The success of the operation was probably due in no small degree to beginning with stimulants in advance of it, instead of waiting, as many operators did, until shock had set in.

Pregnancy and Labor Complicated by Cardiac Disease.—Dr. Julius Rosenberg read a paper on this subject, giving the histories of two cases seen by himself, and reviewing some of the meagre literature on the subject. He thought it probable that the reason why the subject had received so little attention was the fact that mild cases of cardiac disease complicating pregnancy were probably overlooked, while the severe ones ended fatally and therefore remained hidden. His first case was in a German woman, aged thirty-two, in labor with her first child. The pains had continued about fifty hours when he was called. The os was fully dilated, but the pains were feeble, and no progress was being made. There was a distinct systolic murmur at the apex. Forceps were applied and a living child was extracted. The patient was doing well until she suddenly became cyanotic, pulse rapid and irregular, and in spite of every means to restore her she died within three hours.

The second patient consulted him when she was six months pregnant. She had had chorea during childhood which had left her with a damaged heart. She had atonic dyspepsia, eructation of gas, presystolic murmur, displacement of the heart to the left, œdema, bronchitis. He had often thought of emptying the uterus, but concluded that the best chance was given by letting pregnancy go to term. Evidences of venous obstruction increased, fluid was present in the pleural cavities, there was cyanosis. Labor came on somewhat prematurely. The patient's condition becoming alarming, he used forceps in order to terminate labor. A living boy was extracted. The uterus contracted and the placenta was expelled within twenty minutes. The heart continued to act poorly for a time, but later improved somewhat. Four hours after labor she was

seized with a convulsion. The heart failed and she died.

Experience had shown that, excluding milder cases of cardiac trouble complicating pregnancy, a large percentage of the cases proved fatal. The immense risk which women with cardiac disease ran in becoming pregnant made it imperative that marriage be forbidden. If one's advice were not followed, every means should be taken to put the patient in good general condition. The question whether delivery should be hastened was a grave one. Unfortunately the hope had proven delusive of saving the patient by inducing labor when the cardiac symptoms were marked.

In order to allow the heart to accommodate itself to the arterial changes after labor, delivery of the placenta should not be hastened. During the lying-in period the heart required constant watching. Simple diet and proper stimulation formed the basis of treatment.

Dr. Coe called attention to the fact that the period of greatest danger to these patients was for a short period after labor. He said Dr. Grandin could relate a case bearing on that point.

Dr. Egbert H. Grandin thought the author's experience was unique in that he had seen two cases of bad cardiac diseases complicating pregnancy within a short period of time, but it was not unique in the result. Few of us saw enough cases of this kind to dogmatize as to management. The woman with cardiac disease might go through her first pregnancy, possibly her second, without special difficulty, simply because the cardiac lesion was compensated by hypertrophy. It was when this compensation ceased and dilatation began that danger arose.

As to marriage, if the heart lesion were not of aggravated type he would not forbid it, for the reason that the large majority of women with minor cardiac lesions did marry, bore children, and suffered no ill consequence. If the heart disease were of an aggravated type, marriage should be forbidden. As to treatment, he would advise emptying the uterus just as soon as there was cardiac dyspnœa, particularly if there were albumin in the urine. When one decided to empty the uterus, the sooner it was done the better. In spite of the fact that chloroform was regarded as dangerous in cardiac disease, he would prefer to administer this anæsthetic during induction of labor.

Dr. Simon Baruch related a case, seen with Dr. Dana twelve years ago, that of a primipara with cardiac insufficiency, in whom the pains were ineffectual. While they were debating what to do, the nurse came out of the lying-in chamber and said the patient had suddenly expired. He then made up his mind that if he should ever see a pregnant woman with advanced mitral disease, he would at once empty the uterus.

Dr. Simon Marx had seen about six cases of cardiac disease complicating pregnancy, in two of which his experience was rather sad, although the ultimate result had been favorable. He believed the large majority of pregnant women with cardiac disease got along without trouble, but where dilatation took place the danger was great. He was a great believer in nitro-glycerine, for it was both a cardiac stimulant and vaso-motor dilator, and did not irritate the kidneys like strophanthus and digitalis. One of his patients, a young woman, in good circumstances, had passed through her labor well, then went into collapse from heart failure. He resorted to heroic treatment, injecting one twenty-fifth of a grain of nitro-glycerine every hour for ten hours, and also a high rectal enema of a quart of salt solution every hour for ten hours. Not until then did she begin to recover. He attributed the collapse in this case partly to ergot. This drug was faulty in these cases, inasmuch as it acted as a vaso-motor constrictor, not as a dilator.

Dr. Mary Putnam-Jacobi queried whether cardiac thrombosis was not the cause of death after labor in these cases, for the conditions were favorable for this accident.

Dr. Anna M. Galbraith related a case of marked cardiac insufficiency in which the woman passed through labor successfully, bearing a living child.

Dr. R. A. Murray said the only cases in which he had found trouble were those of mitral disease with systemic symptoms before pregnancy occurred. Pregnancy usually rendered these cases worse, both during the early and the later months. Œdema of the feet and lungs and cardiac dyspnœa were danger signals. He had seldom seen these symptoms without a fatal issue before or after confinement. There was, however, even a more dangerous form of heart disease, viz., fatty degeneration without valvular lesion. He had seen one such case, in a very large woman, who had coma and vomiting before labor. The child was delivered, she improved somewhat, but died without the nurse being aware of it. In the case of a young woman he advised against marriage on account of a fatty heart, but the advice was not followed. Dr. Lusk saw her during pregnancy, and his assistant induced labor at the fourth month, but she died. Labor should be induced early.

Dr. Rosenberg did not know why labor should be induced when the symptoms of cardiac disease were slight. When they were serious, the prognosis was bad under any circumstances.

A Contribution to the Nature, Cause, and Treatment of Suspended Animation in the New-born.—Dr. J. D. Bissell read this paper. The first case of suspended animation in which he had tried prolonged suspension occurred in a child to which he was hastily summoned at the New York Asylum for Lying-in Women, September, 1893. He arrived almost immediately, but found the child to all appearances dead. Having had some experience with suspension in chloroform asphyxia, and observing that a spark of life remained, he had the child suspended by the feet. Breathing and heart action were soon partly restored, but stopped at intervals, and it was fully twenty minutes before a voluntary movement was observed of the head or arms. The child was then placed in the horizonal position, but as it grew weaker, a pillow was arranged and its head was allowed to hang down. It was six hours before complete recovery took place. At the end of two weeks it left the hospital healthy. The cause of the trouble was unknown.

Not long afterward he had opportunity to try this method in suspended animation in the new-born. The fœtal heart action had been strong, but before the end of labor there was marked loss of blood, the heart action became weak or ceased. Extraction was hastily performed. The child was pale, there was general complete muscular relaxation, no apparent heart or respiratory action. The inverted position had to be persisted in in this case for two hours. At first very weak gasps set in; after the first hour they became a little deeper, and finally regular. The child was feeble, but showed excellent health by the twenty-first day.

The third case was also one of suspended animation in the new-born, the first gasp occurring three minutes after delivery, being followed immediately by flow of mucus from the mouth. The next fifteen minutes there were five or six short breaths. At the end of an hour and twenty minutes after suspension was begun the lungs and heart were found acting normally. The peculiar feature of this case was the succession of rapid breathing for fifteen or twenty minutes, and intervals of two or three minutes without breathing.

Dr. Bissell had attended four other cases in which there was suspended animation of the new-born, and resuscitated them in a similar manner. As soon as delivery was completed the child was held up by the feet, mucus was cleared from the mouth or throat by a cotton swab, the child was wrapped in a warm blanket, the cord was severed if there was no pulse; the child

was taken near a stove and the inverted position was maintained until resuscitation had taken place. Of other methods the best were those of Schultze and Dew. He thought there was some danger in the manipulations of Schultze's method, and as to inflation of the lung, death was apt to result from too much force, besides air was likely to be driven into the stomach as well as into the lungs. Other methods were mentioned.

Suspended animation in the new-born might be due to impairment of the umbilical circulation from pressure upon the cord, entanglement of the cord upon itself or around the child, to loss of blood, or to shock following injuries. It might be of apoplectic, cyanotic, or anæmic form. In either case the circulation demanded primary consideration, and it was through improvement of this that we must look for awakened activity of the nerves covering respiration. Life could be sustained several minutes after birth without respiration through the lungs, provided the heart action were kept up. The latter might be too feeble to be recognized, constituting suspended animation, not actual death, in which case the heart would be enabled to work with greatest advantage by placing the child in the inverted position. Each inspiration increased the amount of oxygen in the system until the function of respiration was fully established. The suspended position also favored expulsion of mucus. The method could be used in combination with others, but Dr. Bissell had practised it alone in order to give it a fair test.

The paper was discussed by Drs. Dew, P. A. Harris, R. A. Murray, Rosenberg, Jarman, Amende, and the discussion was closed by Dr. Bissell.

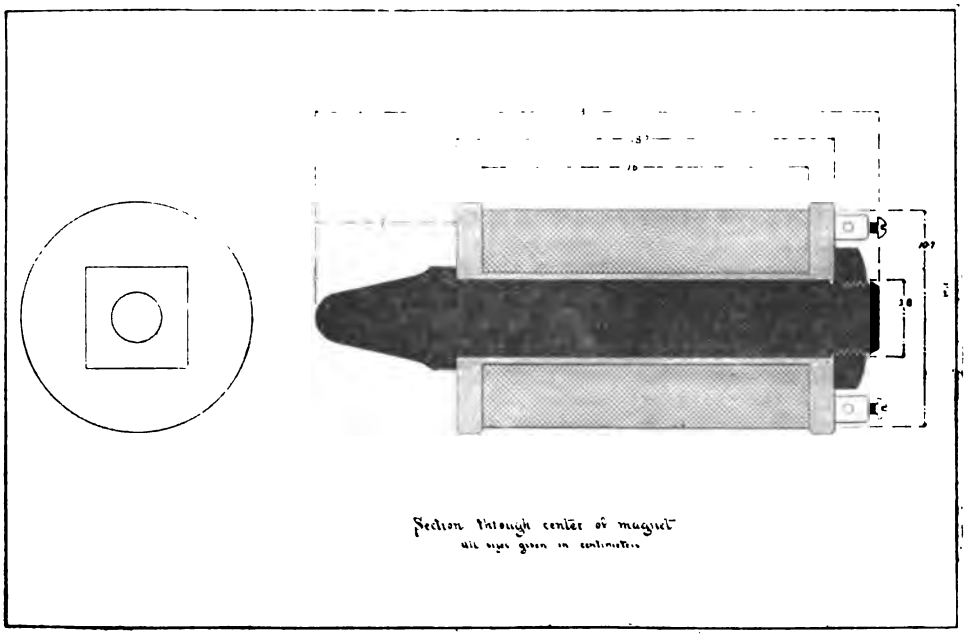
New Instruments.

THE ELECTRO-MAGNET FOR THE REMOVAL OF FOREIGN BODIES FROM THE EYE.

By H. G. SHERMAN, M.D.,

CLEVELAND, O.

No persons who present themselves to the oculist cause greater anxiety than those giving a history of an impaction of a foreign body in the tissues, or a penetration and a lodgement of the same within the chambers of the eye. It nearly always happens that the point of entrance and lodgement of a foreign body is difficult to make out, owing to hemorrhage or swelling. Should a foreign body be lodged in the tissues of the eye or its chambers, it is of the gravest concern, for we know with almost absolute certainty that sooner or later an irido-clycitis or irido-choroiditis will supervene with probable loss of the eye in case the foreign body cannot be safely extracted. We know also of the almost certain involvement of the integrity of vision of the other eye sympathetically in case of violent inflammatory reactions occurring in the injured eye. Therefore, any means which will aid in the certain diagnosis of the presence of a foreign body within the eye and assist in its removal will be heralded with satisfaction. The great majority of these cases lead one to look for iron or steel, and while various magnets have been employed with varying success for the removal of these bodies through open wounds, I am not aware that an electro-magnet has been devised capable, when properly energized, of detecting with absolute certainty very small particles of iron or steel which may be imbedded deeply within the eye and the presence of which cannot be made out by any clinical evidence. The writer has enjoyed great satisfaction in the use of an electro-magnet made for him by Mr. Adams, of the General Electric Company, Cleveland, O. The magnet is made of soft Norway iron, of the single-bar type, of a size and shape as indicated by the photo-engraving. It was energized by the current from the electric (incandescent) light wires in my office. About twelve ampères and an electro-motive force of one hundred and twelve volts, developing a resistance force of about one hundred and twenty-five pounds to the square inch, was found sufficient to draw small particles of iron and steel from masses of various organic substances employed for experimental purposes, the details of which I need not enter into. The following cases will better illustrate the value of this magnet:



Section through center of magnet
all sizes given in centimetres

Case I.—Miss Katie W—— was referred to me by Dr. Sabin, of Warren, O., June 22, 1894. The history of the case gave evidence that six weeks previous to the consultation, while employed by the N. Y. P. & O. Electric Light Co., she was struck in the eye by a foreign body, supposed to be a filament of bamboo which she was grinding at the time of the accident. Dr. Sabin, whom she consulted, observed a slight cut in the conjunctiva about one line from the corner and the superior margin of the lower inner quadrant of the eyeball. At that time the doctor did not suspect the presence of a foreign body in the eye, the vision being normal, although the girl complained of constant pain and a great abhorrence to light, with excessive lachrymation. At the time of consultation with Dr. Sabin I found those same symptoms obtaining; in addition a marked circumcorneal, deep-seated injection existed, acute sensitiveness over region of original injury, determined by probe and pressure. The ophthalmoscope revealed hyperæmic conditions of the optic disk; vision was found to be normal. An incision was made through the conjuctiva at point of injury and cicatrix found in sclera. I did not deem it advisable to make an exploratory incision in the scleratory tissues without more positive evidence of the presence of a foreign

body. I therefore advised that atropia be employed to keep the eye at rest, and that the eye be properly protected from the light; also that the girl be kept under strict observation and await developments. During the next five months I saw the girl several times, but gained no additional knowledge in regard to the causation of the pain, etc., which had been more or less constant since the time of injury. Various analgesics were employed without avail. In November I learned that the girl's eye might have been injured by a small particle of steel, as a nick was discovered in the knife of the machine at which she was working at the time of injury. Acting on this information I had the magnet constructed. On November 25th the girl's eye was brought near the magnet energized as above described. When within twelve inches of the magnet she complained of a sharp cutting pain in the eye. The magnet had determined with absolute certainty the presence of iron or steel within this girl's eye. November 30th Dr. Sabin was sent for, and we prepared to make an incision through the tunic of the eye and remove the foreign body. The patient refused to allow the operation to be made; no argument would avail, and, recognizing the possibilities in the case, I refused to assume further responsibility. In order, however, to convince Dr. Sabin of the presence of a foreign body within the eye I determined to again apply the magnet. Twelve ampères at an electro-motive force of one hundred and twelve volts was employed, and the eye placed in direct contact with the magnet cone, with the unexpected result of withdrawing through the tissues (sclera and conjunctiva) of a piece of steel wire 2 mm. in length and $\frac{1}{10}$ mm. in diameter, two lines inferior to the point of entrance. Considerable hemorrhage followed the exit of the foreign body. Shortly afterward the patient returned to Warren with vision unimpaired, with no untoward symptoms whatsoever, and is now employed at her old work.

Case II.—April 4, 1895, Joe D——, boiler-maker, presented himself at my office with the statement that a piece of steel struck him in the eye. The chambers of the eye were filled with blood, preventing an ophthalmoscopic examination. A wound in the sclera was found, the magnet brought into action, and a piece of steel 9 mm. in length and 3 mm. in diameter was removed through the wound aperture. I was obliged to remove the eye on account of the violent inflammatory reaction which came on a few days later, and found on examination that the foreign body had lodged in the tunic of the eye at the fundus near the optic disk.

Case III.—The latter part of April Dr. Perkins came into my office with Robert D——, in whose cheek a piece of steel had imbedded itself deeply three weeks previous. The magnet immediately detected the point of location; an incision through the integument was made and the steel instantly clicked against the magnet.

Case IV.—May 2d, John B—— was brought to my office with a bit of iron impacted in the iris of the right eye, having penetrated the cornea. A corneo-scleral section was made and the iron withdrawn by the magnet, carrying with it a segment of iris which was excised.

Many cases of iron chips implanted on the cornea have been removed by placing the eye in direct contact with the magnet cone. Sufficient has been noted, I trust, to determine the value of this form of a magnet as a sure means of diagnosis where the presence of iron or steel is suspected.

Hiccough in the new-born is a symptom of hereditary syphilis. The effects of specific treatment on the hiccough are marked.—Carini.

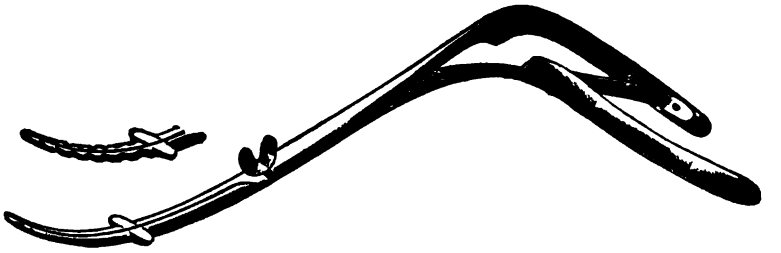
AN IMPROVED UTERINE DILATOR.

By J. W. LONG, M.D.,

Richmond, Va.

In 1890 I published an account of a uterine dilator, which instrument possessed several points of advantage over any dilator then on the market. Recently I have improved this dilator in a number of particulars, and feel sure that a trial will prove it to be a superior instrument.

It is made in two sizes. The smaller one has smooth small blades, so that it is readily introduced into even a "pin-hole os." The ordinary dilator is too blunt for such cases and cannot be introduced without first enlarging the external os with a sound or "boring" into it with the point of a scissors. The blades "feather" just enough to keep them from slipping out, while the shoulder gauges the depth of introduction. The joint is fastened by a thumb-screw, which is easily removed; this is only necessary when the instrument is to be cleaned. The female blade should be made a little stouter just opposite the thumb-screw than is shown in the cut. The handles are curved downward and backward, throwing them and the hand holding them entirely out of the way of inspection and manipulation while the dilator is *in situ*. A spring between the handles keeps the blades closed.



The large-sized dilator has corrugated blades, and the handles may be fitted with a thumb-screw, but it is questionable whether or not a thumb-screw is desirable.

This instrument is manufactured by Messrs. Bartlett, Garvens & Co.

THE HORIZONTAL POSITION FOR APPLYING PLASTER CAST.

By T. W. SLOAN, M.D.,

Seattle, Wash.

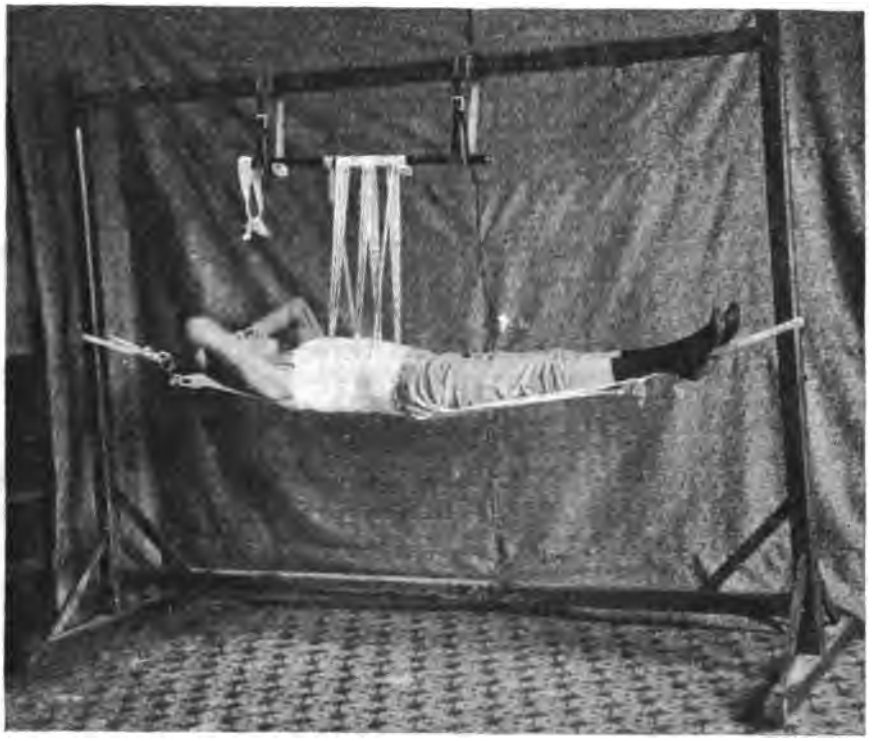
This apparatus is one by the use of which we are enabled to properly apply a plaster jacket for supporting the spinal column in any case requiring artificial support. Never was there a saying more pregnant with truth than that necessity is the mother of invention. It was on account of the difficulties in the way of applying a cast in the upright position, and the unsatisfactory results often following its application in that way, that led me to devise a method which is more simple, more efficient, and at the same time one which gives the patient the greatest degree of comfort possible while the jacket is being applied.

This apparatus consists of a frame eight feet long and six feet high. A hammock made of canton flannel, double thickness, from nine to fifteen inches wide according to the size of the patient, and a few inches longer than the patient to be treated, is stretched between the two upright pieces. To the top rail of the frame is suspended a pole by two straps with buckles, so that the pole can be raised or lowered at will by the operator. This completes the description of the apparatus.

The patient should be divested of all clothing covering the trunk save a closely fitting knit shirt, and if we are dealing with Potts' disease a pad of absorbent cotton should be placed on either side of the processes of

the diseased vertebra and held in position by one turn of a bandage around the body, after which the patient is placed upon the hammock. With emaciated patients I prefer enveloping the body in a layer of absorbent cotton, which is easiest accomplished by laying strips across the hammock before placing the patient upon it. The end of a roller bandage is now attached to the suspended bar, and about three turns of the bandage are taken around the body and up over the bar, leaving an interspace between each turn of the bandage. The turns of the suspension bandage should be drawn sufficiently tight to cause the hammock to fit the concavity of the back, and after securing the bandage to the bar, they can be further adjusted, if necessary, by raising or lowering the bar.

After first applying a dry roller bandage, the plaster bandages are applied and should be carried from the trochanters to the axillary spaces. The number of plaster bandages necessary is from four to ten five-yard ones, according to age of patient, the latter number being sufficient for an adult. It is also necessary to



This patient, being carefully measured before and after, showed an increase of one inch in height, no extension being made.

place a pad of folded towels or like material over the stomach and one over the chest, under the shirt, so that they can be easily removed after the cast becomes set, thus allowing the patient plenty of breathing-room and room for digestive purposes.

When the cast has been applied, the patient is left undisturbed a sufficient length of time for it to harden, which should be not less than two hours in any event. After it has become sufficiently firm the patient is placed upon the feet, and the two ends of the hammock, with the suspension strips, are cut off even with the cast. It will sometimes be found necessary to trim off the edge of the cast under the armpits to let the shoulders down to their natural position, and also to trim out in front of each groin sufficiently to allow the thighs to be flexed at right angles with the trunk.

Since I first called the attention of the profession to this method of applying a plaster jacket by an article published in the MEDICAL RECORD, March 10, 1894, and by sending out some photographs later on of my improved apparatus to some of the leading surgeons of the country, I have received a number of letters and have been very much gratified on account of the interest manifested. Some suggestions have been offered as to improvements that I might make, only one of which I will mention, and that is of adding traction for the purpose of making extension upon the spinal column, while the jacket is being applied. This suggestion, coming from so eminent a source as Dr. Lewis A. Sayre, should not pass unheeded, for he says: "If you will now add to it traction by the head and feet, to overcome the reflex muscular rigidity while you are applying the plaster, you will make the thing perfect." Now, I take the position, and my experience in the use of this apparatus confirms me in the opinion, that muscular rigidity is overcome by this position alone, and that strong extension is never required after we have secured muscular relaxation by a comfortable reclining posture. The steady, firm pressure exercised upon the muscles of the back while the patient is being suspended in my hammock apparatus will control muscular spasm with no less certainty than a well-applied bandage controls muscular spasm in a leg or an arm. In the treatment of Potts' disease I have found that no extension whatever is required, except where there is lateral displacement, in which case gentle traction made upon one foot, while the shoulders are being supported, will be sufficient to bring the vertebral column into line. To extend the spine forcibly while we have at the same time secured muscular relaxation is not only unnecessary, but it is certainly not entirely devoid of danger. I have carefully measured the height of each patient upon whom I have applied the plaster jacket, no extension being made at the time, and have found an increase in height, after application of the cast, of not less than three-fourths of an inch, showing conclusively that in this position we have muscular relaxation, which is the one condition absolutely necessary for securing extension of the spine.

Permit me here to quote the opinion of a man to whom we are all indebted, perhaps more than to any other man living, for the wonderful advancements during recent years in the surgery of the abdominal cavity — I refer to Dr. Nicholas Senn. He says: "I thank you for the photograph, and congratulate you on your exceedingly simple and efficient method of extension." That expresses, in one short sentence, just what it is, for it is an extension apparatus exceedingly simple and exceedingly efficient. To my mind this method is in every way superior to the time-honored one of suspension in the upright position, and I can think of no condition calling for the use of the Sayre apparatus which is not fully met by it.

1. The patient experiences no pain in consequence of the operation.

2. In this position we secure muscular relaxation, without which we cannot hope to achieve the best results.

3. This position is most desirable for securing perfect adaptation of the cast to the patient's body.

4. Time is not limited as in the upright position, and we are not compelled to rush through with an operation the result of which depends upon the amount of care we exercise.

5. In this position we secure the nearest approach to absolute quiet, with regard to muscular movements, both voluntary and involuntary, including respiratory movements.

6. Fatal syncope can never occur in this position in consequence of the operation, as has sometimes happened with feeble patients while being suspended in the upright position.

7. After the cast has been completed the patient can be left quiet and comfortable in position a sufficient length of time for it to harden—a thing not possible in the upright position.

A NEW MYRINGOTOME.

By CORNELIUS WILLIAMS, M.D.,

ST. PAUL, MINN.

The best instrument for myringotomy I believe to be a small curved knife, which Mr. Meyrowitz, of New York, has made for me and which is sufficiently described by the illustration. The knife is a slight modification of a capsulotome which I have used for several years. The advantage of the curved blade over the straight in capsulotomy, after extraction of cataract, is that it cuts more readily, and in the sweep of the knife it makes a longer hole in the membrane. Another advantage is that it will cut old capsules which are only pushed along and torn from their ciliary attachments by the straight blade. The myringotome

which is shown in the cut would be a better instrument if the handle and the shank were not quite so long, and with the deflection at the junction of the handle and the shank a right angle. The capsulotome makes a good enough myringotome, and is a capital knife for styes.

Correspondence.

LATIN AS SHE IS WROTE AND SPOKE.

To the Editor of the Medical Record.

Sir: I have read with great interest your editorial in the issue of June 15th, entitled "The Need of a Latin Revival," as well as the many articles which have appeared in the Medical Record during the last twenty years, advocating the study and use, by physicians, of the Latin and Greek languages.

It would surely be of great advantage to the medical profession if all its members, both in this country and Europe, could write and speak with elegance both Latin and Greek. All the medical literature of the world could then be printed in one of these classic tongues, and all of it would then be accessible to all of us. Not only at the large international gatherings, where now a Babel of tongues is the most prominent feature, but at the county society, in the rural districts, the musical tones of those languages, which have never been equalled for force, variety of expression, and beauty, would replace the abominable jargon of German, French, Russian, Spanish, English, and "United States."

For the speedy attainment of this ideal condition, let us all devoutly pray, especially those of us who know as yet not a single word of Latin or Greek.

In the meantime—and, as Mark Twain, I believe it was, remarked, "it would probably be a tolerably mean time" for some of us busy old fellows, who would have the duties of a large practice to perform at the same time that we were learning to speak and read and write Latin and Greek—would it not be well to remember that our profession is a practical profession, and that most of us are engaged in the practice of medicine; that many of us are obliged to gain a livelihood for ourselves and our families by that practice, and that life is short and full of duties?

Before we commence in earnest the study of these languages, so necessary to the busy practitioner, will you have the kindness to inform us, through the columns of the Record, what has been printed in either of them, during the last five hundred years, that it would pay the physician of to-day to read, if it were translated into his mother-tongue?

A large percentage of the technical terms employed in medicine are of Latin or Greek origin, and of course all prescriptions are written in Latin. This latter statement applies more particularly to the prescriptions of those physicians who are graduates of machine-shops, and whose classical learning and preliminary education was obtained in business offices and in markets, and behind the counters of our large retail establishments.

It is truly gratifying to see the ease with which these gentlemen can express themselves in an unknown tongue; how they can rise superior to the limitations of gender and case, and the facility with which the classic and the vulgar tongues can be mixed, in the prescription, to the great advantage of both. It also has a particularly good effect on the minds of the patient and his friends to read these Latin patois prescriptions. It inspires a proper amount of awe for the great wisdom of the medical mind, and usually prevents the laity, and sometimes other physicians, and even the druggist, from finding out what medicine it is intended shall be given.

No man or woman who has not seen it done can imagine what a simple thing it is for a physician who has never seen a Latin grammar to write out a full Latin prescription. Every doctor knows that the Latin for iron is *ferrum* or *ferri* or *ferra*—it makes little difference which—and the druggist or his youngest clerk knows, as soon as he sees either of these words, that iron in some form is called for, and he immediately puts it up. If the physician writes *rheum* or *rhei* or *rhea*, he knows, and the druggist knows, that it is rhubarb that is called for, and not the celebrated actress of a similar name.

Any druggist knows, if he knows anything, and most of them do, that *aqua* or *aquam* or *aquæ* means water, and that either of these terms can be used in place of either one of the others. If the physician does not know this he ought to. How much better it is to write at the bottom of a prescription, as was done by a physician on a prescription which I saw to-day, "*Cochlear parvum omni tertia hora sumendum*," than it is to write, in the language which most of us are compelled to use in talking to ignorant people, "Take a teaspoonful once in three hours."

It has been asserted, and I presume it is true, that not over five per cent. of the prescription clerks in this State have any knowledge of Latin, and I am acquainted with an ignorant physician who only spent four years in the study of Latin, who makes the absurd claim that it is not safe or scientific for physicians, who have no knowledge of this tongue, to write in it prescriptions to be translated and compounded by druggists who enjoy the advantage of even less learning. As might be expected, this same physician has indorsed the absurd notion that in this country it would be well if all prescriptions were written in plain vulgar "United States." Does not everyone know that mistakes do not occur when prescriptions, containing the names, and methods of preparation, and doses, and frequency of repetition of doses of poisons, are written in Latin patois? Was not this the language of religion and science for many centuries? Does it not resemble the language of Virgil and Cicero and Horace? How, then, can errors occur in writing or translating it, in

this enlightened age? What has been said of Latin applies with equal truth to Greek; they are the languages of science and of scholars, and come perfectly natural to all physicians, either to speak, read, or write, but particularly to write. How much better it would be for our beloved profession in the future, if our young men and maidens, instead of fooling away their time with microscopes and culture-tubes, and bacilli and bacteriological and laboratory work, would return to the true fountain of wisdom, which is the Latin language. How much better to absorb wisdom from these pure sources than to waste time, as many do, in the study of the barbaric language of the stupid Dutchman, a language which contains little that is better than the vaporings of Goethe and Schiller or the pseudo-science of Virchow and Ziemssen. Let us by all means have a "Latin revival," it is without doubt the one thing that is needed in this age to make our profession truly scientific.

Yours truly,
H. L. WALDO, M.D.

TROY, N. Y.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending August 3, 1895.

	Cases.	Deaths.
Tuberculosis	143	101
Typhoid fever	18	8
Scarlet fever	26	1
Cerebro-spinal meningitis	2	5
Measles	163	13
Diphtheria	159	29

Coleridge on Genius and Degeneration.—In the "Letters of Samuel Taylor Coleridge," just published under the editorship of his grandson, Mr. Ernest Hartley Coleridge, the poet gives a curious prolepsis of Lombroso's views as to the intimate connection between genius and disease. The author of "The Ancient Mariner" writes: "It is a theory of mine that virtue and genius are diseases of the hypochondriacal and scrofulous genera, and exist in a peculiar state of the nerves and diseased digestion, analogous to the beautiful diseases that color and variegate certain trees. However, I add by way of comfort, that it is my faith that the virtue and genius produce the disease, not the disease the virtue, etc., though when present it fosters them." Coleridge, as is well known, was a slave of opium. He is said to have swallowed two quarts of laudanum in a week, and on one occasion he took a whole quart in twenty-four hours. He struggled hard for deliverance, and wished that he might be kept from the possibility of indulgence by *force majeure*. In the following passage he sketches out a plan for the "therapeutic seclusion" of narcomaniacs: "This might give occasion for the suggestion of one new charitable institution, under authority of a legislative Act, namely, a Maison de Santé (what do the French call it?) for lunacy and idiocy of the will, in which with the full consent of, or at the direct instance of, the patient himself, and with the concurrence of his friends, such a person under the certificate of a physician might be placed under medical and moral coercion. I am convinced that London would furnish a hundred volunteers in as many days from the ginshops who would swallow their glass of poison in order to get courage to present themselves to the hospital in question; and a similar institution might exist for a higher class of will maniacs or impotents. Had such a house of health been in existence, I know who would have entered himself as a patient some five and twenty years ago." It should not be forgotten that Coleridge spent the last eighteen years of his life under the roof of Mr. James Gillman, a medical practitioner of Highgate, who tended him with more than brotherly care (the expression is Coleridge's own) as an honored and cherished guest, not as a patient in the ordinary sense.—*British Medical Journal.*

Cure of Cancer.—A paper of exciting interest was read by M. Richet at the Académie des Sciences on two cases of cancer cure by sero-therapy. He said that sero-therapy had gained its laurels in the treatment of diphtheria and other affections, and the two cases he brought under the notice of his colleagues at that meeting proved not only that this method can be applied, not only to maladies in which the microbe is known to be virulent, but also in affections like cancer whose microbian origin is still problematic. His experiments were made as follows: On February 9th, M. Reclus removed an osteo-sarcoma of the leg. This tumor was well rubbed up in a mortar with a little water. The liquid was filtered through linen and injected into three animals (an ass and two dogs). This injection was not followed by any reaction, and in five, seven, and fifteen days afterward the blood was drawn and the serum separated. It was this serum that he used in the cases in question. The first of these was that of a woman who had been operated on in October last for tumor presenting the look of a fibro-sarcoma of the size of an orange and adherent to the sixth, seventh, and eighth ribs, without, however, interesting the tegument. In February the tumor returned and rapidly assumed the size of a small orange. The treatment by the serum was commenced on March 12th, and continued during forty days, at the dose of three syringes a day practised around the tumor. From March 25th the tumor commenced to diminish in size, and to-day only a small indurated nodule is found, and the general condition of the patient has improved considerably. The tumor, which was certainly of a cancerous nature, was thus cured by the injections of serum. The second case was that of a man, aged forty-four, who entered the hospital on March 27th last for a tumor in the epigastric region of the size of an orange, and diagnosed cancer of the stomach. Surgical intervention being considered impossible, the treatment by sero-therapy was decided on and commenced on April 6th by a first injection of 4 c.c. (four Pravaz syringes), and from that time up to the 24th of the same month as much as 64 ctm. cubes were injected. A general improvement in the condition of the patient promptly followed; the weight increased by seven pounds, and from April 10th the tumor began to diminish in volume, and at the time of speaking it can be no longer defined by the fingers. In this second case, as in the first, added M. Richet, the improvement was rapid and incontestable, and as regards the first case at least, the anti-cancerous serum did really cure a case of cancer.—*Medical Press.*

Death of the Oldest German Surgeon.—Professor Franz von Ried, the oldest of German surgeons, died at Jena on June 10th, aged eighty-five. He was a pupil of Michael Jaeger, at Erlangen, and lectured in his place for some time. In 1846 he was appointed Professor of Surgery in the University of Jena, and this appointment he held till 1884, when he retired. His principal work was "Die Resectionen von Knochen," (Nüremberg, 1847), which in its day was a leading authority on the subject.

Treatment of Fractured Patella.—The method of Barker is to encircle the patella with a vertical, antero-posterior silk ligature, which, when tied, holds the fragments firmly together. The operation is done subcutaneously, and the ends of the ligature are cut short.—*British Medical Journal.*

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Original Articles.

SUICIDE IN THE UNITED STATES.

BY JAMES WEIR, JR., M.D.,

OWENSBORO', KY.

THIS paper has been prepared with special reference to suicide as observed in the United States, though voluntary death as found throughout the entire world is, incidentally, discussed therein.

Self-slaughter is of rare occurrence among savage races of people; of so infrequent occurrence, in fact, that one is almost tempted to say that it is unknown among them. This would be, however, a statement not authorized by facts, for savages commit suicide on occasions when influenced by the fear of starvation, or through the dread of a lingering, painful death, or through pride. The higher psychical emotions are wanting in the savage; he is very near, indeed, in this respect, to his pithecoid ancestor, hence he bears the ills of life with all the equanimity of an animal in which æstheticized and idealized *psychos* are absent.

The semi-civilized Chinaman is, on occasions, prone to suicide; and, I am inclined to believe, most of the voluntary deaths occurring among the Chinese are brought about through pride. We know that when overcome in battle entire companies of these people will kill themselves rather than fall into the hands of their enemies. The Chinese are a proud, arrogant, and insular nation. They consider all foreigners as being barbarians and savages, and despise them as beings utterly beneath their notice; hence, when overcome by them, they deliberately slay themselves rather than suffer the ignominy of being slain by these "contemptible and despicable outsiders." The incentive may be, however, the fear of torture. Again, there is a certain standard of virtue that obtains among these people, which makes the fear of rape a powerful factor in engendering the act of suicide in the females of this race. The usages of war among Eastern nations has authorized, heretofore, the violation of all captured females; hence, large numbers of young girls and women kill themselves when they see that they are in danger of being taken by the enemy. This fact was especially noticed during the late war between Japan and China.

The factors inciting suicide in the Chinese and kindred races of people are not those which bring about self-slaughter in those races that are highly civilized; the psychical *materies morbi* are markedly different.

When we turn to the civilized races of the world, statistics show the curious facts that certain ethnic elements enter into the influences predisposing suicide; that voluntary death is largely on the increase; that it follows in the wake of civilization, and that its average is much higher in those races in which are to be found the greatest amount of culture and erudition.

A close study of suicide, as observed in European countries, demonstrates the fact that those nations which have their origin in the Indo-Germanic root-stocks are the most prone to commit voluntary death. With few exceptions, and these exceptions can be readily accounted for by reason of exceptional surroundings, the great centres of suicide, in which the number of suicides per million of inhabitants runs very high, are to be found in Germanic countries.

A glance at the accompanying table, prepared for me by Professor Weidner, of Vienna, for this paper, will at once show this.

TABLE I., SHOWING AVERAGE OF SUICIDES IN VARIOUS STATES OF EUROPE FOR A PERIOD OF FIVE YEARS.[1]

States.	Average Number of Suicides per Million Inhabitants.					General Average.
	1882.	1883.	1884.	1885.	1886.	Five Years.
Austria	125	123	126	129	127	126
Prussia	133	136	130	135	133	133
Hanover	142	144	140	145	143	143
Mecklenburg	168	165	170	173	171	169
Wurtemberg	163	165	162	166	161	163
Saxony	313	311	316	314	317	314
Denmark	260	262	261	260	263	261
Hamburg	305	301	307	309	306	305
France	152	154	153	156	155	154
Spain	20	19	21	18	22	20
Russia	32	35	31	35	36	33
England	68	67	70	72	70	69
Italy	36	35	38	34	39	36

[1] I am inclined to believe that the averages in this table are too low by two or three.—J. W., Jr.

Hovelacque demonstrates that the averages of suicide are decidedly higher in Germanic countries than elsewhere. The following table, which I have slightly modified in order to make it more explicit, appeared in *La Linguistique*, in 1876:

TABLE II. LINGUISTIC TABLE DEMONSTRATING THE PREPONDERANCE OF SUICIDE IN GERMANIC RACES. ADAPTED FROM HOVELACQUE.[2]

Languages.	Maximum Proportion.	Minimum of Suicides.	Average per Million.
People speaking the first group of the Italian languages derived from the Latin (Italians, Spaniards, Roumanians, Portuguese, Corsicans)	74	13	31.5
People speaking the second group of Italian languages, with an infiltration of Celto-Germanic elements (French, Belgian, French Swiss)	260	35	130.0
People speaking Scandinavian, or the first subdivision of the Germanic branch (Danes, Swedes, Norwegians)	268	74	127.8
People speaking the languages derived from the Low German (Frisians, Flemings, Prussians, English, Germans of the North)	301	35	148.0
People speaking languages derived from the High German (Saxons, Central Germans, Bavarians, Austrians, Styrians, Corinthians, German Swiss, etc.)	303	90	165
People speaking the Slavic idioms of the Southeastern branch (Russians, Galicians, Sloveni, Croats, Dalmatians)	98	14	40
People speaking the Slavic idioms of the Western branch (Czechts, Moravians, and Poles)	158	98	(130)

[2] Modified from tables used by Morselli in his work on Suicide.

The Celtic and Celto-Latinic races are remarkably free from the desire for self-slaughter. Especially is this true of the former in Ireland, where the average rate of suicide is only about fifteen per million of inhabitants, and of the latter in Spain, where the average is about twenty per million. From data gathered throughout Europe and Great Britain, which embrace a period of time extending from January 1, 1880, to December 31, 1893, I have constructed a table which shows the general averages of the four great divisions of European peoples. I have taken great care to con-

fine my investigations, as far as possible, to cases of authentic suicide, and the following table is based on official records which were furnished by the proper legal officers and persons in authority:

TABLE III., SHOWING SUICIDAL AVERAGES OF THE FOUR GREAT DIVISIONS OF EUROPEAN PEOPLES.

Peoples.	Average per Million.	General Average.
GERMANIC.		
Scandinavians	130	116
Germans of the North	155	
Germans of the South	170	
Anglo-Saxons	75	
Flemings	52	
CELTS; CELTO-LATINS.		
Celts	32	48
Celto-Latins	65	
SLAVS.		
Slavs of the North	45	38
Slavs of the South	32	
URAL-ALTAIC.		
Magyars	52	46
Finns	40	

Morselli observes in his works on suicide that self-slaughter begins in the northern European states with a rather high average, which increases to a maximum in the middle states, and decreases thence slowly to a minimum in the southern states. A study of the tables already presented in this article will show that this observation is true in every respect, although I did not have this in view when compiling them. The general averages of the first table presented will show that there was an increase in the number of suicides per million in nearly all of the states cited; if the data had embraced a longer period of time, this increase would have been shown clearly and emphatically in all of the States. Wherever records have been kept for any number of years they always show an increase of suicide. In Sweden, where records of the disease have been kept for a long time, statistics show that there has been an increase per million of 3 or 4 for every decade. In 1860, the average for the United States was 32; in 1893, it was 55 for each million of inhabitants; Ireland has crept up from 10 per million in 1841 to 15 per million in 1893. The average in England, in 1886, was 70 (69 +) per million of inhabitants; in 1893 it was 76 per million; in Switzerland, in 1872, it was 196, in 1893 it was 204; in Italy, in 1886, it was 36, in 1893 it was 42; in Russia, in 1886, it was 33, in 1893 it was 40. Two groups of periods of five years each, taken from records obtained throughout the United States, from Maine to Texas, and from New York to California, show that there is an increase in suicide in every section of the country. I do not propose to burden the reader's attention with heavy loads of official figures, therefore will make one group answer for all in establishing the fact. The following table was furnished me by Dr. L. J. Mitchell, of Chicago, medical assistant to the coroner of Cook County, Ill.

TABLE IV., SHOWING INCREASE IN SUICIDE PER MILLION INHABITANTS IN CHICAGO AND COOK COUNTY.

Years.	Male.	Female.	Total.	Per Million.
1890	173	43	216	144
1891	200	70	270	148
1892	228	66	274	150
1893	282	83	365	182
1894	260	57	317	158
Gen'l Average per year	228.4	63.4	288.2	156.2

This table shows an increase of 12 per million of inhabitants in a period of five years. This large increase is undoubtedly due to the influence of the Centennial year (1893), when the high average of 182 per million of inhabitants was reached; leaving out this year, an annual increase of 5 or 6 will be observed, which is, probably, the natural ratio of increase for this section of the country. There are exceptional influences at work in Chicago which create this high rate of increase, and these adjuvants to this increased average (per million of inhabitants) of suicide will be discussed elsewhere in this paper. In Central Pennsylvania and Southern Ohio the average rate of increase is about the same. In Hamilton County, O. (Cincinnati), the number of suicides in 1894 was 87, an annual increase of 3.0 in five years per million of inhabitants, while in Central Pennsylvania the increase per million was 3.1.

In the Northwestern States an annual increase of four per million, for a period embraced by the last five years, can be noticed. The general average of annual increase for the United States during the period embraced by the last five years is 1.5, consequently there must be some factor at work which engenders the high averages in the localities just cited. That factor is, undoubtedly, the Germanic element (Danes, Swedes, Germans, etc.), which has been injected into the populations of those sections where these high averages of increase prevail.

The preponderance of suicides of Germanic extraction can be noticed, locally, throughout the entire United States; in fact, if it were not for these peoples, I am confident that the general average for the United States would fall far below its present mark. In a population composed equally of Germans and Americans the rate of suicide is eighty-five per cent. German, and this rate does not vary throughout the entire United States.

Let us turn aside for a moment and discuss the question: Why does suicide preponderate among the Germanic peoples? I do not propose to treat this subject in this paper with the fulness and detail that it really deserves, for that would be impossible in the short space of a magazine article; therefore I will only enter into it incidentally. The coroner of Cook County, Ill. (Chicago), in his last report writes as follows: "The fact of this practice among the German race in a measure helps to bear out the theory advanced by some members of the medical profession, that the continued consumption of beer and ale is more conducive to low spirits than is that of whiskey, especially when the fact is taken into consideration that among all the Irish population of the city only ten committed suicide during the past twelve months. The Irishman, it is safe to assume, drinks whiskey in the same proportion that his German brother consumes beer."

The idea that beer-drinking is the cause of the preponderance of suicide among Germanic peoples is one that is popularly accepted throughout the United States; it is, however, in my opinion, erroneous and based on faulty logic. The logician who deduces a cause from a sequence is standing on a precarious foundation; he bases his premises on an assumption—a weak and superficial basis in logicial reasoning. The English race (Anglo-Saxon) is a branch of the great Germanic race and is a beer-drinking (ale, porter, half-and-half, etc.) people, yet the average rate of suicide is, comparatively speaking, not at all high. Alcohol in any form is, undoubtedly, a factor in producing degeneration, and suicide is, emphatically, an evidence of degeneration; hence, I am inclined to believe that, if alcohol were the exciting cause, whiskey-drinkers would more readily succumb to suicidal desire than beer-drinkers. A careful analysis of pure malted liquors will show that they contain no ingredient capable of causing cerebral degeneration save alcohol. It is true that lupulin is toxic, but the quantity imbibed in pure beers is not sufficient, in my opinion, to occasion any great amount of degeneration. The cause of this preponderance of suicide in Germanic peoples is not occasioned by any indulgence of the appetite, but has its origin in a psychical trait inherent in the race. As far back as history goes, both written and legend-

ary, the Germanic races have shown a strange indifference to death. They are not braver than many other races, yet they do not seem to value life as highly as do the Celts and Celto-Latins. When the balance-wheel of *psychos* loses its equipoise through degeneration, this indifference to death becomes a strong desire for death, and the German suicides; this, in my opinion, is the true cause of the high suicidal averages of the Germanic races. Let us return now to the averages of increase as observed in the United States. The condensation of populations in circumscribed areas, viz., in cities and large towns, is a potent factor in building up increased averages of suicide. This we can readily observe by a study of mortuary statistics (suicide) as furnished by the coroners' reports emanating from all of the large cities and towns of the country. Thus, the average annual rate of increase, per million of inhabitants, for the State of New York is about 1.2, while the rate of increase for New York City is at least 4.0. These rates are calculated from the reports of the last ten years, and mean that every five years adds an average of four per million of inhabitants to the annual number of suicides occurring in New York City, and one per million of inhabitants to the number occurring in the State at large. In Chicago, as I have shown elsewhere, the rate of increase, per period of five years, is annually 6.0 per million of inhabitants. This large increase is undoubtedly due to two factors: the first is the phenomenal growth in population of Chicago during the last five years; the second is the large influx of Germanic peoples within her borders. Lansing, Mich., with a population of 20,000, has an average of 3 suicides annually; this gives a rate of 150 suicides per million of inhabitants. The annual increase for the entire State of Michigan, for a period of five years, is between 3.0 and 4.0; and it is the same in Wisconsin and Minnesota.

These high averages are not to be observed in any of the Eastern States, especially in those States of the seaboard. It is true that the general average of New York State is rather high (98), but this is due to the influence of condensation of population in Brooklyn, New York City, and other large towns of the State. The general average of the State of Pennsylvania is 92; this comparatively high average is undoubtedly due to the Germanic elements which enter so largely into its population. In Maine, Vermont, and New Hampshire the general average, deduced from official records, is about thirty-eight per million of inhabitants. This average gradually decreases in the States forming the Atlantic seaboard, with the exception of the States of New York, Pennsylvania, Massachusetts, Rhode Island, and New Jersey toward the south, until it reaches the low average of 30 per million of inhabitants in Georgia and Florida. In the Southern, Middle, and Western States the averages run from thirty to sixty, being higher in the Middle and Western States than in the Southern. When we stop and consider that in the United States alone over four thousand people annually commit self-slaughter, and that every five years will see a material increase in this already large number, we stand amazed. Yet I have not exaggerated the estimate in the slightest degree. If I were to write down the total sum of all the people who annually make way with themselves, blank amazement, and perhaps absolute incredulity, would fill the minds of nine-tenths of those who read this article. To those who are at all curious, this problem—*i.e.*, the total annual number of suicides in the civilized world—is one which can be easily solved. Table III. gives the general averages for the European nations, including Great Britain; to these add the general averages for the United States (55), Mexico, Central, and South America (38), and Australia (65); divide the sum of these numbers by the number of averages and this will give, approximately, the general average, per million of inhabitants, for the entire civilized population of the world.

In the United States suicide begins at a very early age. During the past ten years almost a thousand boys and girls below the age of sixteen years have taken their own lives. In New York alone, from 1871 to the year 1876, thirty-four boys and girls committed suicide, and five of the thirty-four were between ten and fifteen years old. The records of Philadelphia, barring a slight increase due to condensation of population, show the correct proportion of child suicides.

TABLE V., SHOWING GENERAL AVERAGES OF SUICIDE IN PHILADELPHIA, PA.—MEN, WOMEN, AND CHILDREN—FOR A PERIOD OF TEN YEARS.[1]

Years.	Males.	Females.	Total.	Boys.	Girls.	Total.
1884	72	17	89	1	..	1
1885	62	16	78	2	2	4
1886	76	14	90	1	..	1
1887	72	16	88	1	1	2
1888	71	23	94	2	3	5
1889	87	17	104	2	1	3
1890	60	20	80	2	1	3
1891	79	29	108	5	..	1
1892	83	19	102	3	1	4
1893	100	18	118	..	..	..
General average			95	General average		2

[1] Furnished by M. V. Ball, Medical Department, Eastern State Penitentiary, Philadelphia, Pa.

In this county (Daviess County, Ky.) two children have committed voluntary death in the past fifteen years—one, a boy, by hanging; the other, a girl, by poison. When I take into consideration the extraordinary precocity of the juvenile portion of the populations of our large cities, I wonder that the number of child suicides is not much larger. Age undoubtedly acts as a factor in increasing or decreasing the number of those who commit self-slaughter, certain favorable ages preponderating in all the lists of suicides in my possession. From two lists of voluntary deaths, of a thousand each, taken from two periods of five years each, viz., 1882–86 and 1889–93, and from sixteen States, I have constructed the following tables:

TABLE VI., SHOWING THE INFLUENCE OF AGE ON SUICIDE.

1882–86.	Male.	Female.
Age under 10 years	..	1
Age under 15 years	1	2
Age between 15 and 20 years	10	140
Age between 20 and 30 years	125	260
Age between 30 and 40 years	364	97
Totals	500	500
1889–93.		
Age under 10 years	..	..
Age under 15 years	..	4
Age between 15 and 20 years	8	135
Age between 20 and 30 years	130	290
Age between 30 and 40 years	362	71
Totals	500	500

It will be at once observed that the most favorable age for self-slaughter in women is between the ages of twenty and thirty years, and that in men the favorable age is between thirty and forty. In the next table of 1,000 suicides, 500 men and 500 women, the minimum age was twenty and the maximum age eighty years.

TABLE VII., SHOWING THE INFLUENCE OF AGE ON SUICIDE.

1890–94.	Male.	Female.
Age between 20 and 30 years	110	205
Age between 30 and 40 years	203	115
Age between 40 and 50 years	102	92
Age between 50 and 60 years	56	60
Age between 60 and 70 years	19	21
Age between 70 and 80 years	10	7
Totals	500	500

It will be observed that the same law holds good in this table also; the favorable age for woman lies between twenty and thirty years, and that for man be-

tween thirty and forty years. There is a gradual decrease in the number of suicides in women after the age of thirty, and in men after the age of forty, years.

Certain months of the year as well as certain hours of the day appear to be selected more frequently by persons committing voluntary death than others. Thus, there are more suicides in the months of July, August, and September than in other months, and more people commit self-slaughter between the hours of 11 A.M. and 12 M. than at any other hour during the day. It is comparatively easy to assign a physiological reason for the preponderance of suicide during the above-mentioned months, for it is a well-established fact that the hot, sultry weather of our summers acts very deleteriously on our nervous systems. It is not so easy, however, to assign a reason for the preponderance of suicide between the hours of 11 A.M. and 12 M. That this is a fact, however, a study of the following table will clearly demonstrate:

TABLE VIII., GIVING HOUR OF SUICIDE IN 1,986 CASES.

Hour.	Cases.	Hour.	Cases.
6 A.M.	95	6 P.M.	75
7 "	90	7 "	73
8 "	102	8 "	90
9 "	110	9 "	68
10 "	108	10 "	65
11 "	120	11 "	50
12 M. (noon)	136	12 midnight	55
1 P.M.	82	1 A.M.	51
2 "	101	2 "	49
3 "	106	3 "	46
4 "	75	4 "	75
5 "	78	5 "	86
Total	1,203	Total	783

It will be seen also by this table that the suicides committed during the day largely outnumber those committed during the night; all of my lists declare this to be a fact.

Baly and Boudin make the extraordinary statement that the negro evinces a great predilection for suicide. This is contrary to the proposition advanced in the first part of this paper, *i.e.*, that suicide is of infrequent occurrence among savages.

I am not aware of the source from which MM. Baly and Boudin derive their information, but, be it whatever it may, it is wholly at variance with the statistics in my possession. We might safely assume on general principles, even if there were no records in existence, that the statement of these gentlemen is erroneous; for we know that the negro in the United States is descended from ancestors who, two hundred years ago, were utter savages, and, since it is an accepted and well-established law that suicide follows in the wake of high civilization and coincident intellectuality, it is reasonable to assume that the pure-blooded negro has not reached that degree of psychical development which must accrue ere the desire for voluntary death is engendered. The pure-blooded negro is remarkably free from those forms of insanity which make themselves evident by vagaries of the higher emotions; in point of fact, he is an individual who does not possess the high psychical development of the civilized white. Says Romanes, one of the most distinguished psychologists in the world, as well as one of the profoundest thinkers: "The psychology of uncivilized man shows, in a marked degree, a kind of *vis inertiæ* as regards any higher development. Even so highly a developed type of mind as that of the negro—submitted, too, as it has been in millions of individual cases, to close contact with minds of the most progressive type, and enjoying, as it has in many thousands of individual cases, all the advantages of liberal education—has never, so far as I can ascertain, executed one single stroke of original work in any single department of intellectual activity."

When we turn to actual evidence, we find that these psychological reasons for the non-prevalence of suicide among negroes are corroborated in every respect.

In Georgia, Alabama, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, and Virginia, where the negro is greatly *en évidence*, the average rate of suicide for the pure-blooded negro is only one in every hundred of suicides. This average, in all probability, is a little too high, but owing to the lack of detail in the vital statistics of these States, it is a conservative one, and as near the actual rate as possible under the circumstances. The half-breed negro is, however, almost invariably a degenerate individual, having inherited all of the weak physical and psychical traits of his white ancestor; consequently the rate of suicides for mulattoes, quadroons, and octoroons is, comparatively speaking, rather high. The pure-blooded negro, like any other savage, will commit suicide on occasions, but these occasions are rare, indeed, and are brought about by the most exceptional circumstances.

The methods by which or through which people in the United States commonly commit suicide are hanging, shooting, drowning, poisoning, producing hemorrhage, and asphyxiation. The proportion in which these methods are used throughout the United States is shown, approximately, by the following table:

TABLE IX., SHOWING THE METHOD COMMONLY USED TO PROCURE VOLUNTARY DEATH IN THE CITY OF MILWAUKEE, WIS.; YEAR 1894.[1]

Method Used.	Cases.	Males.	Females.	Average per Million Inhabitants.
Hanging	20			
Shooting	10			
Drowning	4			
Poisoning	10	X.	X.	X.
Cutting Arteries	2			
Cutting Throat	4			
Illuminating Gas	3			
Total	53	46	7	150

[1] Furnished by Henry Ott, coroner, Milwaukee County.

Suicide by inhaling illuminating gas is greatly on the increase in the Eastern and Middle States. Says Dr. Francis Harris, medical examiner for Suffolk County (Boston), Mass., in a letter to me: "I should add, in regard to the matter of methods, that suicide by illuminating gas is rapidly increasing in this State. The ease and painlessness of the method, as well as the leaving the cause always a matter of doubt as between accident and suicide, have made this method popular."

I have asserted that suicide is most frequent in those nations or communities where erudition, coincidently, civilization, is highest. We have seen that this is a fact in the countries of the Old World; now let us see if this fact obtains in the United States.

In newly settled regions of this country, say, in the Western States, erudition is far below par, and civilization is rude and unconventional. In these States, the average rate of suicide, per million of inhabitants, is far below that of the much older Eastern States. For purposes of comparison, I will take the States of Colorado and Massachusetts. During the last thirteen years, there have occurred in Colorado (population, 300,000) 102 suicides, an annual average of 28+ per million of inhabitants. In Massachusetts, where erudition is higher, probably, than in any other State of the Union, and where the population is uninfluenced to any extent by Germanic elements, the annual rate, per million of inhabitants reaches the high average of 98+. The following table brings out this fact very patently:

TABLE X., SHOWING NUMBER OF SUICIDES IN THE STATE OF MASSACHUSETTS FOR THE PERIOD OF TIME EMBRACED BY THE LAST FIVE YEARS, 1889-1893.[2]

Year.	Estimated Population.	Male.	Female.	Total.	Per Million Inhabitants.
1889	2,175,153	157	42	199	Approximation, 91
1890	2,238,943	156	40	196	" 87
1891	2,303,536	142	45	187	" 81
1892	2,369,994	211	62	273	" 115
1893	2,438,363	228	62	290	" 119
Total		894	251	1,145	Gen'l averages, 98+

[2] Furnished by Francis A. Harris, M. D., Medical Examiner, Suffolk County, Mass.

Of course, condensation of population must be considered as one of the factors in the production of this high average (98 +), yet, even when we allow for this, we will still have an average far above that of Colorado (28 +).

BLOOD ABSORPTION FROM THE PERITONEAL CAVITY.

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CINCINNATI, O.

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Almost all the injections of blood into the abdominal cavity for the study of absorption have been made solely with reference to the ordinary study of the transfusion of blood. The present researches deal specifically with the effects of this transfusion upon the blood, and upon the circulation of the animal. Recklinghausen, after the intraperitoneal injection of defibrinated blood, perceived an active filling of the lymphatic vessels on the pleural surface of the diaphragm with the same. Ponfick, on introducing defibrinated blood into the abdominal cavity, found that its absorption is accompanied by an increase in the number of blood-corpuscles in the blood of the rabbit so treated, an increase which reaches its maximum on the first or second day after the transfusion. Further than this the above-referred-to researches need not be taken into account.

The following experiments were made, first, to observe the effect of blood absorption upon the animal and to determine the condition of the reabsorbed blood on its return to the blood-vessels; second, to discover the effect of an auto-transfusion on the number of blood-corpuscles in the blood. The experiments are set forth in the following order: I. The direct transfusion of blood from the carotid artery of another animal of the same species. II. The simple removal of blood from the carotid artery. III. The direct auto-transfusion of blood from the carotid artery to the peritoneal cavity. IV. The direct transfusion of blood from the carotid artery of another animal of a different species.

For the last experiment the blood of a dog was taken; the other animals were all rabbits of the same species, weighing between 1,500 and 2,000 gm. each. As an instrument for measuring the amount of blood transfused, a Ludwig's Stromuhr was selected. This instrument was connected with a rubber tube, extending from the carotid cannula of the one animal to a small glass tube inserted in a minute incision in the abdominal wall of the other.

In order to determine whether the blood, when reabsorbed, returns to the blood-vessels without having undergone any serious impairment, calculations were made of the number of red corpuscles in the blood of the animal before the transfusion, and at various periods of time thereafter. A count was also made of the number of red blood-corpuscles in the blood of the rabbits suffering from simple hemorrhage, and of those in the blood of the rabbits which had received the foreign blood (that of the dog), on account of the well-known power of the latter to produce hæmoglobinuria when injected directly into the vessels of a rabbit.

The count of the red blood-corpuscles was, at first, made with a Zeiss-Thoma apparatus, but owing to the number of observations necessary to obtain an available average, and the time requisite for this purpose, as well as that consumed in the other operations on the animals, this method was found to be inferior, as a means of comparison, to the Blix-Hedin-Gärtner Hämatokrit method, as improved by Dr. Cowl, a full explanation of which will be found as an addenda to this paper. By this method three or four observations were made at each of the periods above mentioned, both before and at stated intervals after transfusion. These observations show a remarkable uniformity, far exceeding that to be obtained, with ordinary care, by the counting method of Zeiss. The extreme variation from the average in each set of observations was, in no instance, more than eight per cent. of the number of blood-corpuscles indicated by that average, while the average variation between the two extreme observations was only 1.5 per cent.

The specimens of blood were taken from the subcutaneous abdominal veins in preference to the ear, as the results were more regular, and the rabbits were kept on the board only as long as the primary operations lasted.

I. The Transfusion of Blood from Another Animal.—In these cases, as well as in the following ones of auto-transfusion, three hours after the transfusion found the pleural surfaces of the diaphragm (described by Recklinghausen, Ludwig, and others) beautifully injected and oftentimes distended with blood. In general these lymphatic vessels ran directly across the muscular fibres, instead of with them like the veins, and coming from both sides of the sternum they united into a stem, which, running forward, evidently emptied into the lymphatic trunks accompanying the mammary vessels. Neither upon the peritoneal surface of the diaphragm nor in the abdominal cavity were injected lymphatic vessels to be found.

After the transfusion the rabbits showed the following appearances: In all cases, at the end of the first hour, there was distention of the veins. In two cases the ears and mucous membranes assumed a bluish color. One case developed a marked protrusion of the eyeballs. The blood-pressure was observed in seven cases. In four cases it rose, in three there was a slight fall. At the end of first, second, and third hours after the transfusion, observation showed that the average increases in the number of corpuscles in the blood stood at ten, eleven, and four per cent. respectively.

In three of the cases urine was not passed during the research, and only a few cubic centimetres were found in the bladder after death. In one case 16 c.c. were passed forty-five minutes after the transfusion; in a second case 10 c.c. were passed in twenty minutes thereafter. In none of these cases was there evidence of hæmoglobinuria. In another case 42 c.c. of blood were transfused into the abdominal cavity of a rabbit weighing 2,000 gm. The blood changes pursued the typical course described above. The rabbit was kept under observation for ninety-six hours, being cared for in the same manner as before the observation, and it remained perfectly well.

II. Simple Hemorrhage from the Carotid Artery.—In six cases of simple hemorrhage, with an average loss of 27 c.c. of blood, there was an average reduction of twenty-three per cent. in the number of corpuscles at the end of one hour after the abstraction of the blood, and at the end of the second hour this average had increased to 31.5 per cent. of the original number of corpuscles.

III. The Transfusion of Blood from the Carotid Artery into the Peritoneal Cavity of the Same Animal.—The three cases of auto-transfusion, owing to their progressive nature, deserve detailed consideration. Twenty-four, and 30 c.c. of blood, respectively, were abstracted from the three carotids; 1, 2, and 11 c.c. of blood lay unabsorbed on the section in the peritoneal cavity three hours after the operations. In each case 9 c.c., which remained in the transfusion apparatus, were lost to the animal. This shows an absorption into the peritoneal cavity of 14, 12, and 11 c.c., respectively. We may note here a markedly greater reabsorption in the cases of lesser hemorrhage. Although a difference of 6 c.c. between the amounts of hemorrhage is absolutely small, it is relatively great when superimposed upon a loss of 24 c.c. of blood taken

from rabbits weighing from 1,600 to 1,800 gm., and in these cases this difference is more clearly set forth by the changes in the number of blood-corpuscles in the blood of the animals, resulting from the auto-transfusion. Then, too, it is seldom that more than 40 c.c. of blood can be drawn from the carotid artery of an animal of such weight without causing death.

Professor Gad informs me that he is convinced, by former researches of his own respecting the auto-transfusion of a small amount of blood (about fifteen cubic centimetres in the medium-sized rabbit), that a perfect reabsorption is accomplished within three hours, at the end of which time not a particle of waste matter is to be found in the peritoneal cavity, and there is no trace of the distended lymphatic vessels of the diaphragm.

According to Wegner, if a large amount of artificially warmed serum (not more than 12 per cent. of the weight of the body) be introduced into the abdominal cavity of a rabbit, only two-thirds, or still less, of the whole amount will be found in the peritoneal cavity of the animal an hour after it has been killed. After the transfusion of an amount of the same fluid (about five per cent. of the weight of the body) into the abdominal cavity of a dog, only one-fourth was reabsorbed.

The effect of the loss of blood after the auto-transfusion is shown in the diminution of the number of blood-corpuscles, for in the three cases, with a loss of 19 c.c. and a reabsorption of 11 c.c., the number of blood-corpuscles showed, at the end of the first hour, a diminution of 27 per cent., and at the end of the second hour a diminution of 24 per cent.

Whereas, in the first case, with a reabsorption of 14 c.c. of blood and a loss to the animal of 10 c.c., the number of blood-corpuscles at the end of the first hour after the operation had not diminished, and at the end of two hours the corpuscles showed a diminution of 5 per cent.; in the second case, with a reabsorption of 12 c.c. and a loss of 12 c.c., there was, at the end of the first hour, a diminution of 10 per cent., and at the end of the second hour the blood-corpuscles had increased to the original number; and in the third case, with a regain of 11 c.c. by reabsorption and a loss of 19 c.c., there was at the end of the first hour a diminution in the number of corpuscles amounting to 27 per cent., while at the end of the second hour the amount of diminution had decreased to 24 per cent. For extraneous reasons, auto-transfusion was not carried out in a large number of cases. In order to make a comparison with the cases of simple hemorrhage, we leave out of account these individual differences, which evidently result from the complicating hemorrhage, and take an average. We find that whereas in simple hemorrhage, as above stated, the number of blood-corpuscles is reduced, at the end of the first and second hours, 23 and 31.5 per cent. respectively, after auto-transfusion, with more or less loss of blood to the animal, the reduction at the end of the same periods of time is but 13.5 and 12 per cent. respectively.

IV. The Direct Transfusion of Foreign Blood.—In one case an easy estimate of the destructive effect of foreign blood, especially concerning the formation of hæmoglobinuria, was made. Twenty cubic centimetres of blood were taken directly from the carotid artery of a healthy dog and injected into the peritoneal cavity of a sound rabbit, with the following result: After an hour hæmoglobinæmia was discovered in the plasma, by means of the guaiacum test, and the red color of the blood, together with the absence of the corpuscles, as demonstrated by the use of the microscope, proved the presence of free hæmoglobin in the blood. A small amount of urine was found in the bladder two hours after the transfusion. This, closely resembling the blood in color, showed itself to contain hæmoglobin, but no blood-corpuscles. Urine passed during the night contained no hæmoglobin. The animal was not allowed food after the operation until the second night. On the post-mortem examination a mass of dark-red fluid (about a cubic centimetre) was found on the pericardium, the pleura, and the peritoneum.

From the foregoing researches the following points were noted:

1. Direct transfusion of arterial blood from one animal to the peritoneal cavity of another animal of the same species causes no perceptible injury to the animal receiving the blood.

2. Homogeneous, non-defibrinated blood is quickly reabsorbed from the peritoneal cavity and this absorption takes place chiefly through the diaphragmatic lymphatics, and these lymphatics, as a rule, do not communicate with the thoracic duct.

3. Homogeneous blood reabsorbed from the abdominal cavity does not produce hæmoglobinuria, but seems to be absorbed and to circulate as normal blood.

4. After a moderate loss of blood absorption from the abdominal cavity takes place quickly, but the greater the loss of blood the slower the absorption.

5. After simple hemorrhage the relative quantity of the solid elements of the blood is diminished.

6. After hemorrhage, if there be sufficient compensation by transfusion into the peritoneal cavity, the general circulation changes very little or not at all.

7. Simple intraperitoneal transfusion of blood enriches the blood of the animal receiving it, and the increase in the corpuscular elements reaches its maximum within three hours.

8. Transfusion of foreign or heterogeneous blood into the abdominal cavities of rabbits produces hæmoglobinuria and results in the death of the animals.

For the incitation to the above researches, as well as for assistance in pursuing the same, I wish to express my sincere thanks to Professor J. Gad, in whose laboratory, by his courtesy, they were carried out. I am also much indebted to Dr. W. Y. Cowl for his advice and friendly assistance.

IMPROVED MEANS FOR THE HÆMATOCRIT METHOD OF BLOOD EXAMINATION.[1]

By W. Y. COWL, M.D.,

CINCINNATI, O.

The simple and rapidly executed method of determining in a minute specimen of blood the relative proportion of corpuscles to plasma by means of centrifugal force, which was devised and first employed by Blix in 1885, and since then further pursued and improved by Hedin, Daland, and Gaertner, has lately been condemned by Bleibtreu and also by Biernacki, upon the ground of comparative determinations with two other methods for ascertaining the amount of corpuscles in larger quantities of blood.

That of the former investigator is of a chemical character and consists in the determination, first, of the amount of combined nitrogen and therefore of albumin in the supernatant fluid from each of two portions of the same specimen of defibrinated blood some hours after dilution with a physiological salt solution (sodium chloride, 6 to water 1,000) to a different known degree in the case of each portion, and thence, by calculation, the amount of serum and consequently of corpuscles in the original specimen.

The method is based upon a long-known and well-established procedure devised by Hoppe-Seyler, and consisting in determinations of, 1, the amount of oxyhæmoglobin and albumin in the blood as a whole; 2, the amount of the same in the blood-corpuscles alone; 3, the amount of fibrin; 4, the amount of albuminous matter in the serum, and, 5, by calculation from these

[1] A communication with demonstration given at the meeting of German naturalists and physicians, Vienna, September, 1894, detailing researches carried out at the Physiological Institute of the University of Berlin.

data, the amounts of serum, of plasma, and of blood-corpuscles in the original specimen.

Biernacki, on the other hand, simply measures the compact mass of corpuscles after complete sedimentation from the plasma or serum. Both of these methods require a considerable quantity of blood, which, in the case of the first described, varies inversely with the duration of the sedimentation requisite for yielding sufficient serum for an accurate application of Kjeldahl's method for determining the amount of nitrogen present.

Bleibtreu's procedure has been criticised, however, upon the ground of experiments by Hamburger and by Biernacki. In the hands of the latter, nevertheless, as in Bleibtreu's original research, it has yielded more constant results than the hæmatocrit method as hitherto employed.

Biernacki's method, which possesses a like advantage, requires two to three days of sedimentation, and occasions a shrinkage of the red blood-corpuscles, which he attributes to the extrusion of plasma previously held dissolved or suspended within them.

Both of the described methods, however, have yielded figures which agree more or less closely with those long since obtained by Welcker and others for the average relative quantities of plasma (sixty-four per cent.) and of erythrocytes (thirty-six per cent.) in normal blood after defibrination, by means of calculations from average microscopic measurements of the red disks and from determinations of the average number of the same in a certain volume of blood.

The various percentages obtained for the amount of corpuscles in normal blood by the hæmatocrit method in the researches hitherto published are, on the other hand, largely in excess of those of Welcker as well as of Bleibtreu and of Biernacki. Both of the latter experimenters, furthermore, on direct comparison of the hæmatocrit with their own methods, with various kinds of blood, find that the percentages in a series of different specimens lie not only widely apart, but do not run parallel. These facts alone lead each author without further ado to express the wish that the hæmatocrit method disappear from use.

Such a summary disposal of the matter, however, seems to us quite unjustified, so long as they have not found the source of apparent error, and especially so in view of the questionability of their own methods on the one hand and the great and evident advantages of the hæmatocrit method of blood examination on the other, namely, the simplicity and directness of the process, the minute quantity of blood required for examination, the avoidance of calculation, and particularly of multiplication, in attaining the result, and the brief period of time requisite for its performance.

The need of a method possessing such advantages came home to us personally at the beginning of a series of researches on the Absorption of Blood from the Peritoneal Cavity, undertaken at the instance of Professor John Gad, under my supervision, by Dr. F. H. Southgate, of Newport, Ky., carried out at the Physiological Institute of the Berlin University during the past semester. In this investigation observations of changes in the corpuscular richness of the blood in animals before and after operation were requisite in such number as to practically exclude the employment of any of the above-mentioned methods or indeed of the hæmatocytometer of Thoma and Zeiss.

We have therefore subjected the hæmatocrit method to a critical examination, to the results of which we here call attention. Before doing so, however, we would make a prime distinction between the different methods of blood examination already mentioned which has not been noted by previous investigators, but which is necessary owing to facts that point to a changeability of the red blood-corpuscle in volume; namely, as found by Biernacki, it shrinks when at rest in its own plasma or serum; furthermore by Lackschewitz, that it swells within or without the organism when the plasma is thinned, even with physiological salt solution; again, as found in my own researches, its size depends within wide limits upon the concentration and chemical character of the solution added to the blood. It is thus evident that those methods which, like Hoppe-Seyler's and Bleibtreu's, determine the amount of a certain inherent substance in weight must be kept separate from those like the hæmatocrit and Biernacki's method, which determine the volume of the corpuscles as a whole. The former, supposing them to be intrinsically worthy of it, are to be given the preference for researches in which absolute percentages are requisite, while the latter, by reason of their simplicity or rapidly completed execution, afford a means for many equally important scientific investigations, as well as clinical examinations, that would otherwise be impossible; the determinations in these latter cases being relative instead of absolute, but *a priori* no less exact; the precision, which depends on uniformity of procedure in making the determinations being not less binding in the one case than in the other.

That examinations with reference to either the volume or weight of the corpuscles of the blood as a whole cannot be entirely exact at the present time may furthermore be readily maintained by reason of the hitherto disregarded volume or weight of the fugitive corpuscles, usually denominated blood-placques, which have been long since demonstrated by Norris to be present in large numbers in every specimen of normal blood, although disintegrating to a large extent soon after the latter is shed.

In a preliminary examination of the hæmatocrit method as hitherto employed we have found that a serious source of error lies, in point of fact, in the substance employed to prevent coagulation—namely, potassium dichromate, either as contained in a simple two and a half per cent. solution of the salt or in Miller's fluid, potassium dichromate, 1; sodium sulphate, 2; aqua, 100.

Upon microscopic examination of a number of specimens of corpuscles removed by centrifugal force from a mixture of blood with either of these solutions we have observed a granular organic sediment, at times in patches, enclosing a number of red disks. From this it is apparent that the bichromate solution may vitiate the result by a precipitation or coagulation of solid matter from the plasma, thus increasing the apparent amount of corpuscles in the specimen subjected to examination.

It could be questioned, in the cases mentioned, whether the adventitious sediment might not be referred to the centrifugation alone, and to this doubt we were led by observing that blood freshly drawn without any admixture will coagulate throughout within a few seconds, when subjected to strong centrifugal force, which would otherwise remain fluid for over four minutes. On simply mixing blood and the bichromate solution, however, the same either takes on a uniform opacity of greenish-black hue or throws down a slowly sinking voluminous organic sediment, according to the proportion of the two ingredients. This is true of admixtures with all solutions of potassium dichromate of a strength available for the hæmatocrit process.

Owing to the well-known destructive action on the blood of potassium salts in general, in contradistinction to those of sodium, it is remarkable that the sodium salt has not been proposed nor tested for the hæmatocrit process. We have, therefore, made comparative tests of potassium and sodium dichromate in simple solution of various strength,[1] and find fundamental differences in their action in conformity with

[1] Owing to the presence of two molecules of water of crystallization in the sodium compound, absent in that of potassium, their molecular weights do not vary more than one and four-tenths per cent., hence the strengths of the solutions are almost the same, whether measured by the absolute weight or the chemical equivalence of the contained salt

the fact just mentioned. Whereas solutions of the potassium salt, in strengths stronger than two and a half per cent., mixed with normal blood, occasioned such a precipitation or coagulation as to yield on centrifugation a column of solid matter, equal in bulk to the entire mass of blood, those of the sodium salt, even in a strength of five per cent., produced no such coagulation in the plasma. Furthermore, whereas a one per cent. solution of potassium bichromate would dissolve the entire mass of red blood-corpuscles in the same manner as distilled water, the same strength of the sodium salt would not destroy them, although dissolving out hæmoglobin in some measure.

Again, while both salts in weak yet somewhat stronger solution (potassium bichromate, 1.5 and 2.0 per cent.; sodium bichromate, 1.0 and 1.5 per cent.) occasion a perceptible precipitation of albumin noticeable in the cloudiness of the fluid after removal of corpuscles by centrifugation, the amount of this precipitation is uniformly greater in the case of the potassium than of the sodium dichromate, as the following percentages of corpuscles plus precipitated albumin in the same blood after centrifugation with solutions containing 1.0, 1.5, 2.0, and 2.5 per cent. respectively of each salt indicate, namely, with potassium bichromate, ninety-eight, eighty, sixty-seven, and fifty-seven per cent.; with sodium bichromate, sixty-seven, sixty-three, sixty-one, and fifty-three per cent.

The larger figures are certainly in part due to swelling of the corpuscles, which may be observed under the microscope; weak solutions, furthermore, do not prevent coagulation, which, although the rapid removal of the corpuscles from the plasma prevents clotting in the mass of the latter, may take place between the corpuscles themselves and thus hinder complete compression.

As has long been known, the solution of the red disks by distilled water, above referred to, may be avoided on diluting blood by employing a solution of common salt in a strength approaching that of the blood plasma in this constituent (7.3 per 1,000), such as is commonly known as physiological salt solution. When blood, however, is removed from the blood-vessels, defibrinated and diluted with a salt solution of exactly this strength, and then allowed to deposit its corpuscles, it will soon be perceived, in most cases, by the color of the supernatant serum, that hæmoglobin has become dissolved in the solution. This, as has likewise long been known, may usually be prevented by employing somewhat stronger solutions of salt and without appreciably influencing the corpuscles, as shown by the microscope.

Furthermore, an addition of sodium chloride in less amount than that in the blood (*e.g.*, 5 per 1,000) to solutions of potassium dichromate, or of other salts, which when weak dissolve the red disks, or in stronger solution occasion their swelling, will prevent the same to a greater degree than the addition of an equal quantity of the chief salt in solution. The action of the chloride of sodium is, therefore, specifically conservative.

Since the first publications on the hæmatocrit method the necessity of the presence of soluble salts of calcium for the occurrence of coagulation of the blood, and also for the formation of fibrin, has become generally known, and it has been found that these processes may be indefinitely prevented by substances capable of precipitating calcium, such as oxalic acid, or, better, a soluble oxalate or fluoride. These important facts we owe to the labors of Brücke, Hammarsten, Pekelharing, Latschenberger, Arthus, and Pages.

Latschenberger, by repeated coagulations from serum, has indeed shown that after other salts no longer appear in the coagula, calcium is still present in quantity. From this and other facts, it is now considered that fibrin is a calcium compound, although containing but one-thousandth part of this substance.

Arthus and Pages have furthermore found that by the addition of a soluble salt of oxalic acid, such, for instance, as the sodium compound in the proportion of one part to one thousand of blood, which is sufficient to precipitate all calcium in the latter, coagulation may be completely prevented for an indefinite period; that it will, indeed, be stopped if already begun, and can even be caused to disappear if not too far advanced.

Based upon the facts detailed with reference to the prevention of coagulation, on the one hand, and the prevention of the escape of hæmoglobin from the erythrosytes, as well as the prevention of their swelling, on the other, we have made and tested the following solution for employment in the hæmatocrit method: It has yielded us results of exceptional uniformity, and unlike the bichromate solution, produces no precipitation of albumin. Its formula is sodii oxalate, 2.0; sodii chlorid., 10.0; aquæ dest., 1,000.0. This solution, when mixed with blood and allowed to stand at rest, permits the corpuscles to sink with unusual rapidity, leaving a clear, almost colorless, supernatant fluid, composed substantially of diluted plasma, while the corpuscles themselves preserve their normal microscopic characters.

The chief improvement in the hæmatocrit method up to the present time has been made in the mechanical means of execution. Daland's employment of the Zeiss hæmatocytometer pipette for taking the specimen of blood increased the certainty of its exact measurement, while Gaertner reduced or removed the liability to error in the further process by directly transferring the whole of the specimen, mixed with a large and unmeasured quantity of the bichromate solution, to a tube for centrifugation, having a funnel-shaped reservoir for the same at the centripetal end. This tube, however, has been found in practice by Friedheim to leak at the centrifugal end, owing to an extraordinarily ill-devised combination of rubber cap fitted to a screw thread cut, or rather attempted to be cut, directly on the glass tube.

To avoid this palpable source of error we have had constructed[1] a new tube of simple kind, the chief characteristics of which are a closed centrifugal end, a wider bore, and a single graduation, indicating the total quantity of blood introduced. The closed end prevents all possible loss of corpuscles during the centrifugation, the wide bore permits a better extraction of surrounding fluid from the same when already tolerably compact and enables a better subsequent removal of the same, while the single graduation allows of the employment of a number of like tubes in connection with a finely graduated scale fitted to receive them.

For taking and at once thoroughly mixing the specimen of blood with the solution we have employed a tube similar to the Zeiss pipette for his leucocytometer, but bearing a single graduation corresponding to that on the centrifugation tubes. For drawing blood the sheathed lancet of Laker, which often accompanies von Fleischl's hæmometer, has yielded us satisfactory service, especially after having added to it a regulating screw-nut on the knife-shaft above the sheath. By this means the amount of projection of the point, and therefore depth of puncture upon pushing the shaft forward against a light spiral spring within the sheath, may be finely adjusted. An instantaneous and painless puncture is thus provided for, after which, by slight pressure upon the integument to the proximal side of the same, a more than sufficient drop of blood may and should be easily caused to exude.

Owing to the painlessness of the operation the end of the finger may be taken as the site of the same with the natural advantage of its abundant blood-supply. By keeping the particular point of surface supporting the exuded drop of blood horizontal, the latter will retain a globular form, thereby incurring the least expos-

[1] By Rohrbeck & Luhme, Berlin, Karl Street, 24, who have undertaken to manufacture the hæmatocrit as here specified.

ure to air and integument, which also facilitates the obtainment of the exact quantity of blood within the measuring pipette. This latter measurement is naturally the critical part of the entire operation and requires a certain amount of dexterity.

To lessen its difficulty as well as duration, we have modified the Zeiss pipette so as to diminish the sensitiveness of movement of fluid contained within its capillary portion by introducing a glass air-bulb of one inch in diameter in the course of the rubber tubing connecting the pipette and the mouth-piece of the instrument, while giving this connection altogether a considerable length for greater convenience and surety of action. By these means fluid in the capillary portion of the pipette may be easily prevented from reaching the bulbous enlargement of the same before exact measurement, which is not the case with the Zeiss instrument. To readily secure the exact quantity of blood slightly more than required must be first drawn into the pipette, when by stopping its extremity and moving the end of the pipette at right angles along the surface of the other hand, while producing slight air-pressure behind the column of blood, the latter will gradually flow out until the upper end of the column stands precisely at the mark. The specimen is then to be drawn further within the capillary, and immediately followed by about half of the clot-preventing solution into the bulb of the instrument, mixed with the same by means of the contained bit of glass, and transferred to the centrifugation-tube by the help of a bristle, the other two quarter portions of solution requisite to successively free the pipette from the remains of the previous mixtures being likewise transferred. By the employment of the above given oxalate solution, a special cleansing of the tube from time to time, as with concentrated sulphuric acid, such as is necessary upon use of a bichromate solution, is unnecessary when the contents of the tube be each time soon removed.

The centrifugation of the specimen may be performed with any centrifugal machine, and is to be continued either until the column of corpuscles ceases to perceptibly diminish in length, or, in case of comparative observations for a certain fixed period of time, sufficient to render the corpuscles compact. Wherever—as, for instance, in a case of anæmia—a simple comparison with normal blood is wished, a specimen of each may be simultaneously centrifugated and measured before the mass of corpuscles is completely compact, without impairment of exactitude. Such a centrifugation is conveniently effected with Gaertner's or Rohrbeck & Luhme's simple hand machines. In case of the former but two spinnings of the same are requisite, with the latter a revolution of from one to three minutes suffices. For retaining a level surface on the column of blood-corpuscles for precise measurement, the motion should be slowly brought to a stop.

With normal human blood, the above detailed hæmatocrit method, when the corpuscles are reduced by centrifugation to the utmost compactness, has yielded us percentages of corpuscle substance varying from thirty-six to forty-four per cent. As before stated this does not represent the volume of the corpuscles as existing in circulating blood, where, owing to the variable absorption of water from the plasma, their size is inconstant, but the amount of corpuscular substance under fixed and constant conditions effected by the oxalated solution of salt. This amount we hold to be a better measure of the quality of the blood with reference to the ingredient which forms some nine-tenths of its red disks, namely, its hæmoglobin, than those heretofore yielded by the hæmatocrit method.

Observations by F. H. Southgate upon the blood of the rabbit obtained from the subcutaneous veins have shown a generally greater uniformity than that above specified, which would indicate that blood from the capillaries is subject to greater variability than that in larger vessels.

AXIS-ADJUSTMENT: A NEW AND RATIONAL METHOD OF DELIVERING THE PLACENTA.[1]

By WILLIAM R. NICHOLS, M.D.,

BADEN, ONTARIO.

THE paper I have ventured to bring before your notice to-day, under the heading of "A New and Rational Method of Delivering the Placenta," needs an apology for its title, since it is new only in the sense that no reference to its principles can be found in any literature at hand; but it is not presumed that many of you, who are experts and veterans in the obstetric art, have failed to practise, long before the writer, some of the procedures appertaining to the method; on the contrary, it is believed that as your experience has become riper and your management more dexterous, you, too, have departed from the teaching of the schools and books, and have arrived at a practice in accord with principles I now attempt to establish. If these principles be intrinsically true and universally applicable, then the methods in vogue must be incidentally successful, and, as such, irrational, irrespective of the measure of success they apparently give; and the discussion of these principles, which this paper is sure to evoke, cannot fail to be of interest and profit; for they vitally concern that stage of labor which is admitted by all to be the most important and the most fraught with dangers and accidents to the lying-in woman.

The manner of delivering the placenta has been described as being accomplished by one of four methods, viz.: The Natural method, wherein Nature herself is competent, as she is generally with the child. The method of Traction on the Cord, now fairly obsolete. The method of Expression, as enunciated and taught by Credé, but which had been practised long before his time by the Dublin school, and taught even in our own backwoods Province by the late Dr. Workman, when professor of obstetrics in King's College, Toronto. And, lastly, the method of Manual Extraction, the last resort in failure of the former methods.

As the method of Credé has superseded the former methods, and is accepted without question as the method *par excellence*, it is to it we wish to pay our respects, and to do it the deference of quoting its technique in full and of commenting thereon. "Firm pressure is to be made upon the uterus downward and backward in the axis of the pelvic brim, when a contraction is felt to begin." At the outset, it is admitted that much success has attended this manipulation, but the same may be said of any particular procedure, in any condition, wherein nature co-operates; in other words, where success is incidental to the method, and not intrinsic or essential. The limits to which this "firm pressure" and these forcible efforts may be pushed appear to be, on the one hand, the amount of violence the woman can tolerate, and, on the other, the manual strength of her intellectual attendant. I speak of what I have seen, and, it may be, of what I have practised. I can never forget the amount of violence offered to a uterus and abdomen (not to speak of tender endothelium) at my first case of labor in a lying-in hospital. The vivid remembrance of that occasion must bear the onus of inflicting this paper upon you. Cases that cannot be thus delivered are denominated "retained placentæ;" and such retention is taught to be due to either hour-glass contraction or organic growth to the uterine walls. As I have been unable to satisfy myself of having met more than two, if even so many, cases of true organic growth of the placenta to the uterus, and not even one instance of hour-glass contraction in over half a thousand accouchements, I am obliged to consider the retention to be due in the great majority of cases to

[1] A paper read before the Waterloo Medical Association, at Berlin, Ontario.

other factors. That cases of retention are fairly frequent, we are led to believe from the histories of patients, whose statement that the after-birth was "grown fast" is by no means uncommon.

Meeting occasionally with cases of natural delivery, wherein nature is competent without any assistance from art, and, at other times, with cases of "retained placentæ" under conditions apparently as favorable, I felt myself mystified when attempting to furnish an explanation for the difference, and when I was obliged to submit my patient to the risks of manual extraction for a placenta showing no trace of organic growth to the uterine walls, or any other condition accounting for such retention, I was far from feeling comfortable and satisfied.

If a careful palpation of uteri at this stage of labor be made, it will be found that they possess marked variations in form. Some are markedly irregular and bossed, while others are fairly uniform. These variations, so far as I am aware, have met with no interpretation; they are significant, however. Reflecting that the structures superimposing the placenta—viz., the abdominal and uterine walls—are uniform in thickness, I was forced to the conclusion that the variations are due to the position of the contained placenta, but in just what shape the placenta was I could for a long time form no proper idea. An observation that I had previously made, long before I could attach to it either diagnostic import or indication for treatment, has a bearing upon this point. It was to the effect that when blindly manipulating the uterus *à la Credé*, I was on a number of occasions almost startled by a sudden slipping or jerking within my hand, accompanied by a transformation of its contents, which was manifest to the patient as well, though not painfully, and delivery generally occurred soon after without further solicitation. By degrees it began to dawn upon me that this slipping and transformation was a turning or version of the placenta upon its axis, similar in manner to the version of the fœtus at times. Further attention to these points showed that a certain rough relationship existed between the form (as felt through the abdominal walls) and the ease with which delivery was accomplished. When the uterus was fairly uniform and free from bossing, and elongated rather, nature was frequently competent, or but little difficulty was experienced by artificial methods; when the uterus was markedly bossed and irregular, and broadened rather, more placental dystochia was present, or retained placentæ were obtained.

As before stated, I regarded these variations in shape to be due to the position of the contained placenta—in other words, to the relation of the placental axis to that of the uterus.

In order to have an intelligent conception of the placenta, it is necessary to examine one that has been delivered. It will be found to be possessed of an elliptical rather than a circular form, but it is not by virtue of this that we can speak of its having an axis, though doubtless this may occasionally be so. There will be revealed, also, deep sulci or furrows on its uterine surface, which surface, before the birth of the child, presents a convexity corresponding to the concavity of a segment of the uterus, against which it is in apposition. The sudden diminution consequent upon the expulsion of the child but completes a process of folding the placenta upon itself, already initiated by its previous convexity and sulci. It is with this folded placenta we have to do—folded it may be seen when emerging from the ostium vaginæ—folded it may be felt when passing through the os uteri, and folded it lies within the cavity of the uterus. It matters not whether it is folded equally or unequally—the practical consideration being that a more definite axis has been thereby given it, which passes, roughly speaking, through the points of reduplication of its edges, these points corresponding to the poles of the fœtus. Simply its relative length has been increased. We will now define the axis of the uterus to be in that diameter which passes from the centre of the os to the centre of the fundus.

If, now, within the cavity of the uterus, the placental axis, as previously defined, corresponds to the axis of the uterus as above given, we will have, as determined by abdominal palpation, a fairly uniform, somewhat globular and elongated form. This form, I have already remarked, obtains wherein nature is frequently competent, and wherein the least dystochia occurs—the reason is obvious. If, on the contrary, the axes do not correspond, we have more or less irregularity and bossing, as the placental axis deviates from or approaches that of the uterus; the greatest deviation resulting in a "placental cross-birth," a condition much more frequently met with than fœtal cross-birth, owing to the antecedent disparity in size of container and contents, to the original site of implantation of the placenta, and the subsequent contractions of the uterus. In the condition referred to as placental cross-birth, the poles of the placenta do not present at the os and fundus, but at two opposite points midway between these. A relatively broad surface is thus in apposition with the os—too broad and too large for it to enter that opening, and any contractions occurring (which operate below the lower pole as well as above it) tend to imprison, rather than to expel, the placenta, until such times as a correspondence of axes has by whatever means occurred. In this we have the explanation for the cases of so-called retained placentæ, so common without trace of organic connection. This correspondence of axes is occasionally brought about by successive contractions indefinitely prolonged, but it is evidently the duty of the physician not to wait for the efforts of a partially exhausted organ, lest further efforts induce complete exhaustion and precipitate inertia and hemorrhage. When the axes correspond, or have been adjusted, a pole presents at the os, which uterine contractions now cause it to enter and readily dilate, by bringing into play the mechanical principles of the wedge. The blow or power being represented by the contractions, the wedge by the sloping pole of the placenta, and the resistance by the moderately contracted os.

My limited experience in this undeveloped field leads me to believe that it is possible, in the vast majority of cases, to diagnose the condition of placental cross-birth, and in cases of less axial obliquity to determine whether the upper pole is anterior or posterior, or right or left with the lower pole in a corresponding opposite position. Nor is the acquiring of this degree of refinement in palpation to be considered a feat of any comment, when slightly enlarged appendices and tubes are daily diagnosed and accurately mapped out, in abdomens having nothing of the flaccidity that is present in the third stage of labor. Who of you will affirm it to be impossible to locate within the abdominal cavity a body having the dimensions of a folded placenta? I know, gentlemen, you have met with no difficulty in palpating the floating kidney, and I believe that when you have given this subject your serious attention, you will diagnose the position of the placenta much more rapidly than I can even speak of it. The projections or bosses correspond to, and are caused by, the poles of the placenta, which the hand, rapidly swept over the fundus uteri, deeply behind it, and over its lateral and front walls, readily detects. There is also a resistance at the poles, entirely different from that at other points, and the poles located, the position is determined. Some of you may object to this, and say if it be such a simple affair to diagnose the correlations of the placenta, why is it we do not apply the same method to determining the position of the child, instead of resorting to vaginal examination? Whoever of you has had a fœtal cross-birth and has taken the trouble and care to examine the abdomen, will have been struck by the unusual form—so unusual, that in-

spection surmised the condition before palpation confirmed it. We are the slaves of habit, and are so accustomed to rely upon the vaginal examination, that we have thrown over and lost sight of the really valuable evidence derivable from external methods of examination. The fact is, that in one of the largest German obstetric clinics no other method of examination than the external is permitted in labor.

The slipping and transformation that I have spoken of as occurring when blindly manipulating the uterus, and which I have interpreted as a version of the placenta on its axis, gave me hopes that it would be possible to perform version when desired, and so obviate recourse to the dangers of manual extraction in case of dystochia or retention. Now that we have an intelligent conception of the placenta (contained or retained), and can, in the vast majority of cases, approximately determine its axis, its version or adjustment of axis presents but little difficulty.

Before attempting this, it is desirable to refer to the terms we shall use, viz.: Placental cross-birth, placental obliquity, placental version; the latter being accomplished by three methods, viz.: external, internal, and combined or bipolar.

As external placental version is the method upon which reliance is placed, we will speak of it fully, and state that it is much more readily performed than fœtal version, though much in a similar manner. We presume the hand has followed down the uterus after the expulsion of the child, has maintained its contraction, and, most of all, has determined the position of the placenta. Now, when the uterus announces, by instituting a pain or contraction, that its physiological rest is over, which has given time for blood coagulation to seal the mouths of the uterine sinuses, a period of from ten to twenty minutes after delivery of the child, we wait for the interval, that is for the period when complete contraction is absent. In antero-posterior obliquity, we proceed by grasping the upper hemisphere of the uterus in either hand more convenient, pressing the fingers well down upon the posterior wall, while the thumb searches downward over the anterior surface. When the upper pole is anterior, the thumb pulls upward and backward on this projection, while the fingers press downward and forward on the lower pole, but without any pressure whatsoever, in the direction indicated by Credé. Should a contraction occur, it will be found expedient to desist and wait for another interval. Suddenly the slipping, the transformation is felt, and version has been accomplished. The pole, the point of reflection, the analogue of the wedge, enters the os, which the finger may now make out with some difficulty, covered as it may be with membranes containing clot or fluid. When the upper pole is posterior, the manipulations are reversed. In obliquity, where the upper pole is lateral, right or left, the version appears to be more readily brought about by the two hands applied, one on each side over a pole, making proper pressure, which may also be accomplished by one hand. Placental cross-birth is managed in an exactly similar manner. The combined, or bipolar, method of version appears to be indicated only on the rarest occasions when the external has failed; while corrective pressure is made over the fundus uteri (as already referred to in the external method) by one hand externally, the other makes moderate traction upon the cord. This appears to be a perfectly justifiable and harmless procedure, notwithstanding authoritative opinions to the contrary; and an interval also is the proper time for its exhibition. When turning is felt to have occurred, we must immediately desist. A battledore implantation of the cord on the lower pole, when posterior or lateral, suggests its propriety and success; but, if on the upper pole, when anterior especially, it would have the tendency to diverge the axis and increase the dystochia, a condition actually brought about in practice at times. Internal version is simply manual extraction, so seldom to be used as only to require mentioning, in a classification of methods, as a last serious resort when former methods have failed, organic growth exists, or hemorrhage necessitates.

Now that the axis or poles have been adjusted, uterine contractions, reinforced at times by slight assistance, are sufficient to produce expulsion, if all the other factors are favorable; but it is essential that we ascertain this. In the non-gravid state the uterine axis does not normally correspond with the axis of the vagina, but subtends it at an angle. In the gravid state this anteversion, if I may term it, is frequently exaggerated by the weight of the child acting on a lax abdominal parietes, and also by the downward pressure of the diaphragm during the last powerful pains when the child is emerging. The relatively large size of the fœtal head, or breech, has the effect of obliterating this angle, and rendering for the time being the parturient canal straight. But the placenta, unable from its size to effect this, has its point of apposition on the sacrum—a solid body which opposes its progress—instead of into the lumen of the vagina, its destination. It is evidently to our advantage to adjust these axes as well, by lifting the fundus uteri and deeply depressing it into the abdomen. We will now expect, and are generally not disappointed in finding, the next or succeeding pain effect delivery, aided, only occasionally, by the slightest amount of pressure upon the upper hemisphere of the uterus, which is to be applied, not in an interval, as was the version, but during a pain. The pressure, even at this favorable stage, is not to be made according to Credé's dictum, "downward and backward in the axis of the pelvic brim," as that would move placenta and uterus *en masse*, without liberating the former. The pressure should be of a compressive nature, as it is by virtue of the resultant of this compound force that the placenta is propelled, while the womb remains behind in the grasp of the hand.

The sudden diminution in size of the womb, as elicited by the hand, announces that the placenta is expelled, which may be found in the vagina, protruding therefrom, or lying in the bed, with membranes born or unborn. Instead of proceeding to deliver these at once, we wait for uterine relaxation. As the factor of the relation of the placenta to other bodies is over, and a soft, almost fluid body as the membranes, being practically without an axis, we might consider we had nothing more to do than to twist them into a rope. Of much greater consequence is it to maintain the fundus uteri well down into the abdomen so as to render the canal as straight as possible, for the os has closed down to the size of a silver half-dollar, and intra-uterum, the membranes are spread out over its lower surface, after the manner of a fan. Considerable adhesion exists between these moist surfaces, which requires some little force to separate, and this force is applied at a disadvantage, when acting at angle. Simply hooking the fingers under the membranes is sufficient in the majority of cases, if uterine adjustment be maintained; but twisting them into a rope is a valuable device for preventing tearing.

We are now in a position to understand the incidental success of the Credé method, since (*a*) such blind manipulations, from themselves, occasionally produce version; (*b*) uterine contractions, from internal stimulation, produce version; (*c*) uterine contractions, from external stimulation, directly or indirectly, through the hypogastric sympathetic plexus, produce version. Retentions are common, which cannot be accounted for on the grounds of hour-glass contraction or organic connection.

This is, I believe, the rational method of delivering the placenta, and I hold that forcible expression, as it is now largely practised, should have no place in the methods of the modern physician; since the obstacles, which these forcible efforts are put forth to surmount

this enlightened age? What has been said of Latin applies with equal truth to Greek; they are the languages of science and of scholars, and come perfectly natural to all physicians, either to speak, read, or write, but particularly to write. How much better it would be for our beloved profession in the future, if our young men and maidens, instead of fooling away their time with microscopes and culture-tubes, and bacilli and bacteriological and laboratory work, would return to the true fountain of wisdom, which is the Latin language. How much better to absorb wisdom from these pure sources than to waste time, as many do, in the study of the barbaric language of the stupid Dutchman, a language which contains little that is better than the vaporings of Goethe and Schiller or the pseudo-science of Virchow and Ziemssen. Let us by all means have a "Latin revival," it is without doubt the one thing that is needed in this age to make our profession truly scientific.

Yours truly,

H. L. WALDO, M.D.

TROY, N. Y.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending August 3, 1895.

	Cases.	Deaths.
Tuberculosis	143	101
Typhoid fever	18	8
Scarlet fever	26	1
Cerebro-spinal meningitis	2	5
Measles	163	13
Diphtheria	159	29

Coleridge on Genius and Degeneration.—In the "Letters of Samuel Taylor Coleridge," just published under the editorship of his grandson, Mr. Ernest Hartley Coleridge, the poet gives a curious prolepsis of Lombroso's views as to the intimate connection between genius and disease. The author of "The Ancient Mariner" writes: "It is a theory of mine that virtue and genius are diseases of the hypochondriacal and scrofulous genera, and exist in a peculiar state of the nerves and diseased digestion, analogous to the beautiful diseases that color and variegate certain trees. However, I add by way of comfort, that it is my faith that the virtue and genius produce the disease, not the disease the virtue, etc., though when present it fosters them." Coleridge, as is well known, was a slave of opium. He is said to have swallowed two quarts of laudanum in a week, and on one occasion he took a whole quart in twenty-four hours. He struggled hard for deliverance, and wished that he might be kept from the possibility of indulgence by *force majeure*. In the following passage he sketches out a plan for the "therapeutic seclusion" of narcomaniacs: "This might give occasion for the suggestion of one new charitable institution, under authority of a legislative Act, namely, a Maison de Santé (what do the French call it?) for lunacy and idiocy of the will, in which with the full consent of, or at the direct instance of, the patient himself, and with the concurrence of his friends, such a person under the certificate of a physician might be placed under medical and moral coercion. I am convinced that London would furnish a hundred volunteers in as many days from the ginshops who would swallow their glass of poison in order to get courage to present themselves to the hospital in question; and a similar institution might exist for a higher class of will maniacs or impotents. Had such a house of health been in existence, I know who would have entered himself as a patient some five and twenty years ago." It should not be forgotten that Coleridge spent the last eighteen years of his life under the roof of Mr. James Gillman, a medical practitioner of Highgate, who tended him with more than brotherly care (the expression is Coleridge's own) as an honored and cherished guest, not as a patient in the ordinary sense.—*British Medical Journal.*

Cure of Cancer.—A paper of exciting interest was read by M. Richet at the Académie des Sciences on two cases of cancer cure by sero-therapy. He said that sero-therapy had gained its laurels in the treatment of diphtheria and other affections, and the two cases he brought under the notice of his colleagues at that meeting proved not only that this method can be applied, not only to maladies in which the microbe is known to be virulent, but also in affections like cancer whose microbian origin is still problematic. His experiments were made as follows: On February 9th, M. Reclus removed an osteo-sarcoma of the leg. This tumor was well rubbed up in a mortar with a little water. The liquid was filtered through linen and injected into three animals (an ass and two dogs). This injection was not followed by any reaction, and in five, seven, and fifteen days afterward the blood was drawn and the serum separated. It was this serum that he used in the cases in question. The first of these was that of a woman who had been operated on in October last for tumor presenting the look of a fibro-sarcoma of the size of an orange and adherent to the sixth, seventh, and eighth ribs, without, however, interesting the tegument. In February the tumor returned and rapidly assumed the size of a small orange. The treatment by the serum was commenced on March 12th, and continued during forty days, at the dose of three syringes a day practised around the tumor. From March 25th the tumor commenced to diminish in size, and to-day only a small indurated nodule is found, and the general condition of the patient has improved considerably. The tumor, which was certainly of a cancerous nature, was thus cured by the injections of serum. The second case was that of a man, aged forty-four, who entered the hospital on March 27th last for a tumor in the epigastric region of the size of an orange, and diagnosed cancer of the stomach. Surgical intervention being considered impossible, the treatment by sero-therapy was decided on and commenced on April 6th by a first injection of 4 c.c. (four Pravaz syringes), and from that time up to the 24th of the same month as much as 64 ctm. cubes were injected. A general improvement in the condition of the patient promptly followed; the weight increased by seven pounds, and from April 10th the tumor began to diminish in volume, and at the time of speaking it can be no longer defined by the fingers. In this second case, as in the first, added M. Richet, the improvement was rapid and incontestable, and as regards the first case at least, the anti-cancerous serum did really cure a case of cancer.—*Medical Press.*

Death of the Oldest German Surgeon.—Professor Franz von Ried, the oldest of German surgeons, died at Jena on June 10th, aged eighty-five. He was a pupil of Michael Jaeger, at Erlangen, and lectured in his place for some time. In 1846 he was appointed Professor of Surgery in the University of Jena, and this appointment he held till 1884, when he retired. His principal work was "Die Resectionen von Knochen," (Nüremberg, 1847), which in its day was a leading authority on the subject.

Treatment of Fractured Patella.—The method of Barker is to encircle the patella with a vertical, antero-posterior silk ligature, which, when tied, holds the fragments firmly together. The operation is done subcutaneously, and the ends of the ligature are cut short.—*British Medical Journal.*

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Original Articles.

SUICIDE IN THE UNITED STATES.

BY JAMES WEIR, JR., M.D.,

OWENSBORO', KY.

THIS paper has been prepared with special reference to suicide as observed in the United States, though voluntary death as found throughout the entire world is, incidentally, discussed therein.

Self-slaughter is of rare occurrence among savage races of people; of so infrequent occurrence, in fact, that one is almost tempted to say that it is unknown among them. This would be, however, a statement not authorized by facts, for savages commit suicide on occasions when influenced by the fear of starvation, or through the dread of a lingering, painful death, or through pride. The higher psychical emotions are wanting in the savage; he is very near, indeed, in this respect, to his pithecoid ancestor, hence he bears the ills of life with all the equanimity of an animal in which æstheticized and idealized *psychos* are absent.

The semi-civilized Chinaman is, on occasions, prone to suicide; and, I am inclined to believe, most of the voluntary deaths occurring among the Chinese are brought about through pride. We know that when overcome in battle entire companies of these people will kill themselves rather than fall into the hands of their enemies. The Chinese are a proud, arrogant, and insular nation. They consider all foreigners as being barbarians and savages, and despise them as beings utterly beneath their notice; hence, when overcome by them, they deliberately slay themselves rather than suffer the ignominy of being slain by these "contemptible and despicable outsiders." The incentive may be, however, the fear of torture. Again, there is a certain standard of virtue that obtains among these people, which makes the fear of rape a powerful factor in engendering the act of suicide in the females of this race. The usages of war among Eastern nations has authorized, heretofore, the violation of all captured females; hence, large numbers of young girls and women kill themselves when they see that they are in danger of being taken by the enemy. This fact was especially noticed during the late war between Japan and China.

The factors inciting suicide in the Chinese and kindred races of people are not those which bring about self-slaughter in those races that are highly civilized; the psychical *materies morbi* are markedly different.

When we turn to the civilized races of the world, statistics show the curious facts that certain ethnic elements enter into the influences predisposing suicide; that voluntary death is largely on the increase; that it follows in the wake of civilization, and that its average is much higher in those races in which are to be found the greatest amount of culture and erudition.

A close study of suicide, as observed in European countries, demonstrates the fact that those nations which have their origin in the Indo-Germanic rootstocks are the most prone to commit voluntary death. With few exceptions, and these exceptions can be readily accounted for by reason of exceptional surroundings, the great centres of suicide, in which the number of suicides per million of inhabitants runs very high, are to be found in Germanic countries.

A glance at the accompanying table, prepared for me by Professor Weidner, of Vienna, for this paper, will at once show this.

TABLE I., SHOWING AVERAGE OF SUICIDES IN VARIOUS STATES OF EUROPE FOR A PERIOD OF FIVE YEARS.[1]

States.	Average Number of Suicides per Million Inhabitants.					General Average.
	1882.	1883.	1884.	1885.	1886.	Five Years.
Austria	125	123	126	129	127	126
Prussia	133	136	130	135	133	133
Hanover	142	144	140	145	143	143
Mecklenburg	168	165	170	173	171	169
Wurtemberg	163	165	162	166	161	163
Saxony	313	311	316	314	317	314
Denmark	260	262	261	260	263	261
Hamburg	305	301	307	309	306	305
France	152	154	153	156	155	154
Spain	20	19	21	18	22	20
Russia	32	35	31	35	36	33
England	68	67	70	72	70	69
Italy	36	35	38	34	39	36

[1] I am inclined to believe that the averages in this table are too low by two or three.—J. W., Jr.

Hovelacque demonstrates that the averages of suicide are decidedly higher in Germanic countries than elsewhere. The following table, which I have slightly modified in order to make it more explicit, appeared in *La Linguistique*, in 1876:

TABLE II. LINGUISTIC TABLE DEMONSTRATING THE PREPONDERANCE OF SUICIDE IN GERMANIC RACES. ADAPTED FROM HOVELACQUE.[2]

Languages.	Maximum Proportion.	Minimum of Suicides.	Average per Million.
People speaking the first group of the Italian languages derived from the Latin (Italians, Spaniards, Roumanians, Portuguese, Corsicans)	74	13	31.5
People speaking the second group of Italian languages, with an infiltration of Celto-Germanic elements (French, Belgian, French Swiss)	260	35	130.0
People speaking Scandinavian, or the first subdivision of the Germanic branch (Danes, Swedes, Norwegians)	268	74	127.8
People speaking the languages derived from the Low German (Frisians, Flemings, Prussians, English, Germans of the North)	301	35	148.0
People speaking languages derived from the High German (Saxons, Central Germans, Bavarians, Austrians, Styrians, Corinthians, German Swiss, etc.)	303	90	165
People speaking the Slavic idioms of the Southeastern branch (Russians, Galicians, Sloveni, Croats, Dalmatians)	98	14	40
People speaking the Slavic idioms of the Western branch (Czechts, Moravians, and Poles)	158	98	(130)

[2] Modified from tables used by Morselli in his work on Suicide.

The Celtic and Celto-Latinic races are remarkably free from the desire for self-slaughter. Especially is this true of the former in Ireland, where the average rate of suicide is only about fifteen per million of inhabitants, and of the latter in Spain, where the average is about twenty per million. From data gathered throughout Europe and Great Britain, which embrace a period of time extending from January 1, 1880, to December 31, 1893, I have constructed a table which shows the general averages of the four great divisions of European peoples. I have taken great care to con-

sight with optic-nerve atrophy, and the seizures attended with opisthotonus, rigidity of the masseters, tonic extensor spasms of the extremities, especially the superior ones, and shock-like movements of the arms are found in meningitis in the posterior fossa when the surface of the pons is irritated, and not in tumor as a rule unless meningitis is also present. So far the symptoms and the theory of meningitis harmonized, but I was at a loss to account for the other cranial nerves than the optic escaping. That the child at times should feel quite well, be entirely free from headache or any discomfort, and that there should be no rigidity of the posterior neck-muscles except during the paroxysms, seemed to me inconsistent with an old meningeal exudate in the posterior fossa. A tumor in the cerebellum so situated as to produce remittent pressure on the pons, with distinct paroxysms of increasing pressure, is common to the experience of everyone who has studied and observed cerebellar growths, but for the pressure symptoms to be apparently completely intermittent, and to return with as much regularity as epileptic seizures, and to consist solely of epileptoid phenomena without mental dulness or loss of consciousness, was new in my experience.

I confessed my inability to make even a problematic diagnosis, and advised the mother to take her child home, as I could not recommend an operation for her relief, but about an hour before the time the mother had set to leave the hospital the child was seized with a series of convulsions which proved fatal within two hours.

While the body was on the post-mortem table I was asked by Drs. McNaught and Hopkins, before they began their examination, for my diagnosis. I said that a double lesion, a tumor in one hemisphere of the cerebellum, and an old meningeal exudate would explain all the symptoms observed during life, but not the absence of others.

In the light of the autopsy which revealed the presence of a large cyst and a small tumor in the posterior three-fourths of the left cerebellar hemisphere, are the symptoms explicable? It is possible that, owing to the watery contents of the cyst, the pressure exerted by the cyst, after it became chronic, on the adjacent structures was not as great as results from a more solid and unyielding tumor, so that, while there might have been a papillitis during the early stage of the growth, the lessened pressure on the formation of the cyst and the breaking down of the growth allowed this to subside with the resulting atrophy of the optic nerves, and time had permitted all intra-ocular exudates to be absorbed. We know that a growth in the cerebellum, from its effects upon the circulation, especially in the veins of Galen and adjacent veins and sinuses, disturbs the function of the pons and medulla, usually to a slight extent continuously, and when it has reached sufficient size to exert pressure on the respiratory and neighboring centres, by paroxysms, threatening life by increased pressure which probably results in temporary œdema of the parts.

In the case of a cyst with yielding contents, which may vary in quantity from time to time, the pressure symptoms probably may become intermittent. The peculiar tetanic spasms were, most likely, due to temporary irritation of the pons and medulla.

With the information gained from the clinical and pathological observations of this case, could error be prevented in the diagnosis of a somewhat similar one? If a large cyst of the cerebellum is attended with more varying pressure-symptoms than a tumor, a problematic diagnosis might be ventured, and it might be correct or it might not. The only unilateral symptom in the case was the tendency of the right arm to become a little more rigid than the left, with, at times, a turning of the head and eyes to the right, but this was inconstant and of no localizing value in determining which hemisphere of the cerebellum was affected. Had it been possible to localize accurately the lesions, the tumor, in all probability, could have been removed, the contents of the cyst evacuated, and the life of the patient saved.

A careful study of the case just reported demonstrates how meagre and unsatisfactory are the symptoms of an extensive lesion in one lateral hemisphere of the cerebellum, and that ataxia from lesions of this portion of the brain probably only occur when they are situated so as to exert pressure on the pons, usually through the medium of the middle lobe of the cerebellum.

THE NEURO-CHEMICAL ASPECT OF DIABETES.

By C. C. THAYER, M.D.,

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The etiology of diabetes, after two centuries of scientific investigation, remains unsettled, and if comprehended by any, multiplied hypotheses excludes unanimity. By a physician familiar with diabetes these diversified opinions are charitably considered, for while diabetes proper exhibits some uniform and diagnostic symptoms, otherwise it appears differently in different cases and acts differently under the same treatment. The neurotic, the dietetic, the traumatic, and the toxic are varieties demanding appropriate consideration.

Its treatment, hygienic and therapeutic, is also unsettled, like its pathology. A restricted diet is best for some, a mixed diet for others, a warm climate for one, a cold climate for another. Codeia works a charm in one and a harm in another. Bromide of arsenic, reported by Clemens, antipyrin by Robin, iodine by Seagen, ergot by Tyson, and alkalies by Miathe and Dougherty, have received more or less praise, and when we have exhausted materia medica we can recommend a change of climate. Experimentation is as far as we have advanced in the treatment of diabetes, and as far as we can advance till its etiology is understood. The triangular "diabetic area" is too limited, and irritation of the calamus scriptorius too infrequent, to account for the origin and cause of this complex disease.

Saccharine urine is produced by a variety of causes, and without diabetes. Inordinate eating, drinking, worry and watching, bullet and sabre wounds in various parts of the body, have produced sugar in the urine. Diabetes cannot be scientifically diagnosed from sugar in the urine alone.

Ruling out in this paper all cases of glycosuria of dietetic, traumatic, and toxic origin, allow me to present in brief six cases which fairly represent the whole number treated, with experiments and conclusions.

Uniformity of diabetes symptoms justifies their omission and description here.

Case I.—Female, aged fifty-four, naturally strong, weight 130 pounds. After her husband's death she was worn with grief and rapidly failed, with diabetes. Six months later she came under our care, then weighing 106 pounds, passing 9 ounces of urine and 3¼ ounces sugar in twenty-four hours. She was put on codeia, ¼ grain three times per day, and gradually increased till she had taken 18 grains daily, when it was exchanged for arsenic. When she was taking 3 grains daily she passed 5 ounces of urine with 1¼ ounce of sugar. In this, as in other cases, have noticed that the maximum benefits of codeia were reached at its first physiological effects, and that beyond this it did more harm than good. When taking 16 grains for twelve hours the specific gravity was just 1000, then rose to 1024, then to 1036. Refusing food and medicine, she died three weeks after with diaceturia.

Case II.—Male, aged seventy-four; nervous, bilious temperament, and quite feeble, and was passing 7 ounces of urine and 2½ ounces of sugar daily. Put him on electric salt and stimulating baths, with massage and

oil rubs, taraxacum, gentian, and phosphoric acid, with alkalies, citrate and bicarbonate of potassium, and boracic acid, while we crowded him with a mixed diet. The urine becoming nearly normal, he prepared to go home. Having a corn on his toe, he applied some patent corn cure, which resulted in gangrene and death.

CASE III.—Male, aged forty-seven; bilious temperament, passing 7 ounces of urine with 2¼ ounces of sugar daily. Put him on a forced mixed diet, with milk, taraxacum, gentian, and phosphoric acid, with alkalies and baths as in Case II., and after six weeks discharged him cured.

CASE IV.—Male, aged fifty-two. Had lost 48 pounds of flesh and was passing 10½ ounces of urine and 4 ounces of sugar daily. Put him on an absolute skimmed-milk diet, four quarts daily; bro-arsenic and alkalies, central galvanism, salt rubs, cold sp. douche, and massage. After eight weeks was discharged cured, and has done a large pastoral work for ten years since.

CASE V.—Female, aged forty-two; bilious temperament, and had malarial fever two years before I saw her. She was passing 10 ounces of urine and 3 ounces of sugar daily. Put her on meat, milk, and salads and four quarts of water, baths, wheat phosphoric alkalies, blue-mass, ferri.-chl. et quinea. She gained thirty-two pounds and returned home cured.

CASE VI.—A daughter of our vice-consul of Aintab, Turkey, aged eighteen; naturally strong and ruddy. One month after her decline I first saw her, when her mother told me "she was passing a pail of water daily." I could not there make a quantitative test of the sugar, but it was heavy. Feeling impotent to care for the case, I sent her to our Beirut Medical College, but she was soon returned with an unfavorable diagnosis. Another opportunity for experiment. Put her on an absolute meat and salad diet, with plenty of water, but had to lock her in a room with barred windows, and her cries for bread were pitiful; but so long as the urine seemed to improve, the parents consented to the vigorous treatment. After three weeks she was released from her incarceration, and after eight weeks she was pronounced cured; and, having recovered from her great emaciation, she was taken to the Aintab Female Seminary by her parents and "presented" to the mission as a thank-offering, and as the first acquisition from this large Armenian family for twelve years.

We often find diabetes associated with epilepsy, chorea, lithæmia, and malarial poisoning, and attention has been called to a family type, a neurotic inheritance which characterizes a certain class of patients and accounts for many objective symptoms; but a more numerous class exhibits disturbances of nutrition, and these may be divided into the obese and emaciated. In the obese, hepatic, glycogenic abnormalities may account for the limited amount of sugar, but in the rapidly emaciating, the entire cell structure seems besieged with a consumption or retrograde metamorphosis or chemical degeneration, the cause of which is not clear, whether chemical or neurotic, irritative or paralytic. To me the combination of all four is possible, feasible, and comprehensive as the etiological basis of this complex condition, giving rise to saccharine diabetes, and late physiologists promote this view in part.

It is the concensus of opinion among modern physiologists that the carbohydrates are cell-builders; that by transformation they produce sugar, and the same group of sugar as we find in saccharine diabetes; that glycogen, prominent among the carbohydrates, is widely and generously distributed throughout the body, in the cells of the liver, muscles, embryonic tissue, white corpuscles, etc.; that glycogen leaves the liver as sugar, and that the quantity and destination of the glycogen depends on the character of the diet and a certain nerve stimulus. Glycosuria, however limited, is never insignificant, but points to a pathological condition. If there is deficiency in the selective-cell energy to reconstruct from the carbohydrates of the blood-plasma, then we have a disassimilation, a chemical metabolism resulting in sugar and tissue degeneration. If there is an abortion of the plasma, or a pathological condition rendering the plasma unsuitable for cell construction, we have sugar and tissue degeneration.

In short, the hypothesis to account for the excess of sugar in the urine is a pathological condition, a catabolism, or retrograde metamorphosis of the cell structure, or the cell plasma. And the hypothesis to account for the excess of urine is an aggravating presence of the sugar and a perversion of the secretory nerves.

In Foster's "table of the relation of the secretion of urine to arterial pressure" he says: "The division of the renal nerves produces polyuria, and division of the renal nerves and stimulation of the spinal cord below the medulla produces greater polyuria." We have seen paralysis do the same.

The most successful treatment also has been along the line of neuro-chemical indications, viz., nerve restoration and cell reconstruction. Our best treatment has been an absolute diet, either of milk, three quarts, or two quarts with six or more raw eggs daily, or meat varied in form, with salads and three to four quarts of water; electro-thermal and salt baths; central galvanism and faradism; cold spinal douche from the nozzle attached to a fountain or tank, one minute morning and evening; the needle bath; oil and massage; alkalies, wheat phosphates, and strychnine.

LEONARD'S METHOD FOR DETECTING CELL-MOTION.

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THE essentials to this method are: 1, Warm stage; 2, photo-micrograph.

It has long since been demonstrated that if the white blood-corpuscle be kept at about the temperature of the living body on a warm stage—an essential accessory to the microscope—it will exhibit amœboid motion. And since the discovery of the plasmodium malariæ by Laveran, the warm stage has been frequently used to detect the varied movements of this parasite. But only recently has it come into practical use in studying the movements of the protoplasm of the red blood-corpuscle, as well as the varied phases of karyokinesis and karyolysis affecting its contained nucleus. Indeed, when we compare the "rosette-shape" exhibited in karyokinesis with the same shape exhibited as part and parcel of the life history of the plasmodium malariæ, the resemblance becomes striking, and the two might be confounded. A close observation of the cells, or other cells in the field, with the presence or absence of pigment, ought to render a discrimination quite easy. Leonard[1] studied the amœboid motion of the red blood-corpuscle in blood taken from a case of malaria. He had the cell in the field half an hour, and reproduced by means of the photo-micrograph the different movements which had taken place in the cell. In the same manner he endeavors to show that diapedesis of the red blood-corpuscle is dependent upon an inherent movement of the cell itself. The writer is convinced that this method is an ideal one, and that the observations made, and the care employed in their execution, reflect great credit upon its originator.

158 ROSS STREET.

Trinitrine, or nitroglycerine, has been recommended as an anti-neuralgic, especially in cases of inveterate sciatica.

[1] A New Method for Detecting Cell Motion, American Journal of the Medical Sciences, June, 1895.

Progress of Medical Science.

Cardiac Irregularity in Childhood. — Writing on this subject Professor Heubner excludes cases of arhythmia due to tubercular meningitis and to pronounced cardiac inflammation. He recognizes eight classes of cardiac irregularity: 1. The simplest case is that of irregularity after poisoning. An instance is quoted of a child who had eaten stramonium-seeds; on the third day there was decided irregularity of the pulse, which disappeared on convalescence. Large doses of digitalis and of opium have been noticed to produce the same effect. 2. Closely allied are cases of disturbed rhythm from digestive troubles. Recent investigations suggest in many severe forms of indigestion the circulation of some poison in the blood — a form of auto-intoxication. He gives an example in a child of six years suffering from gastric disorder, who began to show cerebral symptoms, vomiting, etc. There were rise of temperature, very irregular, intermitting pulse, retraction of the head, and drowsiness. It was regarded as a case of auto-intoxication, and this was confirmed by the favorable issue and the appearance of acetone in large amounts in the urine. Another case showed a slow, unequal heartbeat. 3. Cardiac irregularity may be met with in abdominal affections where no grounds exist for considering it due to poison. A case of appendicitis, in a girl of eight years, is quoted; decided intermittency of pulse was present, and also on a second occasion after an attack of indigestion. 4. Arhythmia in the course of infectious diseases is divided by Heubner into two groups—(*a*) that during the development and height of the disease; (*b*) that observed during convalescence. The first group is much the rarer. Many observers mention it in typhoid fever, but Heubner has had no experience of it. The second group is well recognized. In diphtheria it is often present, and also not infrequently in scarlet fever, of which several instances are quoted; measles and croupous pneumonia frequently give rise to it, and sometimes it has been observed by the author late in typhoid fever. 5. In anæmic and nervous children irregularity is frequently noted, and is apt to lead to a false diagnosis: in rachitic, feeble children, from two to four years old, such irregularity is too readily accepted as an indication of the imminence of tubercular meningitis. 6. Intestinal parasites are said to cause irregularity of pulse, but no evidence of it has occurred in the author's experience. 7. Under certain physiological conditions irregularity may be observed, as in emotional states, sometimes during sleep, and occasionally following a warm bath, with subsequent cooling. 8. Da Costa has described a disturbance of rhythm which appears to be the only element of disease, the child seeming otherwise well, and all the other causes being satisfactorily excluded. During febrile attacks the irregularity disappeared. Discussing the mechanism of irregularity under these various conditions, the author refers to nerve-influence—a disturbance of the regulating nerves of the heart. This is the explanation accepted for tubercular meningitis, increased intracranial pressure affecting the centres in the medulla. Irritation of peripheral nerves, such as the splanchnic depressor, disturbs rhythm, and would account for a continuance of such a symptom with nausea and vomiting. When due to poisoning the explanation is more difficult; but it is probably a result of action upon the nerve-centres or the cardiac muscle. The cause of arhythmia in anæmic, rapidly growing children is involved in doubt, though the suggestion of a relatively small arterial system is founded on experimental evidence. The treatment of cardiac irregularity in children requires a careful consideration of causes. If reflex, the irritant should be removed. When due to poison, the stomach and intestines should be emptied and a plentiful supply of water should be given to cleanse out the system. The idiopathic form requires moderate movement, light gymnastics, frequent small meals, and sea-baths.—*Zeitschrift für Klinische Medicin.*

The Diagnosis of Intestinal Rupture.—Dr. Berndt discusses the question of intestinal rupture from the diagnostic point of view, emphasizing not only the difficulty of establishing the certainty of a lesion of the gut wall, but also the importance of so doing in order to enable the surgeon to undertake an early laparotomy. The effects of a severe contusion are very similar to those produced by rupture, but the author points out that while vomiting is present in both cases, its nature varies so much as to constitute it an important element in diagnosis. In simple cases of shock the vomiting is reflex in character, and, although repeated two or three times, is never very serious. On the other hand, where the intestine is ruptured, it is due to the extravasation of the gaseous and fluid contents of the bowel into the peritoneal cavity, and is then always of a persistent and intractable character. Sundry recent investigations are added in which this opinion has been strikingly confirmed. — *Deutsche Zeitschrift für Chirurgie.*

The Influence of Alcohol on Sexual Perversions, Epilepsy, and other Psychical Anomalies.—Dr. Forel calls attention to the fact that the inordinate use of alcoholic beverages not only leads to the development of the ordinary alcoholic psychoses, especially delirium tremens, but it also plays a prominent rôle in psycho-pathology in two different ways: Firstly, the hereditary pathological predisposition of certain persons is such that they cannot indulge in alcohol moderately, but become dipsomaniacs at once, if they do not abstain all their lives. Secondly, alcoholic intoxication either stimulates or develops directly any latent psycho-pathological germs that might otherwise have remained latent. In the current casuistic of sexual perversions the principal factors enumerated are congenital and acquired dispositions, acquired nervous or mental disorders, and, in some cases, bad habits. There is no mention of alcohol as a causative factor. Forel observed cases in which the use—or abuse—of alcohol was a most prominent feature, and enumerates divers illustrative histories. It is an established fact that epileptics stand alcohol very badly, and when intoxicated are especially dangerous. There is also an alcoholic epilepsy, the subjects having fits only when intoxicated. Forel also alludes to the "pathological" intoxications, followed by amnesia, and concludes that nearly every psychosis is aggravated by the use of alcohol. Other psychoses which are either caused or kept up by alcohol are, for instance, alcoholic mania, melancholia, pseudo-paralysis, incurable secondary dementia, acute and chronic hallucinary folly, etc. Forel observed many cases cured by abstinence, and considers indulgence one of the greatest obstacles in the radical cure of morpho-mania. He had always observed that the excitement of the insane in asylums was always greater after entertainments at which wine or beer were served. At Bürgholzli, of which Forel is director, alcoholic beverages have been substitued by milk and lemonade. He commends following the example of the London asylums and that of Krapelin, in Heidelberg, by prohibiting the use of alcoholics.—*Journal of Nervous and Mental Disease.*

Antipyrin as a Hæmostatic and Analgesic. — Dr. Roswell Park advocated the use of antipyrin as a hæmostatic in surgery. It checks oozing, and is unirritating and slightly antiseptic. A four or five per cent. solution should be used. If sprayed into the nose it relieves headache, coryza, etc., and the spray also relieves acute pharyngitis.

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SEROTHERAPY OF TYPHOID FEVER.

WE have several times referred to the attempts made by various investigators to obtain a curative serum for typhoid fever, attempts which have thus far resulted in nothing tangible.

Typhoid fever would appear, however, to offer an inviting field for the experimental use of antitoxin, for we find in it the conditions necessary for the successful application of a remedy of this sort. In the first place, the cause of the disease is known, and this cause is active in many of the lower animals as well as in man. Moreover, typhoid fever in all probability belongs to that group of infectious diseases which are self-limited, a cure being brought about by an immunization of the system effected by the action of the pathogenic bacillus, and the immunity so acquired is permanent, or at least of long duration, a second attack of the disease, after the period of relapses is past, being an exceedingly rare occurrence. Finally, and this is a matter of very great importance in successful serotherapy, a patient with typhoid fever usually comes under treatment before the disease is at its height.

The most recent experiment in the use of antitoxin in the treatment of typhoid fever, and one that seems to give more promise of success than the others in this direction, is related by Drs. F. Klemperer and Ernest Levy in the *Berliner klinische Wochenschrift* of July 15, 1895. After some unsatisfactory attempts to produce a curative milk by inoculating goats, the authors set about obtaining an antitoxic serum. For the furnisher of this serum they selected the dog, which is naturally rather rebellious to the action of the typhoid poison. The first experiments upon animals seemed to demonstrate that this serum would make the recipient immune to the action of the typhoid bacillus, and would even abort the disease, if employed a not too long time after infection.

Up to the time of the publication of their report the authors had used the serum in but five cases of typhoid fever in the human subject. Each patient received an injection of 20 c.c. for three successive evenings, or 60 c.c. in all. All the patients were in the first week of the disease. The injections were well borne and no unpleasant results in the way of skin eruptions or albuminuria were observed. The morning remission in the temperature-curve began as a rule on the third day after the first injection, and complete apyrexia was noted by the end of the second or beginning of the third week. In one case there was a slight relapse a week after the subsidence of the fever.

All the cases treated, as far as could be judged from the symptoms and temperature-curve during the first week before the injections were given, were mild ones and might have followed the same favorable course without treatment. The authors recognize this possibility and make no undue claims for their remedy. The experiments, they hold, proved only two things: first, that the serum, if it is not curative, at least does no harm, and secondly, that it does not cut the disease short, but possibly hastens its course and induces immunity somewhat earlier than the disease itself would if left untreated.

The results are not such as to inspire the hope of finding a specific for typhoid fever, but if it be found, on further trial, that the course of the disease can be hastened and its dangers averted by serotheraphy we shall at least have gained something. But five cases prove nothing, and until the serum has been employed extensively and in cases of all degrees of severity it will be impossible to predicate anything as to its real value.

THE BRITISH MEDICAL ASSOCIATION.

THE meeting of the British Medical Association, a special report of which appears in this issue, was eminently successful as regards attendance, over one thousand members being present at the opening session. This, however, was no more than was to have been expected from the fact that the meeting was held in London, which contains in itself many more than that number of medical practitioners.

The orations were by men of the first rank, whose efforts were worthy of themselves and of the audience to which they were addressed. In his presidential address Sir J. Russell Reynolds referred to a prophecy made by Dr. Parkes, the then President of the Association, at the previous meeting in London, in 1873. In speaking of Bright's recognition of the significance of albuminuria, and of Laennec's introduction of auscultation as an aid to the diagnosis of thoracic affections, Dr. Parkes made the prediction that these two discoveries marked an advance in the science of medicine which it was very improbable would be equalled in the present century.

Sir William Broadbent gave an almost new presentation of the hackneyed theme of the progress of medicine. Among other points dwelt upon was that the distinction between the art and the science of medicine was rapidly becoming narrower, and that the art which was once the all in medical practice was fast giving way to the science, although the latter might be said to be still in its infancy. He made the contention that the best physiologist makes the best pathologist, and the best pathologist the best physician, a saying that will pass as a neat epigram, and one that is perhaps also in a measure true.

Mr. Jonathan Hutchinson's address was of more than usual interest by reason of the many personal reminiscences it contained. The speaker made a strong plea for specialism, in surgery at least, and proved his consistency by the statement that he had

given up ovariotomy, litholapaxy, and some other operations as soon as he found that more practised men could do them better than he could.

Dr. Schäfer's address was mainly concerned with the functions of the internal or ductless glands of the body, functions which we are learning to regard as of the highest importance, and with the treatment of certain diseases by animal extracts.

There were a number of questions brought before the meeting which were the occasion of several very acrimonious discussions, but these are matters purely of local importance, and are of interest to outsiders only as showing that codes and general medical councils and royal colleges and medical associations are all powerless to compel obedience from the members of the profession when these members do not want to obey and are numerous enough to dare say that they do not.

A PHYSICAL SIGN OF ADHERENT PERICARDIUM.

In view of the fact that adherent pericardium often has an untoward influence upon the course of valvular diseases, any sign by which the condition can be recognized is worthy of serious attention. In *The Lancet* of July 27, 1895, Dr. Walter Broadbent calls attention to one which he has observed in four cases under treatment at the Brompton Hospital for Consumptives. One of the cases was of aortic disease of rheumatic origin, and the others of mitral insufficiency with stenosis. In three cases there was abundant evidence of adhesion of the pericardium to the chest-wall as well as to the diaphragm, but in one the heart moved freely under the ribs and the lung expanded well over it. The sign consisted in a visible retraction, synchronous with the cardiac systole, of the left side of the back in the region of the eleventh and twelfth ribs, and in three of the cases there was also systolic retraction of less degree in the same region on the right side. In all the cases there was a definite history of pericarditis, and in three of them there were other conditions strongly suggesting an adherent pericardium. "The only means of causing this retraction on both sides," Dr. Broadbent says, "would seem to be the diaphragm, which if pulled upon would have more effect on the floating eleventh and twelfth ribs than on the other more fixed ones. In cases of large heart with adherent pericardium there is a considerable area of the ventricles closely adherent to the central tendon of the diaphragm, and the powerful contraction of the hypertrophied heart must give a decided tug to the structure." That the retraction should be observed more often on the left side than on the right is only what might naturally be expected from the fact that the adhesions are chiefly to the left of the middle line; the liver also, which is often large in these cases, may, the writer thinks, restrain the movement on the right.

Honors for Irish Medical Men.—Knighthood has been conferred upon Dr. Thornley Stoker, the President of the Royal College of Surgeons in Ireland, and Dr. Christopher Nixon, the physician in ordinary to the viceregal household.

A STATE IN THE VACCINE BUSINESS.

The State of Illinois has gone into the business of manufacturing vaccine for the benefit of its citizens. It has appropriated the sum of $3,000 for the purpose of establishing a laboratory in connection with the State University, and under the supervision of the State Board of Health. The product of this vaccine laboratory is to be furnished to all physicians and health officers within the State at the cost of propagation. We presume that the example of the State of Illinois will soon be followed by other States. The immediate result of such a policy of State control will, doubtlessly, be on the whole beneficial; but we have often expressed the opinion that the relegation to State authority of so many duties that can really be well done by private individuals will have eventually a pernicious effect, since it increases the power of the government at the expense of the individual and establishes gradually a bureaucracy or a political machine.

Vaccine has been supplied in great abundance of the best quality and at a reasonable price by private individuals now for many years, and it cannot be said that the State must take care of it because good vaccine cannot be obtained otherwise. This condition of things does not perhaps prevail in Illinois.

News of the Week.

Asylum Abuses in Germany.—The private lunatic asylum of Haus Kannen, near Amelsburen, in Westphalia, belonging to the Alexian brotherhood, received a visit on July 3d from an official committee. The inquiry lasted two days, and is said to have yielded such remarkable results that the provincial administration is already considering the advisability of either buying the asylum or building a new one, to be placed under medical supervision and lay guardians. Gross defects were disclosed in the sanitary arrangements. An asylum at Mariaberg, under the care of the same order of monks, was investigated some time ago, with the result that the father superior and certain other of the monks were arrested for cruelty to the lunatics under their charge.

The Vesicating Constituent of Croton-oil.—In a communication made to the Royal Society, Mr. Wyndham R. Dunstan and Miss L. E. Boole, Lecturer on Chemistry in the London School of Medicine for Women, record the results of an experimental inquiry into the nature of the vesicating constituent of croton-oil. According to the research of Buchheim, and more recently of Kobert and Hirscheydt, the vesicating action of croton-oil is due to an acid closely allied to oleic acid, which has been given the name of crotonoleic acid, and which is now prepared for medical purposes on a large scale in Germany. The process consists, broadly, in the formation first of barium crotonoleate, and the subsequent decomposition of this with dilute sulphuric acid and extraction of the liberated crotonoleic acid as a viscid oil with ether. By a process of fractional precipitation, using lead salts, the above investigators were able to separate from this so-called crotonoleic acid a

large proportion of inactive oily acids, till at last they were successful in obtaining, by a series of operations in which alcoholic extraction and separation by means of lead oxide were made use of, a resinous substance having extraordinary power as a vesicant. The composition of this resin is expressed by the empirical formula, $C_{13}H_{18}O_4$. All attempts to crystallize or to obtain crystalline derivatives failed. It is a hard, pale-yellow, brittle resin, nearly insoluble in water, light petroleum, and benzine, but readily dissolved in alcohol, ether, and chloroform. In regard to its constitution it is concluded that the vesicating constituent of croton-oil is a lactone or an anhydride of complicated structure.—*The Lancet.*

Definition of an Habitual Drunkard.—A petition has been presented to the English House of Lords, praying that any person who has been twice convicted of drunkenness within two years shall be defined to be an habitual drunkard, and that any licensed dealer serving or harboring him after due notice shall be liable to penalties and forfeiture of license. In South Australia three convictions within six months constitute an inebriate an habitual drunkard. An Inebriates Bill, which was before the late Parliament but failed to be acted upon before the dissolution, proposed three convictions within twelve months.

Nephropexy by Tendon.—At the May meeting of the Société Nationale de Médecin de Lyon, M. Poullet presented the case of a woman upon whom he had successfully performed the operation of nephropexy by means of a tendon of the longissimus dorsi muscle, the upper end of which was detached from its muscular belly, and passed so as to make a loop, through the posterior part of the capsule of the kidney, supporting the organ and holding it in place. This ingenious method is probably the first one devised for fixation of an abdominal organ by what may be called a living suture, as one end of the tendon is not freed from its attachment. The operation was first successfully performed upon a dog, and later on the human subject.—*Boston Medical and Surgical Journal.*

The Carcinoma Antitoxin.—There has arisen quite an acrimonious dispute in Germany, between Emmerich and Scholl on one side and Bruns and Augerer on the other, regarding the efficacy of the cancer "Heilserum" described by the first named in the *Deutsche medicinische Wochenschrift.* Bruns was quoted by the authors as vouching for the efficacy of the treatment, but he now denies this and states that in no instance was a curative effect remarked, while in some cases the general state of the patient was very unfavorably influenced. Cardiac trouble and elevation of temperature were very frequent, due without doubt to a septic condition of the fluid. To this suggestion Emmerich answered that the antitoxin was originally aseptic and must have been spoiled by Bruns or his assistants. Bruns replied that the fluid was examined immediately after its arrival in the bacteriological laboratory of the university, and numerous streptococci were found in it. Augerer stated that two of his cases were attacked with erysipelas during the antitoxin treatment. The controversy has assumed a very personal character and the columns of the medical papers are filled with charges and countercharges, assertions and denials. The weight of testimony seems to be decidedly against the efficacy of the carcinoma antitoxin.

Miss Bogolubska, of Merchinsk, a mining village in East Siberia, is a lady of great determination, who deserves the thanks of her sisters in other lands. She was one of a number of Russian women who had sought in foreign countries the advantages of a medical education, denied them in their own land. After obtaining her degree from the University of Berne she returned to her native village, and, not being allowed to practise medicine, worked for eight years as a nurse. She was specially allowed by the authorities, however, to labor among the peasants who were stricken down in the cholera outbreak of 1892. This year she returned to St. Petersburgh, where she obtained permission from the Czar to take a Russian degree, which confers the right of practising in any part of the empire. This privilege is now to be extended among her countrywomen generally, and the Woman's Medical School in St. Petersburg, which was closed for political reasons in 1887, is soon to be reopened.

Small-pox in a Negro Colony.—An attempt was recently made to colonize a body of negroes from the Southern States in Mexico, but it was unsuccessful. Small-pox broke out among the colonists, and those now returning to this country are detained in quarantine at Eagle Pass. Nearly four hundred are detained there, and of these one hundred and twenty are in hospital suffering from small-pox. The number of deaths averages five a day.

International Congress of Railway and Steamship Sanitation.—A meeting of railway and steamship surgeons, and of all interested in preserving the health of travellers, will be held in Amsterdam on Friday and Saturday, September 20th and 21st. The official languages of the Congress will be English, French, and German. The membership fee is 5 florins ($2.50). Those intending to take part in the meeting should send notice without delay to the Secretary of the Committee on Organization, Dr. M. W. Pijnappel, Stadhouderskade 60, Amsterdam, Holland. Dr. H. Snellen is Chairman of the Committee on Organization.

Professor Ewald Hering, of the University of Prague, has been appointed Professor of Physiology in the University of Leipsic, in succession to the late Carl Ludwig.

Minnesota State Medical Society.—The twenty-seventh annual meeting of this Society was held at Duluth, Minn., June 19th, President Justus Ohage, of St. Paul, in the chair. The officers elected for the ensuing year were as follows: *President,* Dr. Frank Allport, of Minneapolis; *First Vice-President,* Dr. J. H. Dorsey, of Glencoe; *Second Vice-President,* Dr. E. G. Chilton, of Howard Lake; *Third Vice-President,* Dr. N. Jones, of Gaylord; *Secretary,* Dr. Ignatius Donnelly, of St. Paul; *Treasurer,* Dr. R. J. Hill, of Minneapolis.

Canadian Medical Association.—The twenty-eighth annual meeting of this Association will be held in

Convocation Hall, Queen's University, Kingston, August 28th, 29th, and 30th. The President of the Association is Dr. William Bayard, of St. John, N. B.; the Secretary, Dr. F. N. G. Starr, of Toronto.

The Medical Society of Virginia will hold its twenty-sixth annual session in Wytheville, on Tuesday and Wednesday, September 3d and 4th. The President of the Society is Dr. R. J. Preston, of Marion; the Secretary, Dr. Landon B. Edwards, of Richmond.

The American Association of Obstetricians and Gynecologists will hold its eighth annual meeting at the Auditorium Hotel, Chicago, on September 24th, 25th, and 26th. President, Dr. J. Henry Carstens, of Detroit; Secretary, Dr. William Warren Potter, of Buffalo. An interesting programme is announced.

Obituary Notes.—Dr. Baillon, the well-known botanist, died suddenly in Paris on July 18th. He was sixty-seven years old, and for twenty-eight years had held the Chair of Botany and Natural History in the medical school of the University of Paris.—Dr. Henry Gauss, aged twenty-eight, of Phœnicia, N. Y., died on August 11th, in Kingston, after a long and painful illness. Dr. Gauss was born in Utica. He graduated from Dartmouth College in 1888.

Medical Members of Parliament.—The new British Parliament contains ten members who belong to the medical profession.

State Board of Medical Examiners of New Jersey.—At the last annual meeting of this board, held at Trenton, July 22d, the following officers were elected: *President*, Edwin De Baun, M.D., of Passaic, N. J.; *Secretary*, William Perry Watson, M.D., of Jersey City, N. J.; *Treasurer*, A. H. Worthington, M.D., of Trenton, N. J.

Free Public Baths in Cities.—The author of the act passed by the Legislature of New York State, making compulsory the erection and maintenance of public baths in the large cities of the State, was Mr. Goodwin Brown, of Albany.

An International Congress of Otology will meet in Florence on September 23d, under the presidency of Professor Grazzi. Among the subjects announced for discussion are "Intracranial Abscess Resulting from Purulent Otitis," "The Pathology of the Labyrinth," "The General Treatment of Ear Disease," and "The Physiology of the Middle Ear." The Secretary of the Congress is Dr. Bobone, of San Remo.

Prize Essay on Hygiene.—The French Société de Médecine Publique et d'Hygiène Professionnelle offers three prizes for the best *mémoire* on "Preventable Diseases, and the Preventive Measures to be Taken." The first prize is 1,200 fr., the second 800 fr., and the third 500 fr. The essay is not to exceed from twenty to thirty pages of 500 words each. The following points must be treated: How to prevent contagious diseases during the illness and after; private sanitation of patients and those who tend and treat them; house sanitation and disinfection; and general sanitation during illness.

The Milk-supply of London is, according to the *Dietetic and Hygienic Gazette*, "dangerously and disgracefully adulterated by all sorts of swindling operations." The condensed milk on sale in that city is not much better, as we learn from the report of an analysis made for the *British Medical Journal* that fourteen out of seventeen brands examined were made of skimmed milk.

A School of Medical Hydrology has been opened at Luchon, in France. It possesses a good laboratory and nine professors on the teaching staff.

Successful Ligature of the Innominate Artery.—A man was recently on exhibition in London whose innominate artery was tied by Mr. Coppinger, at the Mater Misericordiæ Hospital in Dublin, in January, 1893. The operation was for the relief of aneurism of the subclavian artery. He was exhibited shortly after the operation in Dublin, and later at Newcastle-on-Tyne. The man is now fifty-nine years of age and is in excellent health. It is claimed for him that he is the only living example as yet exhibited in Europe of cure of subclavian aneurism by innominate ligature.

The Result of a Libel Suit in Australia.—Mr. C. B. Elliott, Government Medical Officer in Geraldton, West Australia, sued the Victorian Express Newspaper Company for libel. The libel was contained in the form of a letter, asserting that the large number of cripples in Geraldton was owing to the incompetence and neglect of the hospital medical officer, Mr. Elliott. After a trial which lasted eight days, the jury awarded Mr. Elliott £500 and costs, the editor being also sentenced to fourteen days' imprisonment for some contempt of court occurring during the trial.

A Bust of Carl Vogt is to be placed either in the vestibule of the University or on the Promenade des Bastions at Geneva. The original intention was to place it in the University building, but the citizens of Geneva claim that the savant belonged to the entire city, and not alone to the University, and urge that his bust be placed where it may be seen by all.

The William F. Jenks Memorial Prize of five hundred dollars, under the deed of trust of Mrs. William F. Jenks, has been awarded to Dr. A. Brothers, of New York, for the best essay on "Infant Mortality During Labor, and its Prevention." The Prize Committee also reports as highly meritorious the essay on the same subject bearing the motto, "Vade Mecum." The writers of the unsuccessful essays can have them returned to any address they may name, by sending it and the motto which distinguished the essay, to the Chairman of the Prize Committee, Horace Y. Evans, M.D., College of Physicians, Philadelphia.

Yellow Fever at Quarantine.—A passenger from Havana, who arrived on the steamship Seneca last Monday, on Wednesday developed symptoms of yellow fever and was removed to the Swinburne Island Hospital. The passenger was one of twenty-four who were detained at Hoffman Island for observation, this being the routine treatment of all persons coming from Cuban ports at this time of year, who cannot prove that they are natives of Cuba, or that they have been rendered immune to the disease by a previous attack.

Reviews and Notices.

TWENTIETH CENTURY PRACTICE. An International Encyclopædia of Modern Medical Science. By Leading Authorities of Europe and America. Edited by THOMAS L. STEDMAN, M.D., New York City. In Twenty Volumes. Volume III. Occupation Diseases, Drug Habits, and Poisons. New York: William Wood & Company. 1895.

THE third volume of this excellent work has appeared with gratifying promptness, which seems to indicate that the publishers' promise to bring out a volume every three months will be adhered to. The contents are of a somewhat miscellaneous character. The two longest articles are that entitled, "Alcoholism and Drug Habits," by Dr. Norman Kerr, of London, and one on "Diseases of Occupations," by Dr. James Hendrie Lloyd, of Philadelphia, both of unusual excellence. Dr. Kerr has departed here from the plan followed in his well-known treatise on "Inebriety or Narcomania," in that he treats separately of the injurious effects of alcohol and various drugs upon the habitual consumers of them, and of the morbid impulse to take these narcotics to excess for the sake of experiencing the effects which they produce. The subject of teetotalism is dealt with in a very temperate way; the argument is stated fairly and the author's conclusions are formulated quietly, without entire condemnation of those who may not agree with him in all points, or even in most points. The article by Dr. Lloyd, on the diseases incidental to occupations, is perhaps the best work on the subject that has appeared since that of Dr. Tracy in Buck's "Hygiene;" it is even more practical than the latter, which does not pretend to do more than treat of occupation diseases from the standpoint of hygiene. Dr. Lloyd classifies his subject according to causes, grouping under the same head diseases affecting men engaged in the most diverse occupations. This is, however, not a defect, but the reverse, since it saves much needless repetition, and brings more prominently into view the relation of cause and effect in the maladies under consideration. The classification by occupation has been made by the compiler of the index. The latter, by the way, is excellent. Of the shorter articles, that on poisoning, by Drs. Beaumont Small, of Ottawa, and James Stewart, of Montreal, is the most important. All the most commonly met poisons are here dealt with as regards their source, their effects in small and large doses, and the treatment of these effects. Dr. George F. Shrady, of New York, has contributed a very practical and interesting article on "Shock," and Professor Councilman, of Boston, a short but satisfactory one on "Osteomalacia." A curious subject is that of "Mountain Sickness," upon which Dr. von Liebig, of Munich, has written very entertainingly. The question is one that has merely an academic interest for those living east of the Rocky Mountains, but the practical value of the article may be tested by some of our fellow-countrymen living on the Pacific slope. The subject of "Seasickness" is handled by Dr. Albert L. Gihon, of the United States Navy, in a thoroughly practical manner, and yet in such an interesting way that it holds the reader, and almost makes him long to cross the ocean to see whether all the terrors which Dr. Gihon depicts are real or only the products of the imagination. Certainly the author, with his long experience as a sea rover, speaks as few can so fully of personal knowledge, and he has told us all there is to tell of this distressing malady. Dr. Gihon also writes in this volume on "Heat-stroke," a most seasonable topic, and on "Frost-bite," which will be seasonable in its turn.

The volume is handsomely printed, sparingly but well illustrated, and substantially bound. The completed work will certainly be an ornament to the book-shelves of its possessor, as well as a mine of information from which he can draw at will.

AFFECTIONS CHIRURGICALES DES MEMBRES. Statistique et Observations. Par le DR. POLAILLON, Chirurgien de l'Hôtel-Dieu, Professeur Agrégé à la Faculté de Médecine de Paris, etc. Paris: Octave Doin. 1895.

THIS compilation of statistics and observations of hospital surgery, especially as it concerns operations upon the extremities, dating from 1879, when the author began a service at the Pitié, has been continued at the Hôtel-Dieu up to 1893, and its publication held back till now to assure more definite results. The record, which embraces over eight hundred octavo pages, gives evidence of being carefully done, representing a vast amount of labor, and will be correspondingly valuable to surgeons and all interested in the outcome of surgical procedures and the relative frequency of the affections treated. Histories of many interesting cases are given in detail.

TEXT-BOOK OF OPERATIVE SURGERY. By THEODORE KOCHER, Professor of Surgery and Director of the Surgical Clinic in the University of Bern. Translated by HAROLD J. STILES, M.B., F.R.C.S. Edin., Senior Demonstrator of Surgery, and Formerly Demonstrator of Anatomy in the University of Edinburgh; Assistant Surgeon, Royal Edinburgh Hospital for Sick Children. With 185 Illustrations. London: Adam and Charles Black. 1895.

THIS is a translation of the second edition of Dr. Kocher's excellent treatise on operative surgery, which has already won for itself recognition as the standard work on this subject. The translation has been well done, and the illustrations are admirable.

TWENTY-SEVENTH ANNUAL REPORT, RELATING TO THE REGISTRY AND RETURN OF BIRTHS, MARRIAGES, AND DEATHS IN MICHIGAN FOR THE YEAR 1893. By the Secretary of State of the State of Michigan. Lansing: Robert Smith & Co. 1895.

THIS report contains many data of great value to the student of vital statistics. Among other features of interest are several diagrams and a colored map, showing the distribution of mortality from typhoid fever in the State during the past five years.

GESCHICHTE DER JÜDISCHEN AERZTE. Ein Beitrag zur Geschichte der Medicin. Von Dr. RICHARD LANDAU. Berlin: S. Karger. 1895.

IN this book the author presents an account of the part taken by the Hebrews of all ages in medicine—a part by no means insignificant, especially in the middle ages, when they shared with the Arabs the honor of keeping alive the faintly glimmering torch of medical science, and when, in a period of prejudice and persecution, they were called to be the physicians of kings and popes. The work is a valuable contribution to the history of medicine as well as to that of the Jews.

ŒUVRES DE LÉON LE FORT, Professeur de Clinique Chirurgicale à la Faculté de Médecine de Paris, Vice-président de l'Académie de Médecine, Chirurgien de l'Hôtel-Dieu. Publiées par le DR. FÉLIX LEJARS, Professeur Agrégé à la Faculté de Médecine, Chirurgien des Hôpitaux. Tome 1er. Paris: Félix Alcan. 1895.

THIS is the first volume of the three which are to comprise all the works of the late Dr. Le Fort. The writings have been collected by his pupil and son-in-law, Dr. Lejars, and arranged by him in the order of subjects. We find here various articles on Hospital Hygiene, Demography, and Public Hygiene. Under each heading the articles are grouped chronologically. In an interesting article on Maternity Hospitals, written in 1866, the doctrine of the contagiousness of puerperal fever is forcibly demonstrated. In the second part we find the note of alarm on the decreasing population of France sounded, and the cause of the decrease referred in great measure to the great mortality of the new-born. Other articles of interest are on Prostitution and Obligatory Vaccination. The second volume will contain the author's writings on Medical Education and Military Surgery, and in the third will be collected all of Dr. Le Fort's contributions to the literature of General and Special Surgery. The work is a worthy monument to the author's learning and industry.

TRANSACTIONS OF THE AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS, Vol. VII., for 1894. Philadelphia: N. J. Doran. 1895.

THIS volume, uniform with its predecessors, contains some admirable papers on abdominal and uterine surgery.

THE ASEPTIC TREATMENT OF WOUNDS. By DR. C. SCHIMMELBUSCH, Assistant to the Royal Surgical Clinic University, Berlin, etc. Translated by FRANK J. THORNBURY, M.D., Lecturer on Bacteriology, University of Buffalo, N. Y. G. P. Putnam's Sons. 1895.

THIS little work is not concerned with the treatment in general of wounds, but solely with those measures which are necessary to maintain asepsis. The methods described by Dr. Schimmelbusch are those in use in v. Bergmann's clinic, in Berlin, and are naturally most thorough, and doubtless as efficacious as they are thorough. The book is one that will be found useful by the surgeon, at least the young one, and

the student who is preparing himself to be one. There is a bibliography of sixteen pages, which does not detract from the work, though it seems to be a rather useless appendix. Some of the translator's additions are judicious and add to the value of the book.

FORMULAIRE DES SPÉCIALITÉS PHARMACEUTIQUES, Composition, Indications Thérapeutiques, Mode d'Emploi et Dosage, à l'Usage des Médecins. Par le DR. M. GAUTIER, Ancien Interne des Hôpitaux, et F. RENAULT, Pharmacien de 1re Classe, Lauréat de l'École de Pharmacie. Paris: J. B. Baillière et Fils. 1895.

THIS is a little book that will be found very useful for all who have occasion to read French medical literature. Such are often puzzled by the names of special pharmaceutical preparations, which are usually called after the men who first prescribed them and contain in their names no suggestion of their composition. This compilation gives a list of all these special preparations, with their composition, indication for use, mode of administration, and dose.

THE TREATMENT OF WOUNDS, ULCERS, AND ABSCESSES. By W. WATSON CHEYNE, M.B. Ed., etc. Philadelphia: Lea Brothers & Co. 1895.

PROFESSOR CHEYNE'S book is a thoroughly practical one, and is of especial use to the practitioner who does not pretend to any degree of expertness in detail in the surgical treatment of wounds or ulcers. It deals in a very intelligent manner with the accepted methods, but is somewhat elementary for the experienced surgeon.

THE BARNJUM BAR-BELL DRILL. By R. TAIT MCKENZIE, B.A., M.D., Demonstrator of Anatomy and Instructor in Gymnastics, McGill University; Late House Surgeon, Montreal General Hospital. Springfield, Mass.: Triangle Publishing Co.

THIS book, with alliterative title, is a guide to a series of twenty-four exercises with the bar-bell. Each of these exercises is illustrated with sixteen photographs of the positions, and accompanying the text, and consists of an explanation of the movements and a statement of what muscles are called into play. A bar-bell is like a dumb-bell, with a bar several feet long between the bells.

Clinical Department.

A CASE OF MULTIPLE ABSCESSES OF THE EXTERNAL AUDITORY CANAL, FOLLOWED BY PERICHONDRITIS AURICULÆ.

BY ALBERT POHLY, M.D.,

NEW YORK.

IN looking over the literature of perichondritis auriculæ, I find that this disease is comparatively rare, and I therefore take the liberty of reporting the following case:

Miss S. W——, thirty-eight years of age, called at my office on August 30, 1894, complaining of a dull pain in the ear. She had been of previous good health, and did not know any cause for her present complaint. Upon examination I found a swelling behind the concha, nearly occluding the auditory canal. I made the diagnosis of abscess and treated it accordingly, ordering hot-water syringing and flaxseed-meal poultices. This treatment was continued for two weeks without improvement, and I therefore suggested a consultation with Dr. W. Freudenthal.

Dr. Freudenthal saw the patient with me on September 14th, and confirmed my diagnosis; made an incision, and a little pus and blood exuded. He ordered the continuation of hot fomentations.

I saw patient every day; her pain increased, owing to other small abscesses making their appearance, which were promptly opened, and the ear was syringed with a hot saturated solution of boracic acid. This was kept up for three weeks, when the swelling disappeared, but I noticed that a little polypus was forming at the same place which the abscess had previously occupied.

I again consulted with Dr. Freudenthal, who removed the polypus, partly with the snare and partly with the electro-cautery. Soon after this the helix began to swell, which was the beginning of a perichondritis. The swelling now extended rapidly, involving the whole external ear (pinna), giving the appearance of a big tumor. Dr. Freudenthal now advised an operation, which he performed in St. Mark's Hospital on November 7, 1894.

Operation.—Two incisions were made, one into the antihelix, about the middle of the external ear, the part of the greatest swelling, and a counter-incision in front of the tragus. A great amount of thick, creamy pus was discharged. The wound was then scraped, drained with iodoform gauze, and bandaged.

The patient remained in the hospital two weeks after the operation, but without much improvement, the pain being so severe that she was unable to sleep without narcotics. There was considerable discharge, with but little diminution of swelling. After two weeks patient became homesick, left the hospital, and again came to me for treatment. I saw her daily for two weeks, syringing the ear with a carbolic solution and draining with iodoform gauze; then saw her every other day, continuing the same treatment. During this period there was a marked improvement; the pain had left entirely, and the swelling diminished considerably, although there was a discharge of pus and blood, which is still present to-day; she also now complains of an intense itching in the ear. A photograph taken recently shows the existing malformation, which will in all probability remain.

Dr. Knapp, of this city, in the *Archives of Otology*, says that he has only seen three patients with perichondritis auriculæ, and he describes the following case in detail:

Patient, Henry A——, of New York, sixteen years of age, had always enjoyed good health. On August 29, 1879, he presented himself to me at the Dispensary of the Ophthalmic and Aural Institute, complaining of a moderately painful swelling in his right ear, which he had first noticed a few days previously. His ear had never before given him any trouble, and he could not ascribe the present difficulty to any cause. I found the external portion of the meatus slightly red and uniformly swollen, so as to obliterate its calibre. When the auricle was drawn back, the canal was opened to a certain degree; no ulcer or discharge was discovered, and the hearing was good. The swelling was most pronounced on the anterior lower part, where also fluctuation was discovered. The case was entered as furuncle of the external meatus, and the fluctuating part was opened, evacuating, however, not creamy but watery pus. A week later the swelling in the canal had diminished, but the lower part of the concha was red, swollen, and indistinctly fluctuating. After three days the swelling in the concha had increased, showed distinct fluctuation, and was moderately painful on pressure. It was opened, and again watery pus escaped. Four days later the swelling filled the whole concha, was dark red, and had a doughy feel. I opened it above the lobule, which was unaffected, with a Beer's knife, and let out, as before, a viscid fluid with denser yellowish flakes. A probe introduced through the opening could be pushed more than half an inch upward. The cartilage felt hard and uneven, the perichondrium was detached from it, and could, together with the skin, be easily raised by the probe. I now inserted a small silver drainage-tube, which was cleansed and re-introduced twice daily. The ear was covered with picked linen, held by a flannel roller. There was moderate discharge of thin, flaky pus from the wound. The swelling crept slowly and steadily over the whole anterior surface of the auricle, excepting the lobule. In some places it was diffuse; in

others nodular and fluctuating. These places were always lanced, and the same thin viscid pus came out as on the first opening, never any blood. In the fourth or fifth week the helix and posterior surface of the auricle were swollen, but did not fluctuate. At the beginning of the sixth week the swelling began to subside, first in the cartilaginous portion of the meatus, then in the concha, then posterior surface which had been free from suppuration, and gradually all over the auricle. The tragus assumed its natural size, the preauricular glands disappeared completely, the opening in the anterior surface of the auricle ceased discharging and closed, the auricle shrunk and remained irregularly corrugated. The antihelix, the fossæ antihelicis and scaphoidea, and the greater part of the concha had disappeared and were replaced by hardish nodules and ridges. The helix was considerably atrophied. The whole misshapen auricle was pressed against the skull, and measured scarcely two-thirds of its natural size; only the lobule escaped the deformity, because it had never participated in the inflammation.

Dr. R. Pooley, of this city, reports the following case in the Transactions of the Medical Society of the State of New York, year 1881. September 24, 1877, I was consulted by Mrs. G——, a young married woman, aged twenty-one, born in New York of German parents. She had always enjoyed good health, and up to the time when the ear disease began had nothing to complain of. Three weeks before seeking my advice she had severe pain and itching in the meatus of the right ear. She said that "a boil broke in the ear—broke, and gave exit to a greenish-looking core," after which she was better for a time; but as the ear began to trouble her again, she sought advice. No history of injury, nor had she any reason to assign for the present difficulty. I found upon the anterior lower wall of the auditory canal, just within the meatus, a conical swelling which showed the usual appearance of an otitis externa furunculosa. It was very sensitive to pressure with a probe. A deep incision was made into the centre of the swelling and a small quantity of watery-looking pus let out.

October 2d. The circumscribed swelling of the canal had subsided, but the lower part of the concha was red and swollen, although no distinct fluctuation could be made out. This swelling rapidly increased and became painful, not only when pressed upon, but spontaneously. There was now an ill-defined sensation of fluctuation present. In a few days the swelling had rapidly increased to such an extent as to fill the whole concha and obliterate its normal concavity; the swelling was of a dark-red color and boggy to the feel. An incision into the most dependent part of the tumor was made and a thin glairy-looking fluid mixed with yellowish-white shreds was evacuated. No blood escaped. The cartilage was roughened, hard, and its perichondrium, which was readily detached, raised together with the skin on the probe. A tent of charpie was inserted into the wound to keep it open, the ear covered with absorbent cotton, and a flannel roller applied, so as to exert a pretty firm pressure. There was a thin watery discharge, mixed with broken-down shreds. Slow extension of the swelling over the entire anterior surface of the auricle, successively the concha, helix, and antihelix, and the fossa helicis—in fact, all the anterior surface of the auricle, except the lobule. The character of the swelling was uneven, in some places diffuse, in others nodular. When the swelling had reached the helix it began to encroach upon the posterior part of the auricle, every part of which, except the lobule, became diffusely red, very much thickened and swollen, painful to the touch, but gave no sensation of fluctuation. Although the lobule itself did not become involved, there were two abscesses formed below it—one in front, the other behind—which were opened.

The acute inflammatory symptoms lasted for about two months, during all of which time the patient suffered a great deal of pain, always aggravated at night; so severe was the character of the pain that she had to be kept more or less under the influence of narcotics. Treatment consisted in making incisions into the parts of the swelling that fluctuated: counting the first made in the auditory canal, and the two below the lobule, eleven in all were made. In addition to keeping the lower incisions always open, injections of a weak solution of carbolic acid, and toward the last, of iodine, were made. A compress bandage, the pressure of which seemed to allay the pain, was kept constantly applied. She was given quinine and generous diet. Hearing was but little affected. The swelling gradually disappeared. The case was under treatment until March 27, 1879 (a year and a half), and considerable deformity resulted.

Dr. Kipp, of Newark, reports a case of spurious othæmatoma of both ears as the result of a burn, in a boy, aged five, showing some similarity with perichondritis auriculæ. They were treated by daily application of tincture of iodine, and at the end of two months had regained their normal size and shape. The only deformity was a wrinkled condition of the fossa helicis.

Dr. Pomeroy, in his book on Diagnosis and Treatment of Diseases of the Ear, illustrates the following case: I. S——, aged forty-two, in May, 1874, had a violent pain in the right ear, which continued for eleven days with very little abatement, when the membrane ruptured and the ear discharged large quantities of thick creamy pus, with but little relief to the pain. After one month a polypus made its appearance in the meatus and was removed. Subsequently a very painful circumscribed swelling of the meatus was incised, which gave great relief.

In July a swelling made its appearance in the region of the concha, rapidly extended to the whole of the auricle, increasing its size prodigiously. On September 1st I saw the patient for the first time, and found a large abscess occupying the region of the concha and extending upon the auricle in all directions so as to involve about half of its superficial area. It pointed both in front and behind, causing the auricle to stand out from the head at right angles. In front of the meatus, near the tragus, was a circumscribed swelling with a fistulous opening in its apex. The swelling of the auricle was somewhat nodulated, giving it the appearance of carcinoma. Fluctuation was easily detected both in front and behind, as the walls of the abscess were very thin. An incision, made posteriorly, evacuated about five drachms of pus. A finger passed into the incision revealed the fact that the cartilage of the auricle, in the region of the pus cavity, had entirely disappeared in front and behind; there was nothing left except integument and connective tissue. Subsequent to this, small abscesses made their appearance as follows: Three were incised just above the region of the lobulus, one in the tragus, and two on the upper portion of the helix. The principal pus cavity closed in three weeks without special treatment. Carbolic-acid solutions were injected at first, but they were not well borne and were discontinued. Syringing out the cavity with warm water daily was practised. The discharge from the abscess in the helix was somewhat glairy in consistency. The duration of the affection was a little more than five months. There was no insanity, present or past, in the patient or his family, and no history of previous traumatism was elicited. My opinion of the nature of this case, which coincided with that of Dr. Mathewson's, who previously had treated the patient, was that these abscesses depended on a perichondritis, and that this had been developed from an inflammation of the tympanum, which had passed outward along the meatus and involved the auricle by extension.

Regarding the etiology of perichondritis, Dr. Pome-

roy mentions injuries, burns, frost-bites, and furuncular inflammation.

Dr. Roosa says that any inflammation of the integument, connective tissue, and cartilage of the auricle, leading to effusion of serum, blood, or the formation of pus, will be apt to cause a deformity of the part, and he cites the following case:

A polypus formed from the prolonged use of poultices, the inflammation extended to the tissue of the auricle, and after a long period of suffering, during which small abscesses were formed, which were evacuated after pursuing a sinous course in the integument, the auricle obtained.

The photograph shows helix normal, anti-helix and concha replaced by a uniform intumescence; the lobule also is greatly swollen.

Dr. W. Freudenthal attributes the perichondritis in my own patient to the same cause, namely, the prolonged use of hot poultices, and I am of the same opinion.

A CASE OF PLACENTA PRÆVIA.

By MYRON E. FISHER, M.D.,

DELAVAN, N. Y.

On August 20, 1894, I was called to see Mrs. P——, aged thirty-eight, and found the following condition of affairs: She had had a severe chill two or three hours before my arrival, and I found her with a temperature of 103½° F.; pulse, 100. While sitting at the table a short time before my arrival she experienced a sensation as of the bursting of the amniotic sac, which indeed was what really did happen. The amount of amniotic fluid was rather more than we would naturally expect at full term.

The previous history of the case, as far as I was able to learn, was as follows: About two months before, while riding quite rapidly in a carriage over very rough roads, she suddenly felt a gush of fluid and immediately her clothing was drenched with it. From that time until I was called she had been flowing more or less freely all the time, but was about the house doing her work, supposing that the fœtus must have passed away. At the time of my arrival to see her I found the os dilated to about the size of a nickel five-cent piece, and there was considerable hemorrhage. This continued, and at a second examination, made two hours later, I found somewhat more dilatation and was able to feel a mass which I thought to be placenta. At the same time I could feel the cord distinctly, which was pulsating. The hemorrhage continued and I resorted to a vaginal tampon. This arrested it temporarily, but it began again. I called Dr. F. Krehbiel in consultation, and we decided that the fœtus must be removed, which was done without any difficulty, when the womb contracted down, there was no more hemorrhage, and the woman made a complete recovery without the occurrence of one unpleasant symptom.

Now there are two questions I would like to ask about this case, viz.: 1. Was the condition of placenta prævia due to an arrested abortion occurring at the time of the carriage ride two months before? 2. What was the cause of the high temperature which I found upon my arrival at the bedside of my patient?

By the way, I should have reported that this was the fifth pregnancy, all of the others having gone on to full term with normal labors.

The fœtus was about twenty-five centimetres (ten inches) in length.

The best deep anatomical guide to the subclavian artery is the lower cord of the brachial plexus, which not only lies directly over, but is attached to the sheath of the vessel.—Horwitz.

Society Reports.

THE BRITISH MEDICAL ASSOCIATION.

Sixty-third Annual Meeting held in London, July 30 and 31 and August 1 and 2, 1895.

(Specially Reported for the Medical Record.)

First Day, Tuesday, July 30th.

There was a very large attendance of members, larger perhaps than on any former occasion, and the Metropolitan Branch put forth all its energies to entertain its numerous visitors and make the meeting a success.

The Council met *in camera* at 9.30, but the first public function was at St. Paul's Cathedral, where the Archbishop of Canterbury preached a sermon to the members, taking as his text Rev. xxii. 1: "And he showed me a pure river of water of life, clear as crystal, proceeding out of the throne of God and the Lamb." The Archbishop said there was but one source of life, and that was life itself. There was only one law—life from life, living from living. In physical appearance, the cells in which life revealed itself were as like one another as drops of water. No analysis could distinguish them or show what their development would be. The river of life might be tainted with disease, but that was accidental, not essential to it. The accidental taint might be everywhere, even in the water which looks clearest. But in this century, he understood, new light had arisen, and the fatal germs of some diseases could be followed and slain, and it was now discussed whether immunity might not be obtained from some of the sufferings to which the flesh is heir. If this should be so it would, the Archbishop proceeded to show, furnish another analogy to Christian doctrine.

In directly exhorting members the preacher dwelt on the necessity of reverence, which was so important a characteristic of the true *religio medici*. Their study, he said, was not life, but rather the effects of life, and in the study of that mystery it would be strange to forget reverence.

The first general meeting of members opened at 2.30, and occupied most of the afternoon. Dr. Long Fox, the retiring President, could find no words in which to express his appreciation of the kind reception he met with from the large and influential meeting, but should not think of detaining them. Sir W. Hingston, M.D., then proposed a vote of thanks to the retiring President, which was seconded by Dr. Cousins and carried unanimously amid great applause, and Dr. Long Fox was elected a Vice-President of the Association for life, and returned thanks in a few words.

Sir J. Russell Reynolds, the new President, then took the chair, and moved the adoption of the report, which was taken as read.

The President referred to the growth and satisfactory state of the Association, which numbered sixteen thousand members and was the largest and strongest association of medical men in the world. He mentioned that on the occasion of the first anniversary meeting the members of the Association were under one thousand five hundred, but a few years afterward they had increased to five thousand, and year by year it augmented in numbers and vitality.

The President then referred to the exhaustive report of the Association on the workhouses and the poor law administration, which had stimulated the authorities to effect some much-needed reforms, and especially to more consideration for the poor. The medical act needed reform, but on public grounds, not from a merely professional point of view. The habitual inebriates should be dealt with by the County Councils, who should have the power to deal with them

with a view to their reformation, which would never be brought about by sending them to prison, as was done under the present system.

DR. WARD COUSINS, President of the Council, was of the opinion that special deficiencies required special treatment, and referred to the assistance given to associates in the south of Ireland which had enabled them to gain a victory in their contention with the authorities. The Association had sustained many losses during the past year, and some eminent names had been removed by death from the list of members. The medical profession had its successes and its disappointments, but it was a noble one and worthy of the best men in the community.

The Treasurer, Mr. Butlin, would not detain them long. The assets of the Association in excess of all liabilities amounted to the sum of £60,000, and they were approaching a condition of prosperity, but the profits for the year were £4,000 or £5,000 less than for the previous twelve months.

DR. DOUGLAS complained that the report had been issued so late that a great many members had not had an opportunity of reading it, and he considered that they ought not to be asked to pass what they really know little or nothing about. If they were told that this was in consequence of the Council having met but recently, all he could say was that they should have met in time to issue the report earlier, so that the members might have had an opportunity of considering it before being asked to vote on it.

DR. CAMPBELL spoke about the registration of midwives and the suppression of illegal medical and surgical practice. He had noticed with surprise, in a recent number of the *Journal*, an advertisement from a man whose name had been removed from the Medical Register, and he wished to ask the President of the Council how it was that such a grave mistake had been made.

DR. WARD COUSINS replied that the Council had nothing to do with the advertisements.

DR. CAMPBELL then expressed an opinion that the editor should be held responsible, and if he would not, or could not, then some one else should be appointed in his place who would be more in harmony with the bulk of the associates.

Reference was then made to a case in which it was contended that the Association should have rendered monetary aid to a member of the Association, to which the President replied that the Council were in sympathy with the gentleman in question, but they had no power, according to the memorandum of association, to divert any money to such a purpose.

The Treasurer was then asked a question as to the lease of the Association's premises in the Strand, which he said would expire in ten years. In reply to further questions, it was stated that the increase under the head of Editorial Staff was distributed in payment for further clerical assistance to meet the increasing expansion of the *Journal*, as well as for the payment of contributors on all sorts of subjects, from all parts of the world. The exact amount of salary received by the editor was stated to be £1,150 per annum; when they (the Association) were poorer, they paid their editor less, and now that they were better off, they paid him more. Other items of expenditure were referred to designing and executing illustrations, and to increase of actual material used in the production of the *Journal*, and the demands of an enlarged and constantly growing circulation.

An elderly member then spoke at some length, but his remarks were quite inaudible, except to a few members in his immediate vicinity.

The President then put the reception and adoption of the report, and this was carried, with a few dissenting voices.

An interim report on the state of general practitioners during the past year was then considered, and the question of the proposed registration of midwives was awarded a great deal of attention, if nothing new was advanced in opposition to the scheme. Some members denied that the proposal was a retrograde one, and others objected to it on the score that it created, or would create, an inferior grade of practitioners of medicine, and advocated the better education and training, with a view to registration, of medical, surgical, and obstetrical nurses. The care of the parturient woman should not be delegated to any intermediate class of practitioner. The Midwife Registration Bill was not now before Parliament, because no Parliament was now extant, and when it was constituted, if the bill should come before it, it would have to be introduced *de novo* as an entirely new bill, and the necessary amendments might be made in it and safeguards be added as required.

DR. WARD COUSINS said that the Council had no power to institute proceedings for illegal practice, nor had they any power to control it in the interest of the public. The authority that should prosecute in such cases was the General Medical Council. The Council of the Association had taken high legal opinion, and it was adverse to their interfering in such matters. True, the memorandum of association might be altered, but that could not be done without entirely changing their constitution, which had for its object the promotion of the honor and interests of the profession. At present they had no power to prosecute quacks, nor was there any unanimity upon the question of their moving in that direction, and until there was there was no possibility of an alteration being made in the memorandum. At the same time, when he advocated caution he did not at all mean that nothing should be done, and advised the objectors to join some of the "medical defence unions" which were in existence, and get more members on the General Medical Council, which was now made up of what might be termed the privileged class.

DR. RENTOUL said that the *Journal* was in favor of the registration of midwives, and the bulk of the associates were opposed to it.

MR. LAWSON TAIT then moved an amendment to the report to the effect that the members of the British Medical Association condemn the formation of a new and inferior grade of practitioners, which was received with great applause by the meeting. He complained of the *non possumus* attitude of their Council. An improvement in the status of the midwife was necessary, but was registration the right way to effect it? He said "no," emphatically, while the other side regarded it as inevitable by the pressure of public opinion. But such a step would be retrograde, downward and backward; medical ladies especially would be handicapped by it; and if a number of qualified females were registered what was to prevent unqualified male assistants from being registered, too? The registered midwife would have no responsibility and be under no control. The poor would not be benefited by the registration of midwives, but would, on the contrary, have a grievous wrong inflicted on them, by being handed over to the care of any woman who had ever been present at a birth and considered herself thereby qualified to be a midwife. If the stigma of pauperism was removed from persons obtaining obstetric assistance from the parochial medical officer much good would be done, whereas now men were politically degraded if their wives were confined in the workhouse.

DR. COLIN CAMPBELL was far from complaining of their old friend "Sairy Gamp." He had experience of her for more than twenty years, and he must say that he had no knowledge of any such horrors as he had heard and read of in her regard; on the contrary, it was the new Sairy he found intolerable, the nurse-midwife who had been trained for three months in a lying-in hospital more or less efficiently, and who considered herself "educated" and on a par with (he might have

said better than) the medical practitioner. The Obstetrical Society of London had been giving out diplomas by the yard to such persons. He had never had any trouble with the old order of nurses—they knew their place—but he had with the new, which did not. What did their Council do toward opposing the mischievous Midwives Registration Bill? Nothing. A bill that placed women of the Sarah Gamp stamp on a level with us was derogatory to the honor of the medical profession. He then read an advertisement from an "Anglo-French" firm that practically offered to procure abortion and to provide midwives, and asked if such persons were to be registered. It was a false philanthropy to attempt to pass off a three-months midwife as a person capable of attending on the poor, and to represent her as quite sufficient for them was an abomination. More deaths took place after than during parturition. What we want are thoroughly trained nurses and not Sairy Gamps registered as midwives.

Dr. Kemp asked was it philanthropy that actuated them in their opposition to the registration of midwives. (Cries of "Yes!" "Yes!") were they to ignore the millions (*sic*) of women who gained their livelihood by acting as midwives (laughter)? They seemed very impatient to come to a wrong conclusion; therefore, as they refused his services in their pangs (laughter), he would withdraw them, and he then sat down amid roars of laughter from all parts of the hall.

Mr. Victor Horsley did not pretend to any special gynecological knowledge, but he thought the question of the registration of midwives was not before the Association, though that of the registration of midwifery and other nurses was, and the rider to the motion moved by Mr. Lawson Tait had no bearing on the question.

Dr. Reid in a very excited fashion apologized for the midwives whom he had been largely instrumental in educating; it was a question of £ s. d. (Cries of "To whom?" and uproar, amid which the doctor sat down.)

Dr. Hayward said many poor women could not afford to pay more than two or three shillings for a midwife, and wanted to know where they would find a doctor for that; such a matter was not to be decided by that meeting. (Uproar.)

Sir B. Walter Foster had not intended to intervene in the discussion, and should not have done so but for the attempt of the last speaker to throw dust in the eyes of the meeting. He (Sir W. Foster) was by no means opposed to improvement in the education and training and cleanliness of midwives, and if it was insinuated that they were opposed to that the statement was a false one. He then pointed out the danger to parturient women from incompetent midwives and advocated well-trained midwifery nurses. Registration would open the door to the formation of a low-grade order of practitioners, covering the whole ground and encroaching on the domain of medicine. The diploma only allowed the midwife to attend a natural labor, but the Registration Bill eliminated this safeguard. He heartily supported and called upon them all to vote for the rider named by Mr. Lawson Tait.

An associate considered the registration of midwives a necessity; no new order of practitioners would be established. (Cries of "Vote!" "Vote!") He spoke on behalf of the women who wanted to be attended by women and not by men, and would prefer the midwives should have some training, rather than none. He was sorry to see a great Association ranging themselves on the side of selfishness. (Groans and hisses, during which the doctor resumed his seat.)

Another associate did not stand there to utter a word against the honor of the medical profession, nor to be lectured by specialists. (Ironical cheers.) They wanted to get the spurious metal hall-marked; a nurse acted under control and a midwife independently.

Mr. Wheelhouse wished as one of the Direct Representatives in the General Medical Council to say a few words to the meeting. He was utterly opposed to the notion of hall-marking spurious metal, to the admission of ignorant women into a position that meant ruin to the medical profession. No one could tell how a labor would turn out until it was over, and an ignorant woman would not recognize danger if it arose.

Mrs. Scharlich related her Indian experience, and said that no members of the profession felt the danger of unqualified practice more than the medical women. It was a mistake to suppose that they (medical women) were prepared to accept a minimum fee, but there were exceptions, and people liked to have a qualified person when they could have one.

Dr. Murdoch Cameron moved and Dr. Hayward seconded an amendment to the effect that the Association approved of the system of registering midwives, and when this was put to the meeting only forty hands were held up for it. The amendment was therefore lost.

Mr. Lawson Tait's rider was then put and carried almost unanimously. A member then wished to put another amendment, but was ruled out of order by the President and sat down very reluctantly.

Protection of the Profession.—Dr. Arthur Welsford moved, and Mr. Bullar seconded, "That it is to the interest of the public and of the profession that the Council of the Association should take power and authority to protect both the individual and collective interests of the profession, and that the Council be requested to take such steps as may be necessary to enable it to actively undertake these duties."

Both mover and seconder urged immediate attention to this important subject, the seconder declaring it as necessary to put down quackery inside the profession as it obviously is outside. Dr. Mackenzie, representing the Devon and Somerset branch, supported the resolution, and declared that so strong a feeling existed on the subject that unless it were met defections from the Association must be expected.

The motion was agreed to and some further notices were adjourned, and the meeting closed with a vote of thanks to the Chairman.

Evening Session.

President's Address.—The evening general meeting, which was pleasantly combined with a conversazione, was held at the Imperial Institute at South Kensington. The members and guests were received in the beautiful vestibule by the President and other members of the Executive and Reception Committees. The President's address was afterward delivered in the temporary Great Hall. To pass to this barn-like wooden structure from the marble staircase of the vestibule, with its fine proportions and noble pillars and roof, was to suffer a disappointment of one's æsthetic expectations. Unfortunately the address hardly compensated most of those present for this disillusionment, as, owing partly to the bad acoustic properties of the shanty, and partly to the noise outside, Sir J. Russell Reynolds was only audible to those in his very immediate neighborhood; so much so that when the tempting strains of the Strauss orchestra were wafted in through the windows, the bulk of the audience gave it up as a bad job and left for the gardens and the conversazione.

Sir Russell Reynolds said that it was twenty-two years ago that the British Medical Association last met in London. At that time Sir William Ferguson was its president, and could that distinguished surgeon have fallen asleep after that meeting and awakened only this year, he would have had difficulty in believing the reality of what he saw. Those of us who were privileged to know him, remembered his coolness in emergencies, his operative dexterity, and his skill in meeting the most unexpected accidents. Yet to-day those who had been his dressers would be found performing, as a matter of course, operations from which even he would, in the state of our knowledge twenty

years ago, have shrunk aghast. In 1873, Alexander Parkes delivered the address in medicine, and he, too, would be surprised could he witness the progress made in medicine, and especially in preventive medicine.

Of great advantage to the profession in England was the establishment of the conjoint examination by the Royal College of Physicians and Surgeons, and the erection of the Examination Hall, where now so much valuable research work was carried on. The student of to-day is a far more earnest and hard-working individual than his predecessor of twenty-two years ago. At that time there was no lack of teaching, but even the teachers scarcely believed the half of what they taught, and did not fully understand it.

The speaker referred to the present state of nosology, and regretted the tendency to label diseases or groups of symptoms with the names of their discoverers or those who first published descriptions of them, as tending to divert attention from their true relations. He deprecated equally Mr. Hutchinson's proposal to call newly described disorders by the names of the patients who were first noticed to suffer from them.

Of late years microbiology and the germ theory of disease had attracted more and more attention, as had the functions of structures such as the thyroid, the adrenals, and the pituitary body, which were formerly unknown, but now bid fair to reveal themselves.

The protective and curative power of the products of disease germs was also a new discovery, which was of increasing importance and promised great benefits to mankind. He feared that in our social life there was a loss of reverence, "that angel of the world," and that much which now passed for wit or cleverness is only an offence against the religious opinions of others, or the long-recognized standards of propriety. He said that he would not quote the hateful phrase which was used to characterize this class of thoughts and actions, but he did not think that the "end of the nineteenth century" had much to do with it. Children may strip themselves as high as they please to paddle in the edge of the ocean, but when in the later years they roam, as society now sanctions, on the shores of the ocean of Time, the results might be disastrous to themselves. With regard to the attitude of the profession toward the religious element in men's nature, we should be careful to do and say nothing that could damage what was a very real solace and comfort to many in suffering and trouble.

After a vote of thanks had been proposed, seconded, and carried by acclamation, the audience adjourned to the garden, the appearance of which was most inviting, lit up by many colored lights and filled with brilliantly dressed ladies and sombre-coated men. The Strauss orchestra and a military band enlivened the proceedings, and the refreshment buffets were well patronized. It was nearly midnight ere the last visitors left.

Second Day, Wednesday, July 31st.

The morning of the second day was devoted to sectional work. In the afternoon the second general meeting was held, when the address in medicine was delivered, after which the business adjourned from the former general meeting was resumed.

The Address in Medicine was delivered by Sir William Broadbent. Before the address was begun Dr. Ward Cousins made the announcement that no place had been decided upon for holding the meeting next year, nor had any decision been come to with regard to the President elect, but he hoped by the next quarterly meeting to be able to announce that both points had been settled.

Sir Russell Reynolds then introduced the lecturer (Sir W. Broadbent), who began by saying that a very heavy responsibility had been placed upon him by the Council and Association; they had also given him a rare opportunity and conferred upon him a very great honor. The temptation to take up some special subject as the text of his address had been very great, but he had resisted it, and decided to consider the growth of the art and science of medicine from early times.

The art of medicine had always preceded the science and had always been considerably in advance, but science was established upon the firmer basis of skill in the recognition of disease, and until science threw light upon it the progress of the medical art had been but slow.

True science consisted in the application of science to the facts revealed by observation.

The identification of the various forms of disease was, at first, scarcely worthy of the designation of diagnosis, but was simply the attaching of a name to a series of symptoms. Remedies for various diseases were due to the observation of the instinct that impelled many animals to have recourse to various substances when suffering from disease, and experience afforded a further corroboration of the value of the remedies thus indicated.

Of the infancy of medicine we know little or nothing, but even in the time of Homer the healing art was known, and the Chinese had practised medicine from a very remote period. Hippocrates was the first of the ancients of whose theory and practice of the art of healing we have the best knowledge; bleeding was practised as well as cupping, and the valuable properties of opium were also known to him as well as the use of enemata, suppositories, and fomentations. Hippocrates flourished somewhere about 400 B.C.; he was a contemporary of Socrates; he had little true knowledge and his physiology was extremely imperfect. The attitude of his mind was directed toward the relief of disease as thus differentiated, and in this he was guided rather by observation than by theory. He could not, however, entirely escape the influence of the latter, but he generalized from observed facts. His idea of "critical days" in the progress of disease was derived from the natural history of febrile attacks, and that of "humor" from the discharges in such complaints, for instance, as coryza; the condition of the stools in diarrhœa also served to confirm the latter theory, for he noticed that a certain lapse of time intervened between the commencement and end of an attack, and he was thus enabled to predict the date of the critical day.

Another theory was that four humors existed, whose harmony constituted health, and their discordance, or the preponderance of one of them over the others, constituted or caused disease. His careful study of the cause of disease has made him a model for the physicians of all time. The dissection of the human body was practised in the time of Galen, whose views dominated medical art for a period of fifteen hundred years. He was an apt follower of Hippocrates, for he made observation the basis of his practice, though his imagination led him to theorize; but his observations were directed by excellent common sense, while his knowledge of anatomy was very superior to that of his master Hippocrates. He recognized the difference between sensory and motory nerves; his physiology no doubt was fanciful, but, nevertheless, he made some noteworthy discoveries—for instance, that urine was secreted by the kidneys and was conveyed into the bladder by the ureters; and when this idea was ridiculed by his contemporaries, he proved it by applying ligatures to the ureters; he came very near to the discovery of the circulation of the blood, and knew that the arteries contained this vital fluid, though he also believed them to convey air through the body. He wrote upward of one hundred treatises on matters connected with the science and art of medicine. That on the localization of disease was very true to nature, and his description of various symptoms was remarkably correct. For example, his account of dysuria affords evidence of his robust common-sense, and is singularly accurate: A child had suppression of urine which was

referred to the lodgment of a stone at the neck of the bladder; the patient was to be placed on his back with the pelvis elevated and the knees flexed, he was then to be shaken smartly, when the stone would slip from its position and urine would be immediately voided; if not, the patient was to be shaken again more vigorously than before, and if relief was not then obtained, he was to have a catheter passed, in order to dislodge the stone.

Galen's materia medica remained in vogue for a long period, one of the principal remedies being theriaca, which consisted of a variety of substances of which liquorice was one.

Both Hippocrates and Galen rejected the doctrine of the empirics, which referred all disease to alternated relaxation and constriction. The followers of Mohammed found the writings of these fathers of medicine in the library of Alexandria, and the ideas contained in them were largely adopted by the Arabian physicians, which brought them once more into prominence.

The small-pox, which was brought by the Saracens into Europe, was thought to be due to the presence of a particular ferment in the blood.

The great plague, *circa* 1348, and the sweating sickness of 1485, left no mark on the therapeutics of the world, but when syphilis appeared, in 1494, guiacum was held, though it is difficult to account for the fact, to be a certain specific, but it was soon superseded by mercury, fumigation being practised then with the latter drug as well as inunction.

In the fourteenth century the dissection of the human body and its post-mortem examination were both practised. In 1518 the art of medicine received a prodigious impetus, by the labors of many eminent physicians, and in 1628, Harvey made his great discovery of the circulation of the blood, which has made an epoch in biology, but his knowledge he derived from Fabricius (?).

It was a long time before the great discovery had much practical effect on the medical art; indeed, the first conclusions from it were absurd, if not positively mischievous.

The nerves were also supposed to circulate a special fluid.

Sydenham and his contemporary Boerhaave, *circa* 1680, offer an interesting comparison with Hippocrates and Galen, and the most important addition to the materia medica in their time was "bark," of which the great English physician had a high appreciation; he also advocated the employment of mercury in the treatment of many diseases, and had a high opinion of antimony. Nature, he thought, was engaged in the expulsion of various peccant substances from the system, and the wisest physician was he who rendered her the most effective aid in her laudable efforts.

It is more difficult to know when, where, and how to act than it is to determine what is to be done; any apprentice will tell you in a moment what to give to purge or make a patient vomit; but it is not so easy to determine when those effects are to be produced. Much perversity is often displayed in the application of new discoveries, but we have now reached a point in the progress of medicine when we can have no other guide than science.

Physiology as a science depends on the appreciation of physical and chemical laws; Harvey's discovery was a barren one until the recognition, or discovery, by Lavoisier, of the phenomenon of respiration, by which we arrived at the knowledge of blood tension; while the microscope gave an expansion to knowledge that cannot be over-estimated.

Lavoisier discovered the rôle played by oxygen in combustion, and his recognition of its analogy with the function of respiration was both a revelation and a revolution, and it was chemistry that demonstrated the relationship.

Chemistry interprets the relation existing between structure and structure; every vital act is a chemical act, and chemistry is the link between pathology and therapeutics.

Morgagni was the founder of pathology, and Hunter, Virchow, and others gave it new developments. Clinical observation has always been in advance of physical diagnosis, but the latter has been much advantaged by percussion, auscultation, and the clinical thermometer, which constitute epochs in its development; the last especially has revolutionized therapeutics, and it is difficult to imagine now how anything could have been done without its assistance, not only in the diagnosis but the treatment of pyrexia; and yet its introduction is of very recent date. Our knowledge, too, of the various ductless glands of the body and their functions, has been greatly improved of late, and we know that their rôle is to supply something to, not to withdraw anything from, the system.

The discovery of the part played by micro-organisms in disease and the discoveries of Lister, whose infinite capacity to take pains constitutes genius, as well as the discoveries of Pasteur, can only be mentioned, but thanks to their labors we have ascertained the important function of bacteria and their products in the causation as well as in the alleviation and cure of disease.

What bearing has all this on therapeutics? The best pathologist is the best physician.

New remedies are introduced every day, chiefly for the benefit of those who do not know how to properly use the old ones. The physiological action of a drug is inferred from its chemical constitution, and therapeutics only waits for an answer to the questions she puts to chemistry in order to become a science.

There are still new fields to be conquered, for there is much in connection with the art of medicine that is far from being fully understood; in this personal experience is the best guide and finds expression in theory; but no theory is of universal application, although homœopathy, a relic of old times, pretends that the contrary is the case; but we are in danger of being carried away by fashion.

There is no universal panacea, though there are small working hypotheses, gout, for instance, to one, and something else to another, who get hold of one idea, apply it to everything, and stick to it through thick and thin: what we really meant is to treat the patient and not the disease.

Reverting to the prevention of tuberculosis, Sir William said that antiseptics would destroy organisms when present, but care should be taken that in lowering the temperature we did not also lower the patient. Nature, he thought, was no bungler, but knew her business, and no doubt had an object in raising it.

At no time than the present had the science of medicine and its professors more right to be congratulated on its progress, and never have both stood higher in the estimation of the world.

DR. PAVY then proposed a vote of thanks to the lecturer, and remarked that science should always be the foundation of art, but the latter anteceded science as a rule, but they were getting nearer and nearer to their proper relative positions. The address to which they had just listened could only proceed from a mind of a high order, and he would only say that it was worthy of the man who had given it.

PROFESSOR CUMMING seconded, and said that in all times the leaders of medical thought were not only great physicians and surgeons, they were also great men. Far from being too conservative, we (medical men) are only too ready, he thought, to take up new ideas.

DR. PAVY stood up to put the proposed vote to the meeting, and then said, no, he would not put it (great applause). Vote of thanks carried with acclamation.

DR. KEATING, of Toronto, then came forward to convey the cordial greeting of the medical men of On-

tario to the great British Medical Association. No body of men in Canada was more loyal than they, their medical association numbered some three thousand members, and they took a great pride in the associations, in which they were determined to live and die.

The Midwives Registration Question Again.—MR. VICTOR HORSLEY moved the adoption of the report of the Parliamentary Bills Committee. The bill for the amendment of the medical acts that was before the last parliament was, he thought, too narrow, and should have embraced the constitution and procedure of the General Medical Council; the committee had referred the matter for consideration to a sub-committee that had only had time to consider one point, namely, the Registration of Midwives, and the sub-committee asked to be reappointed in order to give full consideration to the whole subject.

The report was received and adopted unanimously.

DR. LOVELL DRAGE offered an alternative to the Registration of Midwives, namely, the improved education of the male medical student in obstetrics. Puerperal fever was supposed to be carried from one patient to another by ignorant women, but the greatest parturient mortality was referable to the accidents of childbirth and not to puerperal fever. No one should be permitted to undertake the practice of midwifery who had not previously attended a large number of cases of parturition. He then proposed the following "rider" to the report, although Dr. Ward Cousins thought it unnecessary as the subject was under the consideration of their Council, whereupon Dr. Drage retorted that surely the Council should not object to have their hands strengthened.

Rider: "That we view with deep concern and regret the recommendation of the General Medical Council to the medical examining bodies that they should admit students to their final examination who present a certificate that they have 'conducted personally' only three, and 'been present at' only nine confinements; and as the General Medical Council has refused on November, 1890, to alter this recommendation, we instruct our Council to petition the General Medical Council to recommend that no student be admitted to his final medical examination until he presents a certificate showing that he has personally conducted at least thirty confinements under the direct supervision of a registered medical practitioner. We also instruct the Council to take immediate steps to have Section 20 of the Metropolitan Poor Act of 1869 repealed, which prevents workhouse infirmaries from being used for the clinical instruction of medical students in practical midwifery, while pupil midwives are now admitted; and also to petition the committees, medical staffs, and, if need be, the subscribers to the City of London Lying-in, the British Lying-in, and the Clapham Maternity, to withdraw their rule which excludes male medical students from clinical instruction at these hospitals, seeing that these are now used by pupil midwives."

This was seconded by DR. RENTOUL, who said he must again refer to the scandalous fact that men were turned out to practise midwifery after attending three labors!

After some discussion a vote was then taken on the report, which was declared carried. The rider was then put to the meeting, and speaking in support of it, DR. RITCHIE, of Manchester, said that students had to take their instruction in midwifery from the midwives, and DR. DRAPER added that the latter had to be "tipped."

The rider was then carried unanimously.

DR. RENTOUL moved another rider with reference to the direct representation of general practitioners on the General Medical Council. SIR WALTER FOSTER and Mr. WHEELHOUSE supported the proposition, and the former said that he had done his best, but they were five to twenty-five, and he had received no outward support from the profession, although during the last three years he was in a position, as a member of the late government, to have done something to forward their views.

On reference being again made to the instruction of students in midwifery, DR. WARD COUSINS said that the Council was of opinion that careful personal instruction in three cases was better than attendance on thirty cases, in some of which, at least, the only part taken by the student would be to rest his hand on the bed-post and look on. (Laughter and cheers.)

Dr. Rentoul's rider, seconded by DR. H. WOODS, was then put and carried unanimously.

DR. NORMAN KERR then moved the adoption of the report of the Committee on Legislation for Inebriates, and observed that inebriation should be treated as a disease and not as a crime. Inebriate houses were not prisons, and with reference to the infringement of personal liberty, was not this done every day in the case of lunatics who had never been guilty of crime? Seconded, and adopted unanimously.

The report of the Therapeutics Committee was also moved, seconded, and adopted, without dissent.

The report of the Medical Charities Committee was moved by DR. BRIDGEWATER, seconded by DR. BROWN, and adopted unanimously.

The report of the Committee for the Efficient Control of Railway Servants' and Mariners' Eyesight, was moved, seconded, put to the meeting, and adopted unanimously.

The report of the Committee on the Mental and Physical Condition of Children, to the Council of the British Medical Association, was moved by Dr. BRIDGEWATER, seconded, and adopted unanimously.

The report of the Anæsthetics Committee was similarly moved and adopted, which ended the proceedings for the day.

There was a musical promenade in the afternoon at the Gardens of the Royal Botanic Society, followed in the evening by an illuminate fête at the same gardens. This very popular entertainment continued until midnight. The Duke and the Duchess of Teck visited the gardens. On the lake there was a floating windmill, the body constructed of bright red lamps and the sails white, and a very effective attraction it proved to be. In the large tent there was a great display of medicinal and tropical plants geographically arranged, and the bands gave great delight to the lovers of music.

THIRD DAY, THURSDAY, AUGUST 1ST.

The Address in Surgery was delivered by MR. JONATHAN HUTCHINSON, who was received with loud and prolonged applause. He paid a graceful tribute to the memory of Mr. Arthur Durham, whose untimely death threw the duty of delivering this address at somewhat short notice on his shoulders. It would perhaps be of advantage to take a brief retrospect of surgery, without going back beyond the last century, but he could not attempt to compete with Sir William Broadbent, whose retrospect of medicine must be fresh in their minds.

In the year 1750 Samuel Sharpe published "A Critical Enquiry into Surgery." The author was a fellow of the Royal Society and a surgeon of good position in his day, and he prepared himself for his task by travel and inquiry on the Continent, where he observed and studied foreign surgery, and this work indeed was the result of a visit to Paris. It was received with favor and translated into French, German, and Spanish, and may be taken as affording a fair criterion of the state of surgery at that time.

Sharpe thought well of English surgery. It is to be remembered that Pott was then in his prime and John Hunter still young. As to the treatment of fractures, Sharpe says that of course all surgeons were agreed as to their treatment. In reading his book one is struck by the restriction of topics, in marked contrast to the vast field covered by surgery now. He remarked of

one operation that it was "neither dreadful in the doing nor melancholy in the event," and it would seem that the contrary was true of many of the operations then in vogue. More than sixty years afterward a French surgeon named Roux published in Paris the results of his observations made in London. These were the days of Astley Cooper and Lawrence, and John Hunter had been dead for twenty years. He noted what he considered the extraordinary fondness of English surgeons for anatomical preparations. He held the opinion that England was the only rival of France in surgery, other nations being beneath notice. Russia was then only emerging from barbarism, and the surgery of the United States, which has of late years so largely contributed, and bids fair to more and more contribute, to our knowledge, was scarcely in existence. He noted also that only one hospital in London, and that the speaker was proud to say was the London Hospital, made any attempt to distinguish between medical and surgical cases. In some cases he criticised adversely the dexterity of the surgeons, and remarked that twenty minutes was the time taken to perform a circular amputation, an operation which the Paris surgeons would have completed in a quarter of that time. He thought also that fractures were treated better in France than in England. Roux was amazed to find so much time, labor, and money expended at the College of Surgeons Museum on comparative anatomy, a subject that he thought should be treated in a museum of natural history. What would he say could he revisit the museum now and find our best wall space given to collections of skulls and other non-surgical specimens? We have turned what should be an unrivalled clinical museum into a Golgotha of anthropology.

In the year 1854 Mr. (now Sir) Spencer Wells was editor of the *Medical Times and Gazette*, and the present speaker was his assistant. Believing that contemporary medical literature but imperfectly represented the real results of operative surgery in London, he instituted a systematic inquiry, which was largely conducted during three years—from 1855 to 1858—by Mr. Hutchinson. In the course of that inquiry he learned much. He frequented all the operating theatres of London, and was in confidential communication with many surgeons. In some cases the results were surprising.

Spencer Wells and Hutchinson thought at one time that ovariotomy was an unjustifiable operation. They knew of fourteen consecutive cases, all fatal; and indeed a well-known coroner announced his intention to hold an inquest on the next fatal case that came under his notice. The results of lithotrity also were most discouraging. Cases were reported cured, but they were not cured; they turned up again and again, and became perennial patients. The published reports on the operation were most untrustworthy. This was before the work of Bigelow had entirely revolutionized the treatment of stone, but when litholapaxy was introduced he recognized the fact that the days of lithotomy as regards most cases were numbered. He had taken up the operation warmly, but finding that he could not get the amount of practice needful for the education of his hands, after one fatal case he refused again to operate and handed over those cases that came to him to specialists. He had done this in many cases, including two of his own colleagues. For many years now there had been no death from the operation as it had come under his notice, and no case had required a second operation. It might well be said that relief was "cito et tutum." It was in the hands of specialists that this great success occurred. He considered his practice of lithotrity through the hands of others most successful, and was proud of it.

Spencer Wells did his first ovariotomy in February, 1858, and the speaker followed with one in May of the same year. Both were successful. Baker Brown, who had some years previously had successful cases, was present at both operations. At that time the treatment of the pedicle was a burning question. The extra abdominal method commended itself to him, and for its better carrying out he had introduced the clamp, with gratifying results. Spencer Wells, however, ligatured the pedicle and dropped it back, leaving the long ends of the ligature hanging out of the wound. The latter's first case suppurated, perhaps owing to the ends of the ligatures in the wound. Finding that his cases in the wards of a general hospital, where sufficiently strict precautions could not be taken, did not do so well as those under Spencer Wells, he gave up operating and sent all cases to the Samaritan Hospital, acting on the principle that it would be wrong to undertake an operation himself that he thought could be better or more safely performed by another. After a time the clamp, which at one time bade fair to become a permanent addition to the surgeon's armamentarium, was discarded, and the pedicle generally dropped back into the abdomen. Tyler Smith was one of those who made this method popular. It was difficult to understand why a proceeding that is so successful now should have been so unsuccessful formerly. Probably the increased knowledge of the principles of antisepsis and asepsis was the cause.

Specialism in eye disease had proved of the greatest benefit. When Roux visited London he remarked with disapproval on the special ophthalmic hospitals which were springing up. He thought them likely to injure the best interests of the profession and the public. Years afterward when the speaker visited Paris he saw the results of this prejudice in the wards of Roux's own hospital, where in case after case of cataract extraction the eye was lost through suppuration. He believed that if the statistics of ovariotomy for the whole kingdom could be collected they would be found to be far less favorable than the statistics of specialists.

Many men, such as Sir H. Thompson, in bladder surgery, Macewen, in brain operations, and Mayo Robson, in the surgery of the gall-bladder, while unconnected with any special institutions, were yet specialists. These were instances of what we might call personal specialism, and these men were benefactors of the public, and a striking feature of their practice was that they had an influence over and trained others in those special branches. The evils of specialism were known to all, but charlatanism was not confined to specialists by any means, and it was in the early days of a specialty and before it was well established that charlatans found their opportunity.

Suppose that at the present day a journal were to follow the plan of Spencer Wells and himself in 1855, the results would be astonishing. The increase in the number of operations both in public and in private practice was enormous. He could remember the institution of the first nursing home in London, and a very humble beginning it was. Now there were streets where every other house was a nursing home, and each equipped with a staff of admirable nurses, who seemed to be born for their calling. What became of such women before the modern nurse existed he knew not, and he was equally at a loss to know what became of these nurses nowadays, for none of them ever seemed even to approach middle age.

The use of anæsthetics had enormously increased. It was not so very long ago that one practitioner only was enough for the needs of all London, and some surprise was expressed that he should find enough to do. Mr. Snow was succeeded by Mr. Clover, and although his monopoly was less absolute, still for a long time he had no rival. To-day there were names of no less than six official anæsthetists on the list of the staff of Guy's Hospital alone. And there was a society of anæsthetists which had found it necessary to refuse to admit any but *bona-fide* specialists. He would here refer to the wonderfully complete and interesting museum of

anæsthetic apparatus exhibited in connection with this meeting.

The change in the last twenty years in the sentiments of the public toward operations was a very striking one. Formerly the surgeon had to persuade the patient to consent. Now he was in danger of being persuaded to operate, against his better judgment, by the importunities of the patient. It was recorded that each ancient Greek physician used to be accompanied in his visits by an orator, whose business it was to persuade the patient to take his medicine. No such persuasion was now needed with the improved pharmacy of to-day. He often wondered, if the physician needed one orator, by how many the surgeon had to be surrounded in order to be allowed to operate?

Surely no one ought now to die of cancer of the tongue. The awful mortality of other times was due to the neglect of attention to the early stages of the disease. A symptom which used to be relied upon, and taught as a valuable one for diagnosis, was that of enlargement of the glands. This, which in Syme's time was considered as an indication that operation was needed, would now be considered as rendering operative interference almost hopeless. He remembered to have seen Syme do his operation, dividing and everting the halves of the jaw, with his customary dexterity. The operation was, indeed, "dreadful in the doing and melancholy in the event." He thought that surgeons even nowadays, erred in not plainly telling patients as soon as they suspected it, that they had cancer. It would be found that they would submit to early operation. There were surgeons now who could boast of scores of cases of partial or complete removal, with little or no fatality. Formerly the horrors of long suppuration and many painful dressings deterred patients from submitting early to removal of the breast, although the operation had long been a successful one. No one would now wait for enlargement of the glands; and retraction of the nipple, formerly mentioned as an important diagnostic sign, would now be considered as evidence that interference had been too long delayed. The evidences afforded by the finger of the trained observer were enough, and it was now the rule, "when in doubt, operate." Patients had got to know that operation and subsequent recovery were almost painless, and submit gladly to early performance. The statistics of the operation must be rewritten. Recoveries without recurrence were not uncommon.

As regards the training of surgeons—in London recently a five years' curriculum had been made compulsory. Although he supported with his vote the measures concerted by the two colleges for carrying this into effect, he was not a warm advocate of it. It seemed to be an application of the argument, "If you keep a horse long enough at the water you can make him drink." We might exclude poor students who could not afford so long a time, and by a five years' curriculum John Hunter might have been shut out. In arbitrary enactments of this kind he had little faith. He would, however, reform the methods of examination. More time was wanted and more quiet opportunities for the candidate to do his best. Many a nervous man was disconcerted on entering the examination-room by the examiner suddenly thrusting some specimen at him with the challenge, "Tell me what that is?"

It was a mistake to suppose that medical education ends with the attainment of a diploma. There were plenty of general hospitals that invited the lad from school or college and provided for his professional education until he was qualified. He hoped that some day some general hospital would reserve itself for the teaching of the qualified men. Some operations should, he thought, be avoided altogether, except the skilled diagnostician and the skilled manipulator were at hand.

In conclusion Mr. Hutchinson said that the object of his address had been to attempt to grasp clearly and without prejudice the tendency of modern surgery. We must always remember that our first duty was to our patient, and that his claims were even greater than those of science. He referred to the tendency of improvements in surgery to damage the pecuniary interests of the profession. The public ought to appreciate this.

We might all be most thankful for the progress made. A hearty vote of thanks to the speaker was carried by acclamation.

The Patrick Stewart Prize.—Sir J. Russell Reynolds then presented the Patrick Stewart Prize to Brigade Surgeon Lieutenant-Colonel Cunningham (*in absentia*) for his valuable work in bacteriology, especially as regards the comma bacillus. He had also made important observations as to the temperature of the soil, and its bearing or the prevalence and activity of cholera. His works adorned the scientific literature of India and this country.

Fourth Day, Friday, August 2d.

Address in Physiology. — Dr. Edward Albert Schäfer began his address by stating that he had selected a definite subject upon which to address the meeting, namely, the internal glands, which were organs that secreted something from the blood, which had a considerable part to play in the economy of the body. The external secreting glands might also be called internal, for while they excreted they also passed secretions into the lymph or blood, but the ductless glands had only an internal secretion, and this was of more importance than the external secretion; in the case of the pancreas there was an excretory duct, and yet if this organ was removed from an animal, that animal would die. But if it was only partially removed, the creature would live. Removal of the kidneys was quickly followed by the death of the animal that had been deprived of them, and if only partially destroyed, the animal would live. They should, therefore, be ranked with the liver and pancreas as internal secreting glands.

The internal secretion of the liver was of two kinds, one of which was useful, and the other not so, and this was also the case with the kidneys; but the salivary and the mammary glands could be removed without any ill effect ensuing. The pancreas was structurally different from the other glands, for it contained within it portions of vascular epithelium scattered through its other tissues, and its sole use was not to secrete pancreatic juice. Twenty per cent. of diabetic patients suffered from disease of the pancreas. In 1845 C. Bernard removed the pancreas from an animal and it died a short time afterward, but on a subsequent occasion the operation was performed under more favorable conditions, and then glycosuria and polyuria appeared. The animals wasted and died in about fifteen days after the operation, but if a portion of the gland was left there was no diabetes; if a part of another pancreas was grafted into the skin of an animal and its own pancreas was removed, that was sufficient to prevent the diabetes, which appeared as soon as the graft was taken away.

Paraffin had been injected into the pancreatic ducts, which it destroyed. Atrophy of the organ followed, but no diabetes, for the islands of vascular epithelium were left intact, and to that fact the non-appearance of the glycosuria was due. The injection of pancreatic juice into the veins prevented the diabetes, but the operation was a dangerous one; raw pancreas administered by the mouth had no effect—had no influence.

The ductless glands had no external secretion, but nevertheless were secreting organs, for removal of the thyroid gland resulted in speedy wasting and death, as when that gland was extirpated for the cure of goître the operation was quickly followed by myxœdema. Mr.

Victor Horsley had operated on monkeys and found that they lived longer afterward than dogs did; when the operation was performed on birds no result followed, and herbivorous animals seemed to suffer little or no inconvenience from the removal of the thyroid gland, with the exception, however, of the rabbit.

The ill effects following the removal of the thyroid might be prevented by the administration of thyroid extract either subcutaneously or by the mouth, and a successful graft of thyroid effected a complete cure; in those cases where death ensued the subjects were thought to die from auto-toxication, the thyroid gland collecting material from the blood and converting it into a useful or at least a harmless product.

The pituitary body is a gland with an internal secretion, and its destruction is followed by death in about a fortnight, generally from an attack of dyspnœa; when the thyroid gland was removed the pituitary body was found to enlarge, but disease of the latter was not followed by myxœdema but by acromegaly. Injury of the pituitary body caused a rise of the blood-pressure, and a contraction of the blood-vessels. When the suprarenal capsules were removed, death from great muscular weakness quickly followed, but there was no deposition of pigment, which took place when they were injured or diseased.

Extract of suprarenal capsules produced no effect when injected into a dog, unless the dose was large. Rabbits are more susceptible. The intravenous injection of their extract showed that the suprarenal capsules yield a secretion of great power over the auricle, and that this effect was not due to nervous irritation was proved by its having the same effect in a frog from which the whole of the brain and spinal cord had been removed; but the effect soon passes off, though the reason for its doing so is doubtful, probably the product, whatever it may be, becomes stored up in the muscles. A very minute dose will produce the effect, a dose of one-millionth part of a grain will suffice.

Internal secretions are produced by the ductless glands as well as by the external glands. There is a vast field for the employment of these extracts, but much connected with them is still very obscure, and in all probability they are destined to take the place of vegetable remedies.

Professor Bowdich proposed a vote of thanks to the lecturer, and said that so far the employment in medicine of these animal extracts had not found much favor with the profession or the public, for they recalled to mind the barbarous remedies of the middle ages, when portions of animals were blended with vegetable and mineral products into a hodgepodge that was then thought to be a cure for every malady under the sun.

Professor Lauder Brunton was happy to second the vote of thanks, and thought that we have now come to the parting of the ways between the old and new therapeutics.

A vote of thanks was then put by the President, and carried with acclamation.

Professor Schäfer, in reply, would make but two remarks; he greatly appreciated the high honor that was conferred on him when the Council asked him to address the meeting, and also because of his election as the successor in giving the address in physiology of two such distinguished men as W. Sharpey and B. Saunderson.

The Secretary of the Association then read a resolution condemning the action of the Medical Aid Society and an expression of opinion that no one who accepted the position of medical officer to it should continue a member of the British Medical Association, which ought to have power to control practice of that kind.

The usual votes of thanks to all who had contributed in various ways to the success of the several meetings, and the pleasure and comfort of the associates, were then passed with the usual unanimity and applause, some amusement being caused by the President's allusion to the Colleges of Physicians and Surgeons, whose favors he remarked were yet to be bestowed.

New Instruments.

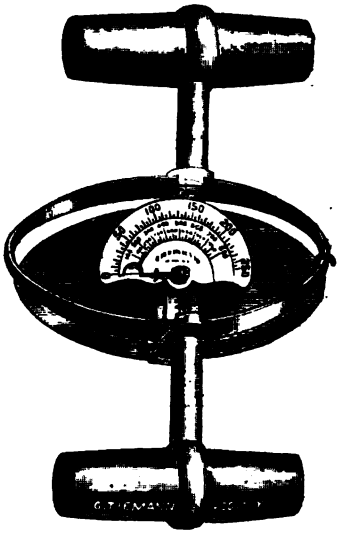
HOLDERS TO USE WITH THE HAND DYNAMOMETER.

By ALFRED J. ANDREWS, M.D.,

BROOKLYN, N. Y.

I have used these holders in testing several hundred cases during the past few months, with so much advantage and satisfaction that I feel that others, engaged in similar work, may find them useful. Until I had them made for me by Messrs. Tiemann & Co. I did not secure as much accuracy as I desired in the examination of the candidates for positions in the civil service of Brooklyn, and had no means of accurately measuring deficient or defective groups of muscles on either side of the body in other cases.

The hand dynamometer is placed in the frame, dial outward, and is held in position by the traction on the handles. In some tests both handles are held by patient, in others one is held by the operator and the other by patient (or other may be affixed to a hook in floor or wall), or in the "push" holder one handle of it may be applied against any portion of patient's body, while the other is held by the physician; in still other tests it is necessary to have a strap with a hook, as in testing the muscles of the neck with the "pull" holder, in which case it is also necessary to prevent the patient from influencing the result with his weight.



I have found these tests useful in recording the progress in tabetic patients, in saturnine poisoning and nerve injury, and have used them in testing the following groups of muscles with "holder for pulling:" Flexors of arm, of forearm, of leg, of foot, and of head; also the abductors of the arm (in different directions) and of thigh. The extensor groups, as those of forearm, of arm, of leg (quadriceps extensor)—these while seated—of head and of foot (with strap).

The "holder for pushing" may be used to supplement some of the above tests and for adductors of arm (pectorals, etc.), flexors of thigh, adductors of thigh, and of arm while forearm is flexed, elbow at side, and holder is between inner side of patient's arm and physicians' hand, which is on patient's side, and may also be used in testing power of muscles which raise hand from shoulder straight up above head (part of trapezius, deltoid, serratus magnus, triceps, etc.).

And lastly the pulling frame may be used for testing the accuracy of the dynamometer itself, by hanging it from a hook and applying carefully a known weight.

Insomnia.—If the patient is unable to obtain sleep during early hours of night, give trional; if patient readily falls to sleep upon retiring, but awakens too early, give sulfonal.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE WOMEN'S PETITION TO THE COLLEGE OF SURGEONS —UNIVERSITY OF DURHAM—GENERAL ELECTION AND MEDICINE—HONORS FOR SURGEONS AT CHITRAL—MEMORIAL TO HUXLEY—SMALL-POX IN THE SALVATION ARMY SHELTERS—CHELSEA HOSPITAL—PTOMAINE POISONING—A MEDICAL MOVE AT THE GENERAL ELECTION—SANITATION AS A PARTY CRY—ANOTHER HOSPITAL PROPOSED FOR LONDON—THE PRINCE AND PRINCESS AT THE ROYAL FREE HOSPITAL—THE SUNDAY FUND—THE DROUGHT—A FATAL PRACTICAL JOKE—BRITISH MEDICAL ASSOCIATION MEETING—BRITISH MEDICAL ASSOCIATION—MEMORIAL TO HUXLEY—ANOTHER TO MEYER—PRESENTATION TO SIR J. LISTER—DEATH OF SIR J. TOMES —HEALTH OF LONDON—OUTBREAK OF SMALL-POX.

LONDON, July 19, 1895.

THE school of Medicine for Women has taken what some think a bold step in petitioning the Council of the College of Surgeons to admit women to the examinations. The Council has never been considered a body likely to entertain such a proposal, it has always displayed conservative, if not to say, obstructive, instincts. I hear, however, that the ladies are very hopeful, and it is whispered in some quarters that influence has been brought to bear on individual councillors which justifies the expectation of success. There are councillors who are known to have supported the women's school, and it is hardly likely that they would not be willing to admit its pupils to any examination. Then there is the pecuniary aspect of the question. The Council is not likely to be indifferent to this. The fee for membership is twenty guineas. If other authorities admit women, why should not the college secure its share of qualifying fees. The college is the authority most generally known, its members being the most numerous, and if its doors should be opened to women no doubt they will crowd into it. The popularity of the diploma would secure a large proportion of the female candidates. How far the present members might approve the intrusion of further rivals is another question. But they will have no voice in the matter. The Council will decide. Having decided, it may mention the matter in the report to the meeting of fellows and members, but that meeting would be unable to reverse the decision.

In connection with this subject, I may state that the University of Durham has obtained a supplementary charter which enables it to confer on women any degrees it can confer on men (except degrees in divinity). One lady has already received a degree in science, and medicine, arts, literature, and music will no doubt soon have women graduates in their several faculties.

We are in the midst of a general election, so political controversy and excitement is displacing many medical subjects. This excitement is very injurious to certain weak or nervous persons, and three deaths are already reported as having occurred from this cause. A medical man was also assaulted in Cork, a rare circumstance even in that lively locality, for even turbulent Irishmen generally respect the doctors, to whichever party they belong.

That coveted distinction, the Victoria Cross, has been conferred on Surgeon-Captain Whitchurch for his conspicuous bravery during the sortie from Chitral Fort. Your readers will no doubt remember how he carried Captain Baird on his back through a hail of bullets, for the story has been told by all the newspapers. Surgeon-Major Robertson has been promoted to a knight commandership of the Star of India, and further honors will no doubt in due time be gazetted.

There are, I believe, not one hundred and eighty Victoria Crosses living in all arms, and the bronze medal and red ribbon being so seldom conferred, renders the distinction more coveted than perhaps any. Dr. Whitchurch makes the number of medical men who have won this honor up to fifteen now alive. This is certainly a splendid proportion, and should put to shame the snobs who sneer at the army surgeons as "non-combatants."

The memorial to the late Professor Huxley at Charing Cross Hospital is to take the form of a scholarship and medal, and if funds permit an annual lecture on recent advances in science and their bearing on medicine. It is not improbable that a memorial of a wider, perhaps national, scope may also be raised. In the meantime the Charing Cross School may be congratulated on the probable success of her attempt to honor her distinguished son.

Several more small-pox cases have been traced to Salvation Army shelters, but the managers of that organization still resist the proposal to place them under sanitary supervision. One medical officer of health went to inspect a shelter in his district with a couple of his inspectors, but they were refused admission. Dr. Waldo, the medical officer of health, obtained a justice's warrant, but was again refused until he threatened to bring a force of police. On this he was admitted and found overcrowding of the grossest character along with utterly inadequate ventilation. The vestry has ordered an abatement of the nuisance, and it is to be hoped that a firm determination to subject so dangerous a plague spot to the sanitary authorities will be maintained. No one wishes to interfere with the charitable work of the Salvation Army, but it is monstrous that it should be permitted to sow small-pox in the community. "General" Booth may be as autocratic as he likes over his willing "soldiers," but he must submit to sanitary laws, and if there is any difficulty as to the process of compelling him legislation must be called in. To set up a focus of infectious disease under the name of charity is too great a demand on the tolerance of the community. It is a great pity that the promoters of many a good work should be so obstinately blind to the evil of spreading infectious disease. There are able medical men among the supporters of the Salvation Army, and they would do well to speak plainly to the autocratic rulers, and if not listened to, they had better separate themselves from the organization and let the public know why.

It is whispered that further trouble threatens the Chelsea Hospital for Women. I hear that the chairman has asked for the resignation of one of the lately elected staff who refuses to comply with the request.

A sad case of poisoning, apparently by ptomaines, has occurred in a girls' school at Limerick, and four deaths have already occurred. This, too, just before the commencement of the holidays, when children and parents were looking forward to a happy meeting. A custard was suspected, and the cook had noticed that one of the eggs was discolored. Either that or the milk seemed to be the source of poison. Sir C. Cameron has investigated the matter and found no ordinary poison in the viscera of two of the patients. He, however, extracted a substance that gave all the reactions of ptomaines, but the quantity was too small to permit of differentiating this from other ptomaines. It is most unfortunate that none of the custard was preserved, nor of the vomit of the patients, as no doubt Sir C. Cameron would have been able to shed still more light on the matter. I believe this is the first instance in which a ptomaine has been extracted from the viscera of a person so poisoned.

LONDON, July 26, 1895.

IN the turmoil of the general election the doctors of Bradford, led by their distinguished Medical Officer of Health (Whiteside Hime), have scored well for their

profession. They submitted a series of questions to the parliamentary candidates in their locality as to the relations between the state and medical men. The pith of their queries was whether it was right for the state to exact forced labor from one class of citizens; and considering medical men acquire their knowledge without one farthing of aid from the state, and are not protected in practice as the lawyers are, ought they to be compelled to give gratuitously the result of their labors, whether by notifications, certificates, or otherwise?

The liberal candidates made only vague replies, no doubt remembering that their leaders when in power have always slighted the profession. The conservative and labor candidates gave straightforward and satisfactory replies. The result is an object lesson to politicians as well as doctors, for Bradford returned three unionists to parliament; and although the wave of public disgust which has made a clean sweep of the separatists had much to do with it, the influence of the profession must also be reckoned, and when it is remembered how wide-spread that influence must be if united, perhaps legislators will give some attention to representations as to the rights and wrongs of so important a class of electors.

Disraeli, when leading the victorious party, raised the cry "*Sanitas, sanitas, omnia sanitas.*" If now this party, which has come in almost unpledged except to maintain the union of the empire, will at once take up the great sanitary questions on which the welfare of the public so much depends, we may cry in the same way: *Magna est sanitas et prævalebit.*

It seems we are to have another general hospital in London. The cry is the need of such accommodation south of the Thames. No doubt that district is comparatively poor, but it has done hitherto without the proposed two hundred beds, and north of the river there is a sad superabundance of hospitals. It was proposed that Charing Cross Hospital should sell its enormously valuable site and remove to the poorer locality, but the managers repudiated the proposition. Yet it would have been an honorable action and have benefited north and south alike. Will no other hospital take the hint? Something depends on the tenure of their sites. I suppose the Westminster does not hold on sufficiently favorable terms, or one could well spare it, and to place some unprejudiced gentlemen of the south on its board would perhaps neutralize the unjust treatment it has too frequently measured to its staff. If this new hospital is to be established it would be a blessing to confine it to in-patients, and so prevent any further abuse of the out-patient department of hospitals.

The Prince of Wales, with his wife and daughters, opened the new buildings at the Royal Free Hospital on Monday last, referring gracefully in his speech to the interest taken in the charity by his family. The new front building, which has cost about thirty thousand pounds, is named after the Princess Alexandra, and after the ceremony Her Royal Highness passed a considerable time in the wards, speaking a few words to the patients and distributing among them the flowers of the bouquet which had been presented to her.

It is expected that the Hospital Sunday Fund will this year amount to £46,000, and the Lord Mayor is appealing to the public to make it up to £50,000.

The long spell of fine weather has threatened some districts with a water-famine. Proceedings have been taken against one of the London companies for not supplying the amount necessary to householders. It is strange that this should be considered less urgent than the watering of the streets. In some rural districts, also, the drought has caused suffering and brought into prominence defects which the sanitary authorities must remedy, or great danger will be incurred.

A sad death has followed a stupid practical joke. The joker tickled a sleeping man's ear with a wooden spill. A sudden start, a splinter penetrating the tympanum, inflammation spreading to the brain, inquest! Such was the course of events. When will these practical jokers cease their foolish annoyances?

The British Medical Association is to occupy us in London next week. Some ominous grumblings have been heard as to the rejection of papers in some sections. Some discontent has also been manifested at the pressure put on leading men to prevent them giving their communications to other journals. The editor has inserted a black-letter notice that applications for copies must be addressed to him. All in editorial order, but I remember some years ago he managed to comply with such requests when it was too late. As I don't want copies I can express the hope that those who do may succeed in getting them. Still it savors of littleness that "this great association," as the clique love to call themselves, should try to dictate to authors who make the meetings attractive.

There is likely to be a regular scrimmage over the midwives question, which is exciting controversy in all directions. A meeting has been called for the night before the association meets, and notices of amendments to the proposals of the Council have been given. So at least one lively general meeting is possible.

LONDON, August 3, 1895.

THE British Medical Association has occupied us this week, and what with address and speeches, most of us are glad it is nearly over. Then dinners, luncheons, and similar functions have surfeited many, and the rest of us have devoted ourselves to making our guests comfortable.

The President opened with a dinner on Monday, when he was still President-elect. The same evening there was a meeting of the opponents of the Registration of Midwives, outside the association, and against the policy which the *Journal* clique has so unjustifiably tried to push. The profusion of entertainments will have given our provincial brethren a great variety of choice, and most of them seem to have been well pleased at our efforts to please them. There were almost necessarily some shortcomings and omissions, but they will doubtless be forgiven.

To-day is to be devoted to excursions and entertainments as usual, and yesterday not a few of our guests bid us farewell. Some of us will follow their example to-night and leave the metropolis for a holiday, which unless snatched at once will be lost altogether. Meantime your own reporters have sent you full accounts of each day's proceedings.

Memorials and testimonials have been much to the fore during the week. It is proposed to raise a national one to the late Professor Huxley, and the Royal Society has taken the necessary steps to constitute a preliminary committee. No definite action further than receiving names of those intending to subscribe will be taken at present, but after the holidays the adherents to the proposal will be asked to elect a committee to replace the temporary one and to carry out the wishes of subscribers in the matter.

A memorial is being got up to Wilhelm Meyer, whose pioneer work on adenoids in the naso-pharynx is everywhere recognized—so a committee has formed itself in London. These gentlemen have appealed to the public in a letter to the newspapers about the thousands of persons "saved from life-long deafness," and so on. I don't admire the taste of the letter, deeply as I would honor Meyer, but as the presidents of the two Royal Colleges have signed it, I have no opposition to offer.

There was a large gathering at King's College Hospital on Tuesday, to present to Sir Joseph Lister a portrait of himself. The presentation was made by Sir J. E. Erichsen in very felicitous terms. Among other appropriate remarks Sir John said a new era had come, old methods had been swept away, and new ones taken their place in the daily practice of surgery, and the great change was undoubtedly due to the antiseptic

system, and that boon constituted Sir Joseph Lister one of the greatest benefactors of mankind. Antiseptic surgery had become almost painless, mortality from operations almost extinguished, and the domain of surgery immensely increased. He did not undervalue anæsthetics, but it was a fact that during the twenty years between the introduction of anæsthetics and that of antiseptics, mortality had actually increased. Nor did he undervalue sanitation, but it would be easier for antiseptics to dispense with hygiene than for hygiene to dispense with antiseptics. All this they owed to the genius and untiring labor of the great surgeon sitting by his side and to him alone. The discovery of antiseptics was no haphazard affair, but was worked out laboriously on scientific lines. He placed Lister beside John Hunter. What one did for the end of the eighteenth century, the other did for the end of the nineteenth. It was fitting that the first testimonial should be within the walls where so much of the work had been done, and perhaps not unbecoming that he himself, who had been Sir Joseph's earliest teacher of practical surgery, should have been asked to present it to his dear friend and former pupil. Though they once stood in that position it had long been reversed, and for twenty years past he had been content to sit at the feet of his former pupil.

Sir Joseph Lister said he felt overwhelmed by Sir John Erichsen's kind and flattering words, and the great gathering of former pupils and colleagues. He could not deny that the presence of so many old friends was a great gratification, and showed his work had not been in vain. He gave an account of his work in Edinburgh, Glasgow, and London, which was listened to with profound attention.

Sir John Tomes, F.R.S., died on Monday at the age of eighty years. He was the pioneer of teaching modern dental surgery, his lectures at the Middlesex Hospital, begun fifty years ago, at once stamping him as an authority. His papers presented to the Royal Society established his reputation as a man of science, and his name is indissolubly connected with important points in the structure of the teeth. For his services to dental education he was knighted in 1886. Three years previously he and his friend, the late Professor Huxley, were elected to the Honorary Fellowship of the Royal College of Surgeons.

Last week the London death-rate fell to 23, as against 22.5 in the other large towns. Measles and diphtheria showed an increased mortality. The deaths from diarrhœa reach 397, which number is 137 above the corrected average.

Small-pox too has increased to such a degree at the East end of London that the Local Government Board have re-issued their 1893 circular urging Poor Law Guardians to take precautions against the spread of the disease through casual wards and workhouses. There is no doubt the danger is great and largely through the folly of anti-vaccinationists. Just where these cranks have deluded the most ignorant of the population into repudiating vaccination small-pox has made its appearance. In 1891 the official report showed that in one district (Mile End) half the children born were not accounted for in the vaccination returns. There has probably been no improvement since, and yet the local authorities are recalcitrant. Some method of compelling them to discharge their duty must be found, or the vaccination acts will be practically repealed in certain districts to the peril of others.

Medical Politicians in France.—In the French Senate thirty-seven senators are medical men, one senator is a druggist, and three senators are veterinary surgeons. In the Chamber of Deputies, fifty-eight deputies are medical men, five are druggists, and one is a veterinary surgeon.

RECIPROCITY IN REGISTRATION.

To the Editor of the Medical Record.

Sir: Allow me to make a few remarks in regard to reciprocity in registration.

1. What is registration for? Is it understood in the same light as the registration of the Chinaman, that so many should land and no more, or was it meant for some higher purpose, viz., to protect the public from quackery, fraud, etc., and to protect the dignity of the medical profession, to elevate its standard, etc.?

I contend that the registration law was intended for the latter. Now let us see if it has accomplished its purpose. Let us consider what is reciprocity. It means acting in return, *i.e.*, if New Jersey will allow a New York physician, who has passed a satisfactory examination after four years' study in a reputable college, to register, then New Jersey physicians should enjoy the same privilege when they come to New York. Does the absence of this reciprocity not mean that registration laws were made for pecuniary reasons? Does the knowledge and the science of the physician cease at the border line of the State?

Why is it that a patent medicine, made after the formula of a physician, and claimed by its maker to be a panacea for all the evils that flesh is heir to, is allowed to flourish in the United States, although the formula is taken from say New York, and the same physician who wrote the formula has no right to go to New Jersey and prescribe it? Is there any reason for this discrimination? Is it not a disgrace to the profession and an insult to every physician?

Now let me point out the injustice of the registration law as it is at present. 1. A physician living in New York takes a vacation at the seashore of New Jersey; he meets his own patients there, but he has no right to prescribe for them, for he is supposed to have forgotten all crossing the Hudson.

2. A physician having complied with all the requirements of the law in New York, and unable to make a living there (as it is often the case), having spent all the money he had, has no right to go to Jersey or any other State unless he passes an examination and pays a fee. Is that justice? What is the remedy?

I suggest that the medical press, societies, and individual members should agitate the question of a Secretary of Public Health, and so do away with the red tape of the different States. One law for all physicians of the United States. The standard of medical practice should be high, but once the examination is passed the candidate should be allowed to follow his profession in any of the States. Of course there will still be the necessity of registration, but the permission to register will not rest within the discretion of any State Examining Board. Respectfully,

L. W. Zwisohn, M.D.

New York, August 3, 1895.

Suicide is not common in Russia, the rate being 30 to 1,000,000 inhabitants, while in Saxony it is 311, in France 210, in Prussia 133, in Austria 130, in Bavaria 90, in England 66; and while the rate has increased by thirty or forty per cent. in other European countries during the last thirty years, in Russia it has remained stationary. Professor Sikorski, of the University of Kiew, thinks the low rate is due, in part, to the patience and long-suffering of the Russian under even the worst treatment, but also to an indecision of character which fears to do anything from which it cannot retreat.

It should be mentioned, in the interests of antiseptic purity and suffering humanity, that a good stout toothbrush, plenty of water, and some antiseptic dentifrice, applied morning and night, afford a greater safeguard against many diseases than many people are aware.—Sims Woodhead.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending August 10, 1895.

	Cases.	Deaths.
Tuberculosis	53	110
Typhoid fever	29	5
Scarlet fever	24	3
Cerebro-spinal meningitis	0	3
Measles	135	15
Diphtheria	188	28

Sewage Organisms and Disease.—In his reports presented to the London County Council Mr. J. Parry Laws, F.I.C., made the important observation that the micro-organisms contained in sewer air were not only less in number than the micro-organisms in fresh air in the vicinity at the same time, but that they were also apparently related to and derived from those of fresh air rather than sewage, while there was no evidence forthcoming that sewage was able to give off micro-organisms to the air in contact with it. Acting on the instructions of the Main Drainage Committee of the Council this investigation has since been extended by Mr. Laws, with the assistance of Dr. Andrewes, to a study of the organisms existent in sewage. From a copy of the valuable report which has recently been issued, and which contains a careful series of well-chosen and laborious experiments, *The Lancet* gathers the following: The most striking difference in the bacteriology of sewage and sewer air appears to be the absence of moulds from the latter, while in the former moulds were found to be a predominant feature. The bacillus coli communis was found, with one exception, in each sample of sewage examined, but neither it nor its allies were ever found in sewer air. The bacteria of sewage rapidly liquefy nutrient gelatine, while organisms possessing this property were practically absent in sewer air. This evidence would seem to be conclusive that there is no relationship between the organisms of sewer air and sewage, and the writers are thereby led to think that some of the ill-effects which have been erroneously (?) ascribed to sewer air may be due to subsoil air derived from soil polluted by constant infiltration of excremental matter, but suggest that it is not until the outer margin of the permeated soil has become dry that the air is infected with organisms. In a search for the typhoid bacillus in sewers, where it might be expected to be present in large proportion, such as in the drains of the Eastern Hospital at Homerton, they were successful in demonstrating the actual presence of the bacillus typhosus; but in a sample taken about a quarter of a mile away no single colony developing on culture could be referred to the bacillus of typhoid fever. In the light of this and other results it is concluded that sewage, even in the absence of the normal micro-organisms which it contains, is clearly an unfavorable medium for the growth of the typhoid germ, whereas the colon bacillus can grow and multiply freely in it. It might be anticipated, it is pointed out, that in competition with other organisms, able to grow well in sewage, the typhoid bacillus would die out even more speedily. These experiments are only preliminary and are necessarily incomplete, but they give a distinct indication of the probable fate of typhoid bacilli which gain access in a living condition to sewage, while it seems "clear that sewage does not form a medium in which much, if any, growth is possible for them under natural conditions, and their death is probably only a matter of a few days, or at most one or two weeks." Obviously, this resistance to growth may be overcome by attenuation, as when sewage has access to the drinking supply or to milk.

It would appear, then, that so far as bacteriological analysis goes there is no ground for believing that sewer air plays any part in the conveyance of typhoid fever; but are the conditions under which the bacteriological examinations of sewage and of sewer air are made such as to give us absolute assurance on these and other points? In spite of its apparent bacteriological innocuousness no one entertains the least doubt that sewer air is a constant source of disease, and if this is not to be referred to micro-organisms to what may it be ascribed? There is undoubtedly a poisonous agency at work when sewer air is inhaled, which, though it may not directly act, yet so prepares the soil that the system is unable to resist the invading organism when it comes. In some well-known experiments it was shown that when rats, among other animals, were inoculated with a weak growth of typhoid culture, after previously being exposed to sewer emanations, they nearly all succumbed. On the other hand, rats treated to the same dose of typhoid culture, but exposed to fresh air after inoculation, showed little sign of illness and eventually recovered. What, then, is this poisonous constituent of sewer air which leaves the system defenceless against the attacks of the microbes which it may encounter? An investigation on this point would form, we suggest, an excellent and fitting sequel to the above valuable contribution.

NEW BOOKS RECEIVED.

While the MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

LEPROSY: In its Clinical and Pathological Aspects. By Dr. G. Armauer Hansen and Dr. Carl Looft. 8vo, 163 pages. Illustrated. Price 10s. 6d. Published by John Wright & Co., Bristol, England.

SYSTEM OF SURGERY. By Frederic S. Dennis, M.D., assisted by John S. Billings, M.D. Octavo, 926 pages. Illustrated. Vol. II. Published by Lea Brothers & Co., Philadelphia, Pa.

TRANSACTIONS OF THE NEW YORK STATE MEDICAL ASSOCIATION FOR THE YEAR 1894. Vol. XI. Edited by E. D. Ferguson, M.D. 8vo, 751 pages. Illustrated. Published by the Association, New York City.

SKIASCOPY, AND ITS PRACTICAL APPLICATION TO THE STUDY OF REFRACTION. By Edward Jackson, M.D. 8vo, 109 pages. Illustrated. Published by The Edwards & Docker Co., Philadelphia, Pa.

THE CELL OUTLINES OF GENERAL ANATOMY AND PHYSIOLOGY. By Dr. Oscar Hertwig. 8vo, 368 pages. Illustrated. Price, $3.00. New York publishers, Macmillan & Co., New York City.

TWENTIETH CENTURY PRACTICE. An International Encyclopedia of Modern Medical Science Edited by Thomas L. Stedman, M.D., New York City. Vol. III., 8vo. Published by William Wood & Company, New York City.

THE AMERICAN ACADEMY OF RAILWAY SURGEONS. Edited by R. Harvey Reed, Columbus, O. 8vo., 140 pages. (Vol. I). Published by the American Medical Press, 1895.

BRAITHWAITE'S RETROSPECT OF MEDICINE. Vol. CLI., January to June, 1895. Edited by James Braithwaite, M.D., London. 8vo., 412 pages. Published by Simpkin, Marshall, Hamilton, Kent & Co., Ltd., Edinburgh, Scotland.

A MANUAL OF ELECTRO-THERAPEUTICS FOR STUDENTS AND GENERAL PRACTITIONERS. By C. T. Hood, M.D. 8vo., 181 pages. Price, $2. Published by Gross & Delbridge Company, Chicago, Ill.

ŒUVRES DE LEON LE FORT. Publiées par le Dr. Felix Lejars. Tome i. 8vo., 931 pages. Published by Felix Alcan, Paris, France.

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Original Articles.

CEREBRAL TUBERCULOSIS IN ADULTS.

BY JOHN C. KING, M.D.,

BANNING, CAL.

IN the February number of the *Southern California Practitioner* appeared a useful article by Professor Brainerd, in which he detailed four cases of cerebral tuberculosis. In each case the diagnosis was verified post mortem. Dr. Brainerd expressed the opinion that all such cases are fatal. He referred to the recovery of Dr. Solly's reported case, but doubted the diagnosis. I desire, at the risk of having my diagnostic ability questioned, to report one case—Case IV. of this series—of absolute recovery from cerebral tuberculosis in an adult; also several cases in which recovery from cerebral conditions occurred, followed, however, by death, after some months, from the ravages of the disease in other parts of the body. I am of opinion that tubercular deposits in or upon the brain are of more frequent occurrence than is generally supposed. Perusal of systematic works on practice would lead us to consider nervous tissue slightly, if at all, obnoxious to tubercle. This statement excepts, of course, the ordinary tubercular meningitis of childhood. During the past ten years I have observed more than a dozen cases of cerebral tuberculosis in adults, about two per cent. of all cases of tuberculosis under my care during that time. Of these I have preserved notes of eight cases, one doubtful, which I will present in this paper. For twelve years preceding the past ten, I was engaged in general practice—four years in dispensary service—yet during that time never recognized a single case. The symptoms of cerebral involvement are so prominent that "he who runs may read;" yet, judging the first twelve by the past ten years, I must have overlooked many cases. Possibly others fail to realize the import of these symptoms. Dr. Brainerd quoted some interesting statistics of the disease in children, and referred to Osler, Whittaker, Gowers, Dana, and others who have noticed it in adults. However, the paucity of the information to be obtained upon this subject from textbooks is very marked. I may be permitted to refer to the statements of a few authorities: Flint, in "Practice," 1868, declares that "meningitis occurs as a rare concomitant in the adult," and that it "accounts for the development of delirium and coma in certain cases." Ruehle, in Ziemssen, 1875, writes, "Whenever phthisical patients present decided symptoms of cerebral disturbance, it is safe to infer an extension of the tuberculous process to the brain. The occurrence, therefore, of a fixed headache, sudden delirium, or maniacal excitement, may be regarded as very ominous symptoms." J. Hughes Bennett, in "Reynolds's System," 1880, refers incidentally to the fact that, in the young, tubercle complications in the brain and its membranes may sometimes occur. Bartholow, in "Practice," 1882, does not refer to cerebral tuberculosis as a complication of the pulmonary form. Ingals, in "Diseases of the Chest," etc., 1892, states that "in the later stages of the disease, cerebral anæmia, or possibly tubercular change in the brain itself, or the sympathetic effects of imperfect digestion, affect the mental condition, causing irritability, fretfulness, cerebral fatigue upon mental exertion, and finally, in some cases, hallucinations or fixed delirium." Osler, in "Practice," 1892, refers to various forms of cerebral tuberculosis apart from tubercular meningitis. He instances hemorrhagic pachymeningitis caused by tubercle, aphasia produced by solitary tubercle of the fissure of Sylvius. He writes of aphasia and hemiplegia of many months' duration existing as tubercular complications of consumption. Loomis, in "Practical Medicine," 1892, states that "cerebral symptoms are rarely pronounced in any stage of phthisis." Later, discussing tubercular tumor of the brain, he writes that children are chiefly affected.

The following cases were not examined post mortem, but, except Case I., the symptoms of each were evidently the result of tubercular deposit in or upon the brain:

CASE I.—G. B——, aged twenty-seven, male, of Milwaukee, brewer, under my observation during a large part of the year 1885. Had pulmonary tuberculosis, but was doing exceedingly well, so that I could offer him much encouragement. His domestic and financial affairs were in excellent shape. The day previous to his death the young man came to my office complaining of headache; otherwise seeming quite well. He was cheerful, but his conversation was somewhat erratic. Early next morning I was called by a workman, who stated he had looked into Mr. B——'s window after having knocked at the door, and believed him dead. I took witnesses, went to the house, burst open the door, and found him dead. There was a bullet wound in his temple, the revolver lay upon the floor beside the body. Evidently suicide, and so determined by the coroner's jury. A note was found addressed to his brother and dated the night of the tragedy. This note was written in German, and the contents were incoherent. The man's life had been insured, with the proviso that death from suicide, except as a result of mental disease, would invalidate the policy. I swore the patient was irresponsible, basing my opinion upon a diagnosis of acute cerebral tuberculosis. The insurance company paid the claim.

The history I have presented is very meagre. I think, however, perusal of the following cases will, by analogy, justify the diagnosis:

CASE II.—Charles P. D——, aged twenty-five, of Black River, N. Y. First examined in the latter part of 1885. Died May 3, 1886. Diagnosis: Pulmonary tuberculosis. During the last week of his life Dr. Johnson, of San Diego, was in consultation. The patient was surrounded by all the comfort and care that friends and money could procure. Mr. D—— had a very fair family history. He had been a successful manufacturer, had created and managed a large and profitable business, far in excess of his physical ability. He gradually undermined his health and remained in control of his affairs long after symptoms of pronounced pulmonary disease became manifest. Finally he came to Southern California. Having been referred to me, he applied for examination. I informed him that nothing could be done for him, beyond the relief of certain distressing symptoms. This young man possessed a very serene, well-balanced, highly cultivated mind. He governed his thoughts and actions in accordance with most exemplary principles. His case

progressed without notable failure or improvement for some months. Indeed, he gained a little strength, ate pretty well, and spent his time quite comfortably in the open air. He lived in an elegantly appointed country hotel, half a dozen miles from my office. I visited the house every two or three days, but never detected any intimation of impending involvement of my young friend's brain. About the middle of April I was sent for to visit D——. When I arrived the landlady called me aside and stated that—she was distressed to say it—Mr. D—— had been intoxicated for twenty-four hours or more. She wished me "to straighten him up." I found him sitting upon the veranda, as I approached he failed to recognize me. I spoke and extended my hand. He arose, held out his hand, mumbled something and at once staggered back into his chair. He presented every appearance of acute alcoholism: face congested, half-silly, half-stupid expression, eyes bright and a trifle watery, muscles relaxed so that he half-reclined in his chair. To all my questions he replied "Yes," with a silly sort of laugh. He would respond to suggestions, would sit, stand, swallow, etc., as requested. At times he would even reply, for a moment, to some question, with apparent correctness, and then, perhaps before his answer was complete, would relapse into the semi-conscious state. At no time would he acknowledge pain, nor did he, at any time, complain of headache. He endeavored to walk and to undress himself, but his muscles seemed too limp. He seemed to lack both co-ordinating and muscular power. The good landlady attended him the more devotedly because she had misjudged his condition. For several days he remained in about the same state. The excretory functions were performed when he was so requested. Food and medicine were also taken when suggested. Finally his condition became worse; semi-coma and coma successively developed. Catheterization became necessary. There was no fever; heart and kidneys normal; respiration became slower and deeper than before; pupils normal; face became paler. There was no action of the voluntary muscles for some days, yet no tendency toward bed-sores. This condition persisted for five or six days, when improvement began. In twenty-four hours the patient was, apparently, as well as before the attack, except for profound prostration. During my absence from the house, Mr. D—— gave explicit directions regarding his business affairs and the disposal of his effects. Some hours after, he quietly died. He remained conscious to almost the end.

Case III.—Charles M——, aged twenty-eight, of Lamar, Mo. Mother, two brothers, sister, and aunts had consumption. Martin developed the well-known symptoms of the disease, and was advised to remove to Southern California. After arriving here his history was uneventful; the disease pursued its ordinary course, although its progress was slow. The patient was a laborer, had wife and children to support, consequently could not care for himself as he ought to have done. After watching his case for some two years, I was called to his bedside on September 8, 1888. I found him wildly delirious. The combined efforts of several men were required to restrain him. My first thought was "a drunk," notwithstanding I knew him to be a total abstainer. Investigation soon convinced me that his system contained no alcohol. His wife stated that except a severe headache, he seemed in his usual health until he began to "act crazy," when she sent for me. The patient exhibited the wildest mania. He struggled, fought, bit, raved, cursed violently and obscenely. He had been a consistent Christian. No other symptoms could be elicited. The terror and distress with which he inspired his family and friends allowed no time for examination. To prevent injury to himself and others I had him strapped to a comfortable cot, then administered hypodermics of morphia sulph.; two quarter-grain doses were required. Three or four hours sleep followed. When he awoke he was calmer but still delirious, and at intervals required restraint. During the ensuing twenty-four hours the mania very gradually disappeared and semi-stupor supervened. The patient would swallow nourishment placed between his lips; would attempt to answer questions, but his replies were absolutely incoherent. At the first observation his temperature was 104½° F., but within forty-eight hours became almost normal without the administration of antipyretics. Bowels and bladder were incontinent for two days. No involuntary motor symptoms were apparent. The stupid stage gradually disappeared after five or six days. As he regained consciousness the only symptom complained of was headache, which he could not localize and which gradually ceased as he grew more rational. No memory of his condition remained. The case was void of further symptoms; recovery was rapid. The lung trouble was in abeyance for a few weeks. M—— returned to work and for two months was able to earn full wages. In December he died from phthisis pulmonalis, without return of cerebral symptoms.

Case IV.—First examined July 16, 1889. Referred to me by Professor Ingals. Mrs. W——, of Chicago, aged twenty-seven, married four and one-half years; miscarriage two years ago at three months. Now has a baby three months old. Always delicate but never really sick until two years ago. When about eleven years old underwent a surgical operation upon her foot, for what was termed tuberculosis of one of the bones. No tubercular taint in her family. Husband healthy. Had, at one time, some slight uterine trouble—readily cured by local treatment. Following miscarriage had cough and diarrhœa. Tubercle bacilli demonstrated in sputa and stools. Emaciation began at about the eighth month of last pregnancy. Slight hæmoptysis during labor, in which she was attended by Professor Jaggard, who performed episiotomy and a primary operation for laceration. Has never recovered strength since birth of child. Menses recurred about six weeks ago; at present quite weak. Post-nasal catarrh. Throat dry, and at times painful; hoarseness; vocal cords relaxed. Slight arytenoidal swelling. Pretty constant, loose, painless cough; at times becoming paroxysmal and accompanied by vomiting. Expectoration profuse, thick, greenish yellow. Pulse, 120; temperature, 102½° F.; respiration, 19; expansion, 26 to 28. Cavity in the left apex. Subcrepitant râles pretty much all over remaining part of left lung. On right side dulness around and below nipple, with loud, moist râles all over front and back. Appetite fairly good. No gastric pain. Tongue clean. Diarrhœa. Stools changeable, profuse, mushy. Four to twenty per day. Normal weight 124 pounds; at present 97. Profuse night-sweats from time to time.

To transcribe my notes of this case would be tedious, as the patient remained under my constant treatment for two years. I will at once detail (and that rapidly) the cerebral symptoms that ensued after some months. The first point noticed was headache. The whole head was involved, but the severest pain was occipital, extending forward toward the eyes. This pain became exceedingly intense. The lady was very courageous, but was many times forced to cry and scream on account of the violence of the pain. It resembled the pain accompanying tumor of the brain. Owing to this pain Mrs. W—— was obliged to take to her bed, thus avoiding light, noise, and motion. Finally mental symptoms began to develop. A little flightiness became noticeable. Hallucinations developed, such as visions of rats, bugs, etc., on the wall and bed. Gradually torpor of mind became apparent, marked by slow and stupid replies to questions. Twitching of muscles appeared, followed after a few days by violent convulsions. No paralytic symptoms at any time. As the motor disturbance subsided the patient became calmer, evidently had less headache, but failed to recognize husband, sister, or nurse. She

imagined herself in another city, in short, exhibited the classical symptoms of an attack of insanity. This latter condition, after continuing some two weeks longer, finally wore away, leaving the patient apparently none the worse for her experience, beyond the natural prostration. The pulmonary and intestinal symptoms had already improved to a marked degree prior to the appearance of the headache. During the attack just detailed this improvement steadily continued and no relapse followed. At no time during the attack was fever manifest. Incontinence of urine and fæces occurred a few times. Liquid food was administered daily. Respiration was slow and regular.

When Mrs. W—— left Banning, some eighteen months subsequently, she was in excellent condition. No diarrhœa; weight, 120 pounds; very little cough; scarcely any expectoration; plenty of strength. To all appearance a strong, hearty woman. The cavity had contracted; except for a few râles the physical signs had disappeared. A letter from her husband, a few months ago, assured me that her improvement had continued, and that she was enjoying excellent health. I consider this case remarkable. I have had other patients who suffered from combined pulmonary, with cavities, and intestinal tuberculosis make good recoveries. No other one, however, in which these conditions existed, plus cerebral tuberculosis, has made such marked improvement. The five or six years of continued good health indicate the possibility of a final cure. This patient had all the advantages that love, wealth, and intelligence could bring to bear upon her case.

Case V.—One evening about 10 P.M. the proprietor of the Bryant House called me to examine a stranger. The patient, a man about forty years of age, came to the hotel, having arrived on the west-bound overland train. The man sat on a chair in the office until supper-time, about four hours. As he paid no attention to the announcement of the meal, Mr. W—— asked if he wished supper, the man looked at him but made no reply. Mr. W—— then touched him on the shoulder and invited him to the supper-room, the man arose without speaking and followed. Mr. W—— placed him at the table and was obliged to attend to other business. The waitress could not induce him to give an order. She supposed him intoxicated and brought him a meal of her own selection. The man ate, then remained in his chair until the waitress requested him to leave, at the same time taking hold of his chair. He arose and left the room without speaking. He returned to the office and took a chair. Later, Mr. W—— asked him if he desired a room—no answer. Realizing that something was wrong Mr. W—— sent for me. An examination made it evident the patient was suffering from pulmonary phthisis. I could not induce him to speak, or to reply by a sign. He had a stupid, half-dazed, half-inquiring expression; was free from fever; contracted his brows as if his head pained; presented no motor symptoms. The man had arrived without baggage; had probably left it on the train. The hotel register and a pen were offered him. He took the pen and wrote. The result was an unintelligible scrawl. There was nothing on his person that offered a clew to his name or residence. Mr. W——, the landlord, kindly cared for the patient that night and took him next morning to the county hospital at San Bernardino. Some months after I endeavored to trace the case. Meanwhile politics had reorganized the hospital staff and my inquiries were fruitless. Beyond question this case was one of cerebral tuberculosis.

Case VI.—First examined December 10, 1890. Referred to me by Dr. Arndt, of San Diego. William H. B——, of Ypsilanti, Mich. Tall, spare, blonde, aged thirty-three; teacher. Father, aged fifty-three; and mother, aged forty-three, died of phthisis. Health always excellent until the summer of 1889, when he took no vacation, worked at the Agricultural College all summer and entered upon his fall work worn out. In October he took cold, coughed, fainted in class-room; had some throat trouble; spat blood occasionally. In July, 1890, came to Southern California. First went to a small place in the mountains where he improved; but, wishing more contact with civilization, went to the coast, where he soon began to fail. Passing over the record of symptoms, which was but ordinary, I copy from my book the following data: Weight reduced from 163 to 136½ pounds. Pulse, 120; temperature, 102° F.; respiration, 24; expansion, 31 to 33½ inches. Larynx much congested; both arytenoids swollen and infiltrated, almost obliterating the space between. The patient complained much of laryngeal pain, but there was no ulceration. Right side of chest much flattened. Extensive cavity in right lung. The posterior portion of this lung was utilized for respiratory purposes, while the lateral portions were infiltrated. On the left side existed marked dulness at apex, and persistent moist râles audible all over front and back. Under proper care this patient gained perceptibly during the ensuing three months. Appetite and weight increased, cough and expectoration diminished, fever subsided, strength improved, physical signs were modified. However, about midnight of March 21st, I was called to his room; the noise he had made having awakened a neighbor. I found him in a peculiar dazed condition, sitting half clad upon the bed. The heart was beating 140 times per minute; temperature, normal; respiration, 14. His replies to questions were very slow, one or two minutes intervening between question and reply. Some of his answers were *à propos* and apparently rational, others bore no relation to the question. He would laugh in a silly manner and say he did not know what ailed him. Pain in the head, which he could not locate, seemed a prominent symptom. He seemed conscious of his surroundings and of his condition, but his remarks were erratic and disconnected. Next morning he came to my office in his usual condition. He wished to know what ailed him the preceding night, his memory of the events being clouded. The only symptom remaining was a dull, diffused headache. During the following month the patient was very despondent—contrary to his habit—and gradually lost bodily vigor. Yet the pulmonary symptoms improved. About 2 A.M. on April 18th, I was again called, to find him in a condition precisely similar to that of March 21st, except that he had fever, temperature 103½° F., and his mental hebetude was more profound. He would answer questions if urged, but his replies were *mal à propos*. The silly laugh, the vacant stare, the stupidity were peculiar. He had entire control over his voluntary muscles. There was no muscular twitching, but, at times, considerable restlessness. He would eat, if requested, or evacuate bowels and bladder; but did not seem to think of such things unless suggested to him. The fever subsided in a day or two, but the mental state remained. He looked like one in a dream, yet conscious when spoken to, or like a somnambulist. These symptoms continued, with gradually decreasing intensity, for two weeks. His mind became entirely clear and no trace of cerebral disease remained after three or four weeks. Mr. B—— returned to Michigan, where he consulted Professor Shurly, to whom I had referred him. I am ignorant of his further history until his death, late in the summer of 1892. I think he remained under the care of his brother, a prominent Michigan physician.

Case VII.—First examined January 28, 1893. Charles W. G.——, of Tacoma, student, aged twenty-two. Family history free from tuberculosis. Good health until February 1892, when he had la grippe. Was ordered to Southern California and sent to me. Present symptoms: Pain in larynx after talking. Cough, worse in morning and after exercise, but little at night, dry or loose, painful to throat. Expectoration scanty, freest in the morning, white, frothy, or yel-

low, at present bloody. Has had several hemorrhages during past fortnight. Some chest pain at bases of lungs, occasionally higher on left side. Sleeps on back or right side. Appetite good, but cannot use milk or fats. No flatulence, no abdominal pain. Gastric condition good just now, although he reports history of irritable stomach ever since illness began. Bowels regular until he commenced taking tannic and gallic acids to relieve hæmoptysis. Kidneys normal, no venereal; night-sweats have disappeared. Strength very limited. Normal weight, 135 pounds; present weight, 119. Extremities cold. Very nervous. Respiration, 36; pulse, 112, and weak; temperature, 100½° F. Hyperæmia of nasal mucosa, deviation of septum, hypertrophy of middle turbinated. Pharynx congested; follicular disease of posterior wall. Laryngeal mucosa red and swollen, presenting sodden appearance. Vocal bands approximate and are pearly. Arytenoids infiltrated, pyramidal. Right lung normal except slight retraction of apex. Left lung hepatized, some little air entering the infra-axillary, supra-scapular, and infra-clavicular regions. No cavities, but evidences of beginning softening. The pulmonary condition was probably the result of an unresolved pneumonia—tubercular infection having taken place later.

From the date of my examination the patient continued to improve until February 21st. On the 22d Mr. G.—— sent for me. He complained of nausea, pain in epigastrium, and headache. February 23d, patient reported a sleepless night, very severe frontal headache, inability to retain food, heavily coated tongue. Absence of abdominal tenderness, fever, etc., excluded gastritis. Indigestion of nervous origin seemed to explain the symptoms. The patient's mind was sluggish, his answers slow and hesitating—a condition I attributed to pain, loss of sleep, and lack of food. On February 24th the temperature was normal; pulse, 60, full and strong; abdominal pain moderate; no food retained; constipated stool; headache more general and severe; pupils dilated; mental state unchanged; very restless; complained of transitory numbness of left side. The possibility of tubercular deposit in the brain began to be considered. To reproduce the daily record would be tedious. From this time forward the manifestations of cerebral disease became more marked. The pulse continued slow—54 to 68—full and strong, until a few hours before death, when it became rapid and weak. Abdominal pain and nausea gradually subsided, so that, in a few days patient could take any easily digested food. Bowels remained constipated. Headache continued constant, always more severe in frontal region. Mental symptoms became more prominent by almost imperceptible degrees. At first merely slowness of cerebration, then confusion of ideas and statements, finally a dull, stupid state, gradually increasing into coma. The numbness was referred to one, then the other, and finally both sides—always transitory. Toward the end pupils became contracted. The restlessness developed into twitching of muscles, more marked on the left side. At times he was a trifle difficult to control. There was retention of urine for a few days, necessitating use of catheter. From the first the respiration was affected, the rate having fallen from over 30 to 16 or 18. The immediate cause of death seemed to have been inhibition of the respiratory functions. Death occurred March 5th, the thirteenth day.

Case VIII.—March 16, 1895. In response to a telegram I arrived at Indio at 2 A.M., and found my patient unconscious. The gentleman's sister stated that Mr. John A. D——, of San Francisco, aged twenty-seven, had suffered more or less for three years from some lung affection. That a few months before he had experienced an acute attack which confined him to bed for many days. Subsequently his physician had ordered him to Indio, where he arrived two weeks prior to my visit. Mr. D—— had apparently improved, and on March 15th was unusually bright and cheerful. He ate a hearty dinner, but in a couple of hours felt some nausea, soon followed by vomiting. During the afternoon he complained of headache. After taking some light refreshment he retired to bed about 6 P.M., still complaining of headache and languor. About 9 P.M. the sister, who occupied an adjoining room, heard moans, and upon running to her brother's bed found him unconscious. Miss D—— spoke of his cough, expectoration, loss of weight, fever, occasional night-sweats, etc., but could not give exact information regarding any of his symptoms. Evidently it was a case of tuberculosis. I found him lying on the right side, the right arm and hand were cold, perhaps from interference with the circulation. He would lie quietly, as if asleep, for about an hour, or until disturbed. Then for some twenty minutes became restless, tossing his left arm, flexing and extending the lower extremities, moaning, etc. He could swallow liquid placed on his tongue. The pupils were widely dilated. Respiration, 48. Pulse ranged from 80, at 2 A.M., to 140 just before death about 7 A.M. Temperature slightly above normal. The symptoms of this case are necessarily meagre, as Mr. D—— never regained consciousness; but they are sufficient to determine the diagnosis.

I have no doubt that many slight degrees of tubercular deposit in the brain remain latent—so far as symptoms are concerned—and that many other cases exhibit so few indications that we overlook their existence. Perhaps the diagnosis is unimportant—so little can be done for relief. Nevertheless, it is interesting to reflect upon the ubiquity of tubercle.

HYSTERICAL AMBLYOPIA AND AMAUROSIS. REPORT OF FIVE CASES TREATED BY HYPNOTISM.[1]

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We may define hysteria to consist of such a condition of the general nervous system, original or acquired, as renders it capable of simulating most local diseases; of complicating them in their progress, and modifying them in their usual phenomena. The number of derangements and diseases which hysteria is capable of simulating is well known; but defective vision is one of the less familiar forms, and so I take the opportunity to direct your attention to this subject; at the same time reporting a few cases, which may prove of some interest.

This special form of functional trouble, not due to alcohol or tobacco, is, by no means, a common one; this is especially true in regard to the cases of amaurosis; those of amblyopia and narrowing of the fields of vision being more frequently met with.

The onset of the disturbance is usually sudden, and generally follows some shock, either mental or physical. In attempting to examine the eye there is a spasmodic contraction of the orbicularis muscle which is increased on exposure to a bright light, at the same time causing a sense of anxiety, profuse lachrymation, and a spasmodic closure of the lid of the eye. The globe itself does not present anything abnormal, except that in a certain number of cases one may find some anæsthesia of the cornea. (This was a marked symptom in one of my cases, Case IV.) The pupils are equal and react readily and normally. The media, lens, vessels, and fundus are normal, so that the local examination does not lead to any knowledge of the pathological nature of the other symptoms which one learns from the patient. Question the patient, and she complains of defective vision, pain either ocular or supra-orbital, and great sensibility to light. There may be absolute loss

[1] Read before the American Neurological Association, Boston, June 5, 1895.

of sight, generally in one eye, or only amblyopia and a reduction of the field of vision to a small area around the fixation point. Besides the above we find the local and general symptoms of hysteria, viz.: a circumscribed pain over the brow, a globular sensation in the throat, excitability and irritability of the nervous system, palpitation of the heart, a tendency to laugh and cry without cause, irregular, painful, or absent menstruation.

The following cases were referred to me by Dr. David Webster, and well illustrate the above objective and subjective symptoms.

Case I. *Amblyopia and Contraction of the Fields of Vision. Vision Restored in Twelve Séances.*—Kate T——, eighteen years of age, was seen for the first time on June 12, 1894, when the following history was obtained: She had always been nervous, but otherwise had had no trouble until the appearance of menstruation, two years ago; then, during the first year she suffered much pain each month. For the past year menstruation has come on at irregular intervals, and has now been absent for two months. Within the last six months the patient has become very depressed and emotional, and she has also had two convulsive seizures of a hysterical nature. One month ago a brother committed suicide, and it was shortly after this that she first noticed failure of vision; at times becoming entirely blind; this latter condition only lasting a few seconds. Examination does not reveal any organic lesion of the nervous system. Any attempt to examine the eyes causes a spasmodic closure of the lids. Both pupils are moderately dilated and react normally. The vision of the right eye is $\frac{20}{15}$, and of the left eye $\frac{20}{20}$. Both fields of vision are very much contracted, as is shown in Fig. 1.

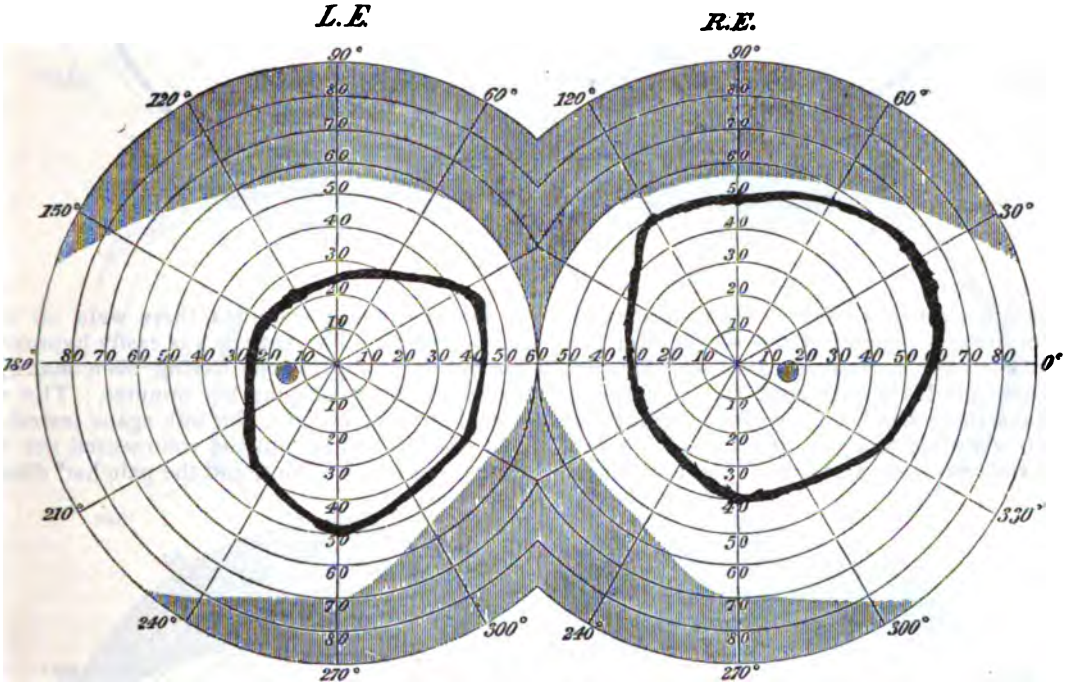


Fig. 1.

The fundus, media, and vessels are normal, nothing being found to account for the condition present. Two attempts to hypnotize the patient failed, but on the third trial she passed into a deep sleep, and suggestions referable to the conditions present were made. After seven séances, the fields were again measured and a marked improvement was found, the degree being shown in Fig. 2.

The treatment by suggestion was continued until August 15th, when the patient was discharged with perfectly normal fields and vision fully restored.

Case II. *Amblyopia. Contraction of the Visual Fields. Improvement after Six Séances.* — March 29, 1895. Charles T——, aged twenty-eight, single; clerk. General health good up to eighteen months ago; then after some business troubles and excesses, he became depressed, nervous, and could not sleep. Six months ago he noticed that he was having periods of temporary blindness, these only lasting for a second or two. Three months later his vision became blurred, and this condition has remained up to the present time. He has never had any diplopia. Within the last month there has been more or less frontal and occipital headache, and lately he has become very emotional. Sometimes he gets confused and cannot remember dates, otherwise his memory is good. The urine has been examined several times and always found to be normal. At one time he had herpes preputialis, and being told that it was due to a syphilitic infection, thought all his symptoms were caused by this disease.

Examination.—Stands well with eyes closed. Knee-jerks high but equal. Grasp of hands as shown by the dynamometer: R. 44–40; L. 40–39. Tongue straight; speech normal. Pupils equal, of medium size, and active. The ocular muscles thoroughly tested with prisms, do not show any degree of paresis. The optic nerves and retinal vessels appear perfectly normal. Both visual fields are very much contracted. (See Fig. 3.)

There is no loss of color perception. The left side, including the cornea, is slightly anæsthetic, and he now states that he occasionally has a temporary feeling of weakness in the leg and arm of this side. Examination does not reveal the slightest loss of power: all the muscles are firm and react normally to both the faradic and galvanic currents. He was hypnotized without any difficulty, and the proper suggestions were then made. This method of treatment was continued for two weeks, resulting in a complete disappearance of many of the symptoms complained of. The visual fields were again measured, and though some improvement was shown, still there remained a certain amount of contraction. (Fig. 4.)

On April 12th he stated he had been having more or less pain in his abdomen for several days, and that this morning he had passed some white objects at stool. Upon examining these, they were found to be a number of the links of tænia solium. A mixture of castor-oil and felix mas was ordered, with directions as to diet, etc.; which resulted in the passing of two worms, many yards in length, including the heads. Three days later his eye symptoms had all disappeared, the visual fields

were entirely normal, and have remained so up to the present time.

CASE III. *Monocular Blindness. Cure in Five Séances.*—Fannie T——, aged thirty-eight, married. Seen November 23, 1892. She was perfectly well until one month ago, about which time she became depressed; could not attend to her household duties and had a number of crying spells. Three weeks later pain appeared in the left eye, accompanied by some blurring of vision, which gradually increased, and now for the past three days there has been complete blindness in this eye. No vomiting, diplopia, or vertigo. There is no history of rheumatism, malaria, or any serious illness, having always enjoyed good health up to the time of the present trouble. She has three healthy children and has had no miscarriages. Careful inquiry does not reveal any history of syphilitic infection. Bowels and menses are regular.

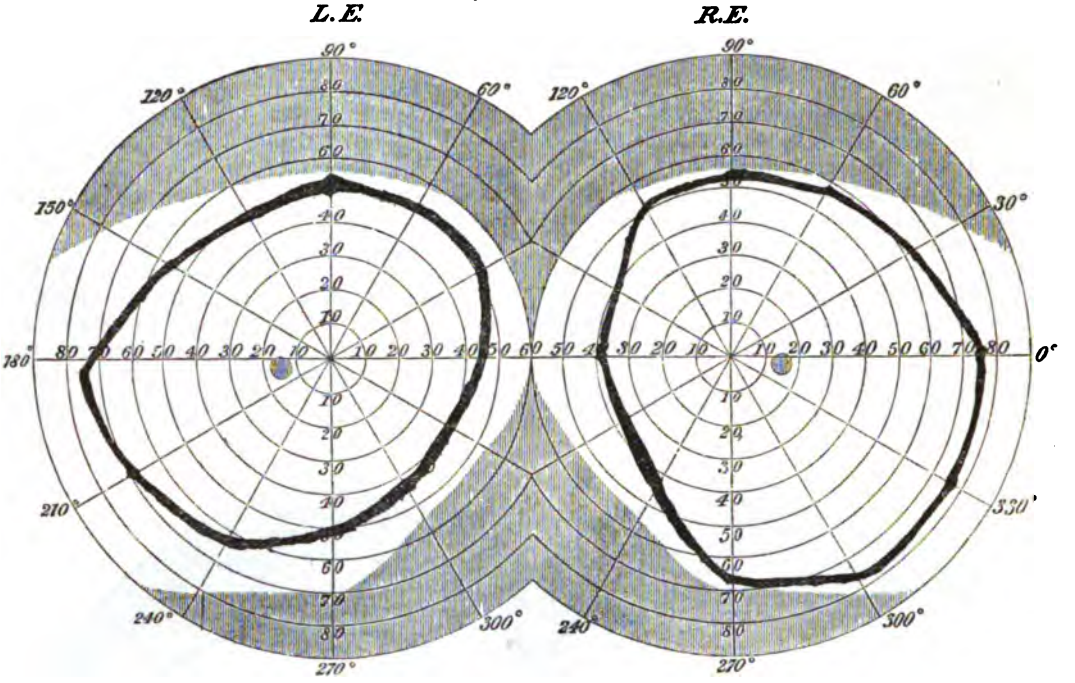


FIG. 2.

Examination.—There is a complete loss of vision in the left eye: she fails to recognize any object held before it, the right eye being covered. Vision in the right eye normal. Pupils normal in size and active: no ocular paresis. On exposing the eyes to a bright light there is a certain amount of photophobia. The ophthalmoscope shows nothing abnormal either in media, disk, or vessels. With the exception of a slight amount of anæsthesia of the cornea, there were no other sensory changes. The patient was easily hypnotized, and the necessary suggestions having been made, she was awakened after sleeping ten minutes. The right eye was then covered and the left again tested. Vision was about the same, but she volunteered the statement that there was less blur, and the pain had disappeared.

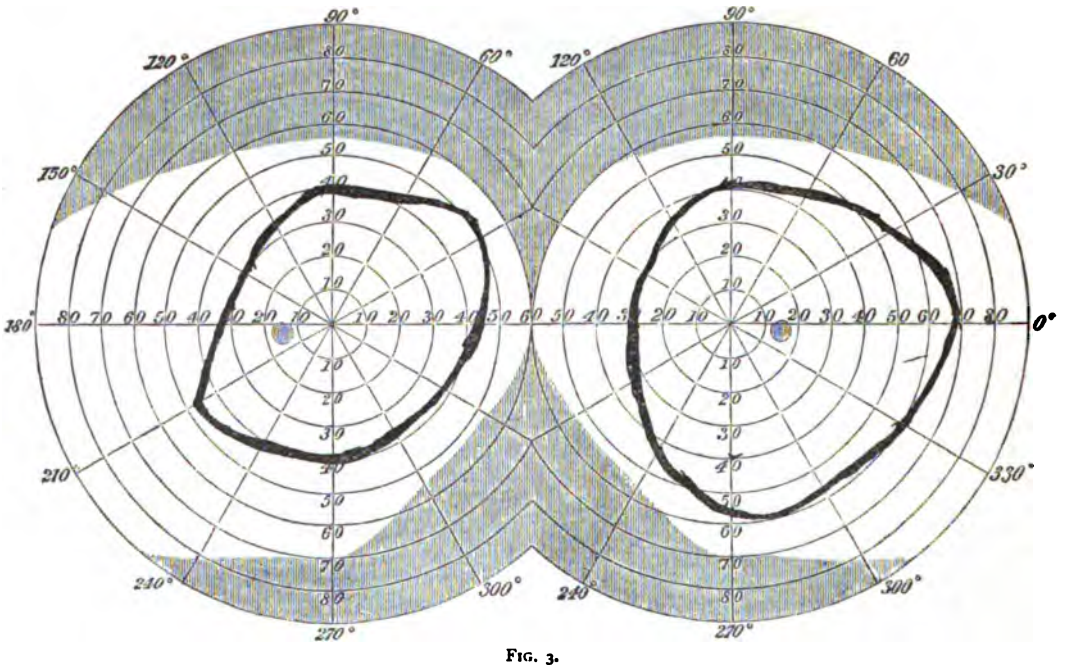


FIG. 3.

November 25th.—No change; condition the same. Vision again tested as before and with the same results. She complains of a good deal of pain in the left eye and face. I hypnotize her and suggest that she will have no more pain; that the rest will do her good and that she will now see. In fifteen minutes she sits up on the couch, and placing one hand over the right eye,

recognizes a clock on the wall twelve feet distant, although she is unable to distinguish the hands or tell the time. A bunch of keys, a knife, and a silver half-dollar are named correctly at four feet. The pain is entirely gone.

December 7th.—Patient reports that she is now able to see much better, also that the pain has been absent since the last séance. She sees well at ten feet, but beyond this everything looks blurred. Séance repeated.

December 9th.—Has been perfectly well: no pain. Vision entirely restored.

Case IV. *Monocular Blindness. Cure in Nine Séances.*—On September 12, 1894, the patient was referred to me by Dr. Webster with the following note: "I see no sufficient ophthalmoscopic reason for the loss of all but perception of light of this young woman's left eye. If you can find no lesion of the brain to cause the blindness perhaps you can restore the sight by hypnotism as you did before."

Mary C——, aged eighteen, married. The patient is an Armenian and cannot speak a word of English, but her physician is present and acting as interpreter, the following history is obtained: Has been married five years; two children and no miscarriages; is now nursing an infant eight months old. Was fairly well up to the past month; during this time she has become depressed, emotional, and has often complained of a lump rising in the throat. A few days ago she had some headpain, and with its appearance she noticed failure of vision in the left eye, and now the patient cannot distinguish any object at any distance far or near, but she can make out the difference between light and darkness. She is poorly nourished and anæmic. Mucous membrane of lips, gums, and conjunctivæ pale. Both pupils moderately dilated, the left not reacting as actively as the right. Fundus entirely normal. Failing to find any evidence of organic trouble, the diagnosis of a functional amaurosis was made and I decided to try suggestion for its relief. The patient not being able to understand English, I was not successful in the first attempt to hypnotize her; but through the aid of Dr. Aterian I learned the proper Armenian words necessary for the purpose and was successful at the third séance in obtaining a deep hypnotic sleep. Complete recovery took place in nine séances.

Case V. *Monocular Blindness. Unimproved.*—This patient had been under the care of Drs. Boynton and Palmer at the Ophthalmic Hospital, and was finally referred to Dr. Webster, through whose kindness I saw the case on February 4, 1895. Although there does not seem to be any doubt in my mind as to the trouble being a functional one, all methods of treatment have proved ineffectual. The following is the history:

Agnes L——, fourteen years of age; single. She was perfectly well up to one year and a half ago; about this time she fell on the ice, striking the back of her head. She was much frightened and jarred, but did not vomit or lose consciousness. Menses appeared for the first time shortly after this, but have never been regular, two months having now elapsed since the last period. Two months after the accident above referred to, the patient commenced to have headache, chiefly frontal, but sometimes in occiput and back of neck. On May 5, 1894, she came under the care of Dr. Boynton, at the Ophthalmic Hospital, for dimness of vision. Examination revealed almost total loss of vision in the right eye, without any change in the fundus, vessels, and disk; all being found normal. While in the hospital she had two epileptoid attacks, hysterical in character, and she also had frequent crying spells.

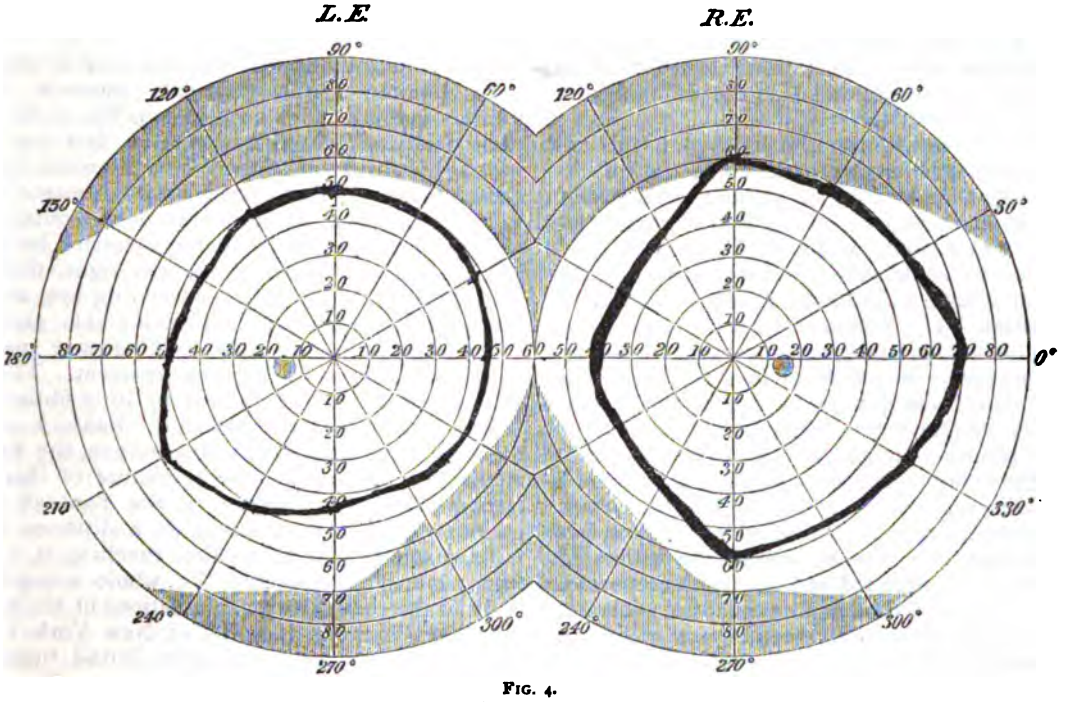


Fig. 4.

Thorough treatment with strychnia, glonoin, iron, and the valerianates caused no improvement.

Examination.—There is a complete loss of vision in the right eye. Left eye vision is $\frac{15}{100}$, brought up to normal with proper glass. Field much contracted in all directions. In a moderate light, both pupils dilated, the right being a little the larger. Reflex through the right retina not as good as through the left. When one illuminates the left retina, the right pupil does not remain contracted as long. With direct illumination the reaction is about the same. There is a marked loss of sensation of the cornea of the right eye, but no anæsthesia of face, body, or extremities. The patient recognizes colors readily. The knee-jerks are exaggerated but equal. The question of simulation was considered, but repeated tests by prisms and other means gave negative results. Treatment by means of drugs having failed to change the conditions present, hypnotism and metalo-therapy were tried, but both failed to influence the patient in any way.

Prognosis and Diagnosis.—From the facts brought out in the above histories, we see that an amblyopia, or amaurosis from hysteria, may be slight in form and transitory in duration, or very severe; sometimes tardy in its progress and prolonged in its existence. If the

condition should persist for any length of time and an alteration of nutrition or any morbid formative process be set up by the prolonged functional disturbance, then it is probable that finally the condition would change into an amaurosis from inflammation and congestion. This latter condition, I now believe, is taking place in Case V., which illustrates well this type of the disease.

The diagnosis is based on two points, viz.: the absence of any demonstrable changes in the eye, and the lack of that agreement between the individual symptoms constituting the disturbance of vision which under other circumstances they would exhibit. Persons whose visual fields are unusually contracted still move with perfect security, without stumbling, in a space which is not well known to them. The only difficulty in diagnosis exists in those cases where a line must be drawn between true simulation and a hysterical blindness, that is, one having an actual existence in the imagination. It is not that they will not, but they cannot will. The retina receives the impression, but through some fault of the higher cortical centres, perhaps by inhibition, the patient remains unconscious of it.

Treatment.—Besides the measures usually recommended in the treatment of these disorders—the internal administration of strychnia, iron, etc.—I wish to urge the trial of hypnotism, and I do not do this from any optimistic point of view.

A great many of us are prone to look upon this entire subject as either belonging to the domain of quackery, or believing that it requires some special power hesitate to take advantage of this method of treatment. The time has now passed for any such argument, and any physician who would take the trouble to study the subject would obtain satisfactory results in a certain number of cases. The manner of procedure in producing hypnosis is given in detail in current literature, so that it does not seem necessary to dwell upon this part of the subject here, except to state that the fixation method is the one generally employed.

From the results obtained in the cases just submitted, the following conclusions may be drawn, viz.: 1. We possess in suggestive therapeutics an important aid in the treatment of certain morbid conditions, but just how valuable this may be, cannot be estimated until it is more generally used and the results reported. 2. The results of this method of treatment are sufficient to stimulate the profession to further use of it. 3. Instead of waiting and trying other methods first, thus allowing the disease to exist for a certain time, I would recommend the trial by hypnotism in the first place. Two of the cases already reported had been treated by other measures for some time without success. 4. The use of hypnotism by the intelligent physician, in the cure of certain morbid conditions, does not produce any bad effects, notwithstanding reports to the contrary.

Gonorrhœa: When Cured?—A patient who has had gonorrhœa and is about to marry asks his physician whether he is completely freed from his disease and without danger of contaminating his wife. In such cases the writer instructs his patient to drink a quart and a half of beer, after which he injects into the patient's urethra a two per cent. solution of sublimate. If he is actually cured, no reaction follows; if the contrary is true, a discharge will be set up which sometimes does not appear for forty-eight hours.—Dr. KRAFT, of Utrecht.

Artificial Feeding of Infants.—I do not advise using milk diluted with plain water for young babies under four months old. The simplest and most commonly used diluent is barley-water, which is almost entirely innutritious, its action being purely mechanical in breaking up the casein.—GRIFFITH.

INTRA- OR EXTRA-PERITONEAL TREATMENT OF THE PEDICLE, OR TOTAL HYSTERECTOMY.

By MARY A. DIXON JONES, M.D.,

BROOKLYN, N. Y.

In 1886 I saw Austria's great surgeon, Billroth, treat the pedicle of a uterine myoma intra-peritoneally. More than once did Billroth, with his quick and graceful step, lead me around the wards of his hospital to see this and other patients. To me it was exceedingly interesting to see the kindly and almost childlike enthusiasm of his great mind, then in all its manly vigor. Operating, doing much of surgery, only makes the good man more loving, more kind, and more tender. The patient from whom he removed the uterine myoma and treated the pedicle intra-peritoneally did well.

In Berlin I saw Schroeder treat the pedicle of a uterine myoma intra-peritoneally. Again and again I stood in the operating-room of this excellent surgeon, and was always given by him the most eligible position. This great man also invited me to accompany him through the wards of his hospital. The pedicles of all cases of uterine myoma he treated intra-peritoneally. It seemed a beautiful procedure, except that I occasionally would like to see how the pedicle was doing.

In London I saw Granville Bantock remove a uterine myoma, and he treated the pedicle extra-peritoneally. That first day—the first operation at which I was present—there was a crowd to see the great operator. I imagined I would scarcely be able to get a glimpse. I stood far on the outside. Bantock came in his quiet, amiable manner; he looked at his instruments, saw that all was right, then with a kindly glance of his mild, penetrating eye, and almost a suppressed smile, he, with inimitable grace, said: "The shortest to the front." This gave me a place opposite and near to the first assistant. The pedicle had attached to it a number of little fibroid tumors. It was a difficult case to manage. Bantock concluded to leave some attached. Dr. Dornan, the first assistant, subsequently gave me a picture of this mass of tumors. I was privileged to see Bantock in many operations, he always stood at a distance from the table, nowhere and at no time touching it, but with a firm position he directed the whole strength of his body to the thoughtful manipulations of his hands.

In the Woman's Hospital of New York I saw Dr. Charles C. Lee remove a large fibroid tumor, extra-peritoneal treatment of the pedicle. Dr. Lee also most kindly gave me opportunities of seeing the condition of the pedicle from time to time. The patient did well. I saw Dr. Wylie remove a large fibroid tumor and treat the pedicle extra-peritoneally. The operation was beautifully performed and the patient made an excellent recovery.

On August 15, 1887, a poor colored woman came to see me at the dispensary, complaining of much pain and distress on each side of the pelvis, and in the region of the bladder and rectum. She said she had had a constant hemorrhage, varying in quantity, since the third of the preceding May. I found the uterus enlarged to the size of the seventh month by an intermural myoma, the lower part being wedged tightly down in a small contracted pelvis. Some weeks after, this woman called again at the dispensary, she was still bleeding, sometimes profusely, and was growing weaker and weaker. We feared her life might be in danger, so we admitted her into the Woman's Hospital of Brooklyn, then located at 725 Greene Avenue. She was in an extremely feeble condition, that evening having repeated chills. After a hot bath and fresh clothing she was placed in bed, with a jug of hot water to her thin, bloodless feet. Day after day she had the most careful nursing, the best nourishment, and constant medical attendance. In some respects she seemed to improve,

notwithstanding the bleeding and other serious symptoms continued. We decided to remove the tumor, which, after the usual preparations, and with the assistance of Dr. C. N. D. Jones, I did, on November 15, 1887. The omentum was generally adherent, and especially bound firmly in the region of the uterine appendages. After liberating it, and tying the broad ligaments, with one hand under the tumor, and the other with Tait's screw, the mass was lifted from the abdominal cavity. There were especially grave difficulties in securing the uterine pedicle, it was very short; many fibroids were shelled out, finally it was transfixed with pins and placed in the lower angle of the abdominal incision. The womb was dressed two or three times each day, and the patient was apparently doing well; still for weeks this woman lay on her back, as if chained by some great weight. Day after day, as I rode around to see other patients, my thoughts continually recurred to this poor colored woman in that bed in the hospital. I knew that the continued dragging of that pedicle was to her a continued shock. I knew that that pedicle was placing her in constant danger; and of what possible utility would it be; what advantage was there in retaining that dense piece of fibrous tissue, that piece of cervix which in most instances is diseased? Why not remove it? To me the clear sunlight of heaven shone into that poor woman's abdomen. I could see that useless piece of hard cervix festering and disturbing adjoining structures, and so out of place amid the soft peritoneal tissues. Continually I could see more and more the beauties of removing it. Over and over again, I mentally went over the operation of removing the cervix, saw that it was feasible and safe, and would be so much better for the operation and for the patient! Why was it ever thought necessary to retain it?

In both methods of operation, extra-peritoneal or intra-peritoneal, it is the stump that makes the difficulty; it is the source of most of the danger, and statistical history shows that the great mortality of this operation is due almost entirely to unfavorable conditions originating in, or generated around, the stump. Emmet reports a case. "The stump was almost all cut away, leaving only enough of the cervical tissues to hold the ligatures from slipping off, and it was so covered as to be placed outside of the peritoneal cavity; yet on the fourteenth day the patient died from rupture of an abscess." This distinguished operator says further: "I have removed the whole or portions of the uterus in five instances, and, notwithstanding the greatest care to insure a favorable result, all the patients died, sooner or later, from blood-poisoning generated about the stump." Shall we say it is a safe method when it is so frequently fatal in the hands of our best operators? It is not the operation, or the method of operation, but it is the danger which is inherent in the stump, or in this method of procedure.

On November 23, 1887, when I was privileged to present this tumor that I had removed on November 15th, before the New York Pathological Society, I stated that I believed a better and more natural procedure would have been, after opening the abdominal walls—being assured of the condition of affairs, and liberating any adhesions that might exist—then to have severed the vaginal connections, as in colpo-hysterectomy, and so remove the entire uterus. Or, if the body of the tumor or uterus were removed through abdominal incision, then to remove the uterine stump per vaginam, and, after "la toilette du péritoine," close the abdominal walls and leave the vaginal opening as the best and most natural mode of effecting drainage. I also gave the following reasons for favoring this procedure: 1, It would shorten the operation; 2, would be less shock to the patient; 3, would lessen the dangers of the operation; 4, the patient would make a rapid recovery.

I carried this method out February 16, 1888, for a tumor altogether weighing seventeen pounds. The patient came to my office January 17, 1888. Forty years of age, twice married and no children. A uterine myoma extended from the cervix to within an inch of the ensiform cartilage, and was larger than the uterus at term. Her emaciated body seemed only a framework to support the growth; she wished to have it removed. I told her of the dangers of the operation, yet I believed it was the only way to give her any relief.

At the next visit she informed me that she had seen a physician whom she had previously consulted, and he had told her that if she had the operation she would die on the table. She replied to him that she had rather die than remain as she was. I again assented to, and emphasized the dangers of the operation. She still said she wished to have the tumor removed. She was admitted into the Woman's Hospital of Brooklyn, February 5th. Operation performed February 16th. As she lay on the operating-table under ether, the body seemed a mere skeleton; the monstrously large and nodulated tumor filled the whole abdominal cavity, extending up to and under the ribs. A small exploratory incision was made first midway between the umbilicus and down to the pubes. I passed my hand in and around to free adhesions, then by the help of Tait's screw, with the left hand beneath, the mass was lifted out of the abdominal cavity. The right tube was greatly enlarged, presented the appearance of a coiled-up and adherent mass of intestine; the left tube was also adherent, its fimbriated extremity closed, and the tube filled with pus. The tumor was removed. "The pedicle thus secured consisted of a mass of tumors, one of them three inches in diameter, all closely packed, reaching to the cervix. I knew that to make a pedicle of the mass would not only endanger the patient's life, but render the operation unfinished and imperfect, so I decided at once to proceed as in vaginal hysterectomy for the removal of this portion." I separated the vaginal attachments—the size of the mass rendered it necessary to remove through the abdominal incision. Drainage was secured both through the vagina and abdominal womb. By thus removing the entire uterus we not only got clear of the stump, but of the great mass of loose tissue which surrounded it and which, if it had remained, would doubtless have produced the most serious consequences; and which is probably an explanation of why the report has so frequently to be made of death on the ninth, twelfth, or fourteenth day from abscess near the stump. I do not see how in this case, with every precaution, the formation of an abscess could have been prevented in so much loose issue.

It was marvellous to see how much more rapid was the convalescence of the patient than it would have been had not the stump been removed. Keith says: "The average time of convalescence in the extra-peritoneal cases was forty-one days; of the intra-peritoneal method, three weeks." This patient was practically well on the twelfth or fourteenth day, had an excellent appetite, and had gained in flesh and strength. No such results could possibly have been secured if the stump had been left.

If the pedicle or cervix is removed, it should preferably be treated extra-peritoneally, though one of our first authorities, Dr. T. A. Emmet,[1] said: "If myotomy was to have a future, it would have to be done by covering the stump with the peritoneum and dropping it into the peritoneal cavity." Professor T. G. Thomas[2] said: "He had removed the uterus from seventeen patients; nine of them had recovered and the remainder had died. A large number had been treated by the clamp, and they had done remarkably well. A smaller number had been treated by simply returning the pedicle, and they had done badly." Dirner, of Buda-Pesth, Hungary, says the extra-peritoneal method prevents hemorrhage and sepsis more completely than the

[1] American Journal of Obstetrics, January 5, 1885, p. 85.
[2] Ibid., January, 1887.

other method. Greig Smith[1] says: "The dangers of the intra-peritoneal treatment are nearly twice as great as the extra-peritoneal." As I said in an article published in the *New York Medical Journal*, August 25, 1888: "But, even when the stump is treated extra-peritoneally, there are many dangers, and may be much trouble, as of an operation performed September, 1887, by one of the most distinguished living gynecological surgeons and at a centre of gynecological science, the record is death on the seventh day 'from pus cavity on one side of the pedicle.' We may seek to produce the best conditions, but there are still foul septic discharges, and, if the patient recovers, it is only the question of escaping the many dangerous possibilities. At best the stump is a hard, fibrous mass, extending from the vaginal to the abdominal walls, and pulling upon both. In this case I have reported the traction upon the abdominal walls was so great that it made a considerable sink or depression in the surface, and caused such pressure from the pins that, notwithstanding every care and all possible disinfection, keeping constantly fresh gauze under the pins, yet beneath them the skin sloughed, and with all this there were the threatening dangers of sepsis, abscess, etc., from the decaying stump. Is a course of procedure the wisest that is necessarily accompanied by, or may encounter, such grave conditions? What is the good of preserving the stump intra-peritoneally or extra-peritoneally? It is only the remnant or remains of a sickly womb, and can be of no service and may do much damage—how much, who can tell?—not only at the time of the operation, but in the subsequent history of the patient. One case is reported in which 'within a year cancer developed in the remains of the cervix and proved fatal.'"

Dr. Joseph Price's magnificent results have done much to favor the extra-peritoneal method, still surgeons have long recognized the dangers of the stump, whether much or little is left, or whether treated intra- or extra-peritoneally. Professor W. M. Polk, at the meeting of the New York Obstetrical Society, June 15, 1889, said:[2] "Leaving a large suppurating, or rather gangrenous, stump is a surgical fault threatening the life of the patient, and improved means should be devised whereby it can be got rid of." He adds: "I should like to have the question under discussion broadened so as to take in the views of the members upon the propriety of total extirpation of the uterus, after ligation of the uterine artery. I believe it is time to look about for means of getting rid of the slowly sloughing stump, which is constantly a source of danger in addition to what pertains to ordinary laparotomies."

Dr. E. W. Cushing, of Boston, on March 28, 1895, read before the Gynecological Section of the New York Academy of Medicine a paper on "Histerectomy and Total Extirpation of the Uterus by Abdominal Section." He gave the evolution of hysterectomy in this country, quoting from the *New York Medical Journal* of August 25, 1888, that the first case of total hysterectomy in this country for uterine myoma was performed by Dr. Mary A. Dixon Jones, February 16, 1888. Dr. Cushing referred to the various improvements in this operation, and the excellent work done by Drs. L. A. Stimson, William M. Polk, Joseph Eastman, B. F. Baer, and others. During the discussion Dr. Baldy, of Philadelphia, said he thought "it would be better to leave a small portion of the cervix." Dr. F. Krug, in a short address, favored the idea that all the cervix should be removed. Dr. Krug had on a previous occasion said that "total hysterectomy is an ideal operation." At a meeting of the New York Obstetrical Society, November 5, 1889, when Dr. Boldt presented "an interstitial uterine fibroid," removed by my method of total extirpation of the uterus, Dr. Dudley inquired: "What advantage is there in removing all the cervix over that form of hysterectomy which leaves part of the cervix as a stump?" Dr. Boldt well replied, "By leaving a portion of the stump, the patient is exposed somewhat to sepsis, which can be avoided by complete hysterectomy."

As to Goffe's method, I said in a paper published in the MEDICAL RECORD, September 6, 1890: "Goffe's method, as reported by the *New York Obstetrical Journal*, is, as he describes it, 'taking out the whole of the uterus except a bit of the cervix, covering this over with peritoneum.' But in all his cases, as he reports them, the temperature went up the fourth or fifth day, which, says Dr. Goffe, 'means suppuration under the flap, with danger of the pus bursting into the peritoneal cavity;' so in each case he dilated the cervix, drained, and irrigated. Of one he said, 'A gentle amount of pressure caused the exit of about half an ounce of pus and broken-down tissue.' The same procedures are used by Dr. A. P. Dudley. 'He dissects out the uterus to about three-fourths of an inch of the cervix.' The third day there is the same rise of temperature, the same process of dilating for discharge of pus. Thus, invariably, a certain amount of suppuration seems to accompany this method, so, with 'a bit of the cervix left,' there cannot be, as Dr. Goffe expresses it, 'all the elements of safety.'"

Dr. E. W. Cushing dwelt at length upon, and especially commended, Dr. L. A. Stimson's method of first tying the uterine artery; which is indeed an excellent way of controlling hemorrhage; but Dr. Polk, at a meeting of the New York Obstetrical Society, February 18, 1890, said that[1] "the searching for the uterine artery down by the side of the uterus, and ligating and enucleating separately, was according to the plan of Dr. Stimson, but as a matter of fact it was unnecessary, for one could ligate *en masse* without any difficulty." He said, further, "Ligating *en masse* shortens the operation." Dr. Bantock reported in the *British Gynecological Journal* for 1890, page 75, "the very first case in which he removed a fibroid tumor from the uterus he secured both the ovarian and uterine arteries separately, and then put a serre-nœud around the body of the uterus, and it was extraordinary how much bleeding he got."

At the same meeting Dr. Polk incidentally remarked: "The operation introduced into this country by Dr. L. A. Stimson, of removing the entire uterus including the cervix." Is not this a mistake? Dr. Stimson says his first two cases were reported to the New York Surgical Society, January 9, 1889, published in the *New York Medical Journal* March 9, 1889. My first case was reported to the New York Pathological Society February 22, 1888, and published in the *New York Medical Journal* August 25, and September 1, 1888.

Dr. Mendes De Leon, of Amsterdam, wrote me October 20, 1888: "Only yesterday I returned from a trip to Berlin. Martin told me he had performed four hysterectomies, with vaginal extirpation of the pedicle. As soon as he will reach the series of ten he intends to publish it. Is this method of tying the pedicle yours or his? I am very anxious to know more about this question. Perhaps you may find time to let me know one of these days."

Professor A. Martin, of Berlin, was in this country only two months before I presented the subject to the Pathological Society. In several of his addresses while here he spoke of the treatment of the pedicle, strongly favoring the intra-peritoneal method; so far as I know he did not mention the vaginal extirpation of the stump, nor did anyone else previous to my publication in November, 1887.

Dr. Joseph Eastman said in the *Cincinnati Lancet-Clinic*, December 8, 1894: "Dr. Mary Dixon Jones, of New York, was the first in America to take out the entire cervix." This, so far as I know, is true; at least I had never heard of its being done, nor do I consider

[1] Opus, second edition, 1888.
[2] American Journal of Obstetrics, 1889, p. 130.

American Journal of Obstetrics, 1890, p. 533.

the method in any way an imitation of Freund's operation. It has different uses and a different object. Further, I think a cancerous cervix should be removed only through the vagina — should never be taken through the peritoneal cavity. One reason why I, in my article on "Colo-hysterectomy for Malignant Disease,"[1] so emphasized delivering the uterus by anterior version, was that by posterior version, the usual method, the diseased cervix was so often, unintentionally, thrown into the peritoneal cavity.

While it is admitted that I was the first one in America to perform total hysterectomy for uterine myoma, still I have now to record that I was not the first person who did this operation. I have found out, only a short time since, through the kindness of Dr. H. G. Garrigues, that there were four cases of "Total Extirpation of the Uterus for Fibroid," performed by Bardenheuer, of Cologne, Germany, and these cases were reported as an appendix to a book entitled "Drainierung der Peritoneal Höhle," Stuttgart, 1881. Perhaps if we search the records further we may possibly find the same operation was done by an ancient Egyptian physician for some poor suffering woman.

AN OPERATIVE PROCEDURE FOR SPINA BIFIDA.

By H. HOWITT, M.D.,

GUELPH, ONT.

ALTHOUGH the Ontario Medical Association has a large membership-roll, I doubt if it has a single member who has seen an adult with an undoubted and well-marked spina bifida. On the other hand, according to the excellent authority of Holmes, the congenital malformation probably occurs more frequently than any other except hare-lip. The inference to be deduced requires no words of explanation from me.

In the early years of my practice I attended a lady in confinement who gave birth to a vigorous and apparently well-formed male child. But when the little one was having his first introduction to the delights of soap and water, the nurse noticed an enlargement on the back. An examination revealed a smooth, globular, cystic tumor, about the size of a small egg, in the middle of the lumbar region, immediately under the skin. Its nature was known to me, but at the time, in regard to its serious import my knowledge was wanting. Partly from want of information, and partly to allay the anxiety of the mother, it was my misfortune to make light of the trouble, and even to hold out hopes for a cure. On reaching home and consulting my books it was plain to me my prognosis was somewhat astray. However, something had to be done. The method of treatment strongly advocated by Dr. Morton was rejected, because to my way of viewing the subject no one could be sure that the irritation set up by the injection would limit its action to the sac. For want of a better plan that of applying pressure was adopted. As time passed, in spite of my best efforts the tumor continued to grow in size. The family became alarmed and changed their medical adviser. This was done again and again, until one more heroic than those who had preceded him promised a cure by an operation. The doctor had evidently Morton's operation in view, for he decided to tap the sac and inject a preparation containing tincture of iodine. Possibly from want of practical skill and an understanding of the details, the operation was not completed. For, on passing the trocar, considerable fluid was permitted to escape, and before the injection was used the child took a convulsion. He never rallied, in a few hours a coffin was purchased, and presently a tiny grave in the cemetery forever hid from the world all the material evidence of the mistakes that had been made in our sincere though ineffectual efforts to save the little one.

The case made considerable impression on my mind at the time; besides, being stung by the knowledge of the fact that my erroneous prognosis had resulted in the loss of the family in my then limited practice, I determined to study the subject as carefully as my ability and means at command would permit.

The following paragraphs contain, in reference to treatment, the gist of the conclusions arrived at by me:

1. That one of the most important functions of the cerebro-spinal fluid is to regulate the tension of the great nerve-centres, and hence the blood-supply to them. For illustration grasp with your hand a spina bifida, and what is the result? At first the child becomes restless and cries, then if you increase the pressure, a convulsion, still more, coma and death. On the other hand, withdraw the fluid from the sac (provided there is free communication between it and the subarachnoid space) and you have equally alarming results.

2. The spinal membranes, and consequently the walls of the spina bifida, resemble the peritoneum in being apt on irritation to form adhesions. This provision safely allows the communication between the sac and cord to be closed by a suitable ligature, provided sufficient care is taken to prevent septic germs from obtaining admission.

3. Neither the size of the tumor nor the breadth of its skin base has any significance in regard to the character of the communication between the sac and cord. A large sessile spina bifida may have so small and imperfect a communication that the tumor may be drained without materially disturbing the tension of the cord. This fact accounts for occasional cures by tapping, irritating injections, and other equally unscientific modes of treatment. On the other hand, a small one attached by a pedicle may have such free connection that even to tap it leads to disastrous results. It is quite natural to suppose that the delicate cyst of a spinal hernia, when it impinges against the skin, may meet sufficient resistance to cause it to extend laterally. This explains why a large one may have an exceedingly small pedicle.

4. That we are not to follow the advice given in our text-books, namely, to estimate the amount of bone deficiency and chances of nerve-tissue being implicated in the protrusion by the size and outline of the tumor, but to do so by the general condition of the infant, and especially the extent of paralysis in the parts below. All portions of the cord which escape into the sac, and which are attached to and follow its inner wall, are permanently destroyed so far as their natural function is concerned. In other words, we have paralysis in the parts supplied by them, and they may be removed without adding one iota to the paresis.

5. Spina bifida is frequently accompanied by other congenital deformities such as talipes, sphincter paresis, hydrocephalus, and paraplegia. The last named is always, and hydrocephalus generally, incompatible with viability. Hence quite a number of the cases are from the first beyond the possibility of cure.

6. That no operation will successfully stand repeated trials by different operators, unless in its performance a provision is made to prevent disturbance of the tension of cord.

7. The higher the tumor is placed on the spine, the more delicate are the walls of its sac, the greater the irritation to it by the movements of the child, and the more difficult it is, other things being equal, to treat.

Having come to the above conclusions the treatment indicated to me appeared quite clear and devoid of any serious difficulty; but nearly two years passed before I had an opportunity to give it a practical test.

The operation that I advise is very simple and is easily performed. The only instruments absolutely necessary besides sutures and an aseptic silk ligature are a needle and scissors, one blade of which is probe-

[1] American Journal of Obstetrics, November, 1893.

pointed. But it is better to have also a scalpel and two hæmostatic forceps. Nevertheless, it is very essential that the operation should be done scrupulously in accordance with every detail of modern clean surgery; for if any form of septic infection reaches the delicate structures within the spinal column there is only one result—failure.

When normal skin covers the whole of the tumor, we first mentally or otherwise map the outlines of skin-flaps necessary to close the wound left by removal of it. Then having carefully perforated the skin, the probe-pointed blade of scissors is introduced between it and the membranes of sac and the skin divided. The flaps are now by fingers or handle of scalpel separated from cyst down to the fascia of back. Then the tumor is by same means parted from its loose attachment to fascia till the pedicle is exposed.

A prepared silk or other suitable aseptic ligature is tied as deeply as possible on the pedicle and all external to it removed. After the oozing has ceased the wound is closed and dressed. The dressing I prefer consists of a pad of iodoform or bichloride gauze next the wound, then absorbent cotton, and over these a piece of oiled silk. The margins of the latter are sealed to back with collodion, and thus the urine is prevented from reaching the part. In ordinary cases it is not necessary to change the dressing until the wound is healed. But when an unusually large spina bifida is removed, the puckers of the irregular flaps and the amount of oozing may demand a provision for drainage during the first day or two.

When part of the tumor has no cutaneous covering, the line of primary cut for making flaps should run in the skin at least a quarter of an inch from margin. There is always sufficient to make the flaps.

No matter how smoothly things may proceed after the operation, the child should be kept in its cot and as quiet as possible for two or three weeks, or until all local irritation has entirely passed away. A limited amount of paralysis in the parts below does not by any means contra-indicate the operation; nor does, under similar circumstances, the presence of nerve-tissue in a case with translucent wall. The operation in these cases neither aids nor increases the paresis. It should never be performed on a child who has hydrocephalus, paraplegia, or other necessarily fatal ailment.

When we exclude the one mentioned in the beginning of this paper, in my own practice, only two cases suitable for operative interference have occurred; both of them in 1885. I have had, however, several reports of cases sent to me by my medical friends who previously obtained the details of the operation. Unfortunately on account of want of care on my part one or two of them may have been lost.

Below are short notes of the cases in the order in which they took place:

Case I.—B. A——, born April 18, 1885. At birth a plump, vigorous, and in other respects well-developed male infant. Tumor situated in lumbar region and covered with normal skin. At first its size was not larger than a pigeon's egg. Slight pressure on it caused child to become restless and cry. By end of week tumor had more than doubled its original size. I advised operation, but at first parents objected. In three weeks the size increased to that of a large orange. By this time the infant had to be kept lying on its side, and could not bear any form of clothing on part. He now seldom took the breast, lost flesh, and became very fretful.

Operation, May 13th.—It was easily performed. Pedicle where ligature was applied nearly an inch in diameter. The recovery was satisfactory in every respect. To-day there is merely a slight scar over the spine, just below the middle of lumbar region, to indicate the situation where the spina bifida was attached. My patient, who is now over ten years of age, is a strong, active, and intelligent youth.

Case II.—C. M——, male, aged six, was examined by me at my office in August, 1885. I found the boy, considering age, well nourished. On the lower part of the lumbar region he had a tumor fully three-fourths the size of his head. The greatest diameter of it was at the base. Its summit was devoid of skin and semi-transparent. Through this portion could be plainly seen a thin band of nerve-tissue, half an inch wide, and several smaller fibres on each side of it. The nerve-tissue extended from above to the edge of true skin below, where it was hidden from view. He had talipes equinus of right foot, some atrophy of the leg, and considerable vesical sphincter paralysis. The boy made a good recovery. He is to-day an active and intelligent young man. The paresis has neither been improved nor aggravated by the operation.

The next two cases are from the practice of Dr. A. Mackinnon, of Guelph, and are given verbatim from report kindly furnished by him.

Case III.—Mrs. F——'s child, born August 6, 1886. The tumor was very small at birth, and appeared to spring from the level of the third cervical vertebra. Though the head was large the child was in other respects well formed.

October 1st.—The tumor had grown rapidly, being now about the size of a hen's egg. The larger portion of its surface was bluish in color and the skin very thin. Under chloroform the tumor was removed according to the method suggested by Dr. Howitt.

October 15th.—Found the wound perfectly healed, but it was now obvious that the child had hydrocephalus. The size of the head rapidly increased.

November 1st.—The little patient died this morning from convulsions.

Case IV.—G. McM——, aged six. At birth a tumor about an inch in diameter was found attached to the sacral region. It now (June, 1887) measures vertically over the tumor fourteen inches, and transversely twelve inches. It is freely movable and is covered completely by skin of normal appearance. Below, it presents two appendages; one about two and a half inches long and about the same diameter as the vermiform appendix which it resembles somewhat; the other is about an inch in length and looks very like a rudimentary penis, from which occasionally oozes a drop of clear watery fluid. (See figure.) The boy is of good size, bright and intelligent in appearance, and has good muscular development in all his parts. He has always had incontinence of urine, and only a very imperfect control over his bowels. A central vertical line through the tumor would correspond to the median line of the body. It appears to be attached to the lower part of the sacrum.

June 16, 1887.—The same operation as in Case III. was performed. By very careful dissection this huge mass was found to have a pedicle smaller than a lead-pencil. The cleft of the sacrum was very small, but higher than had been supposed prior to the operation.

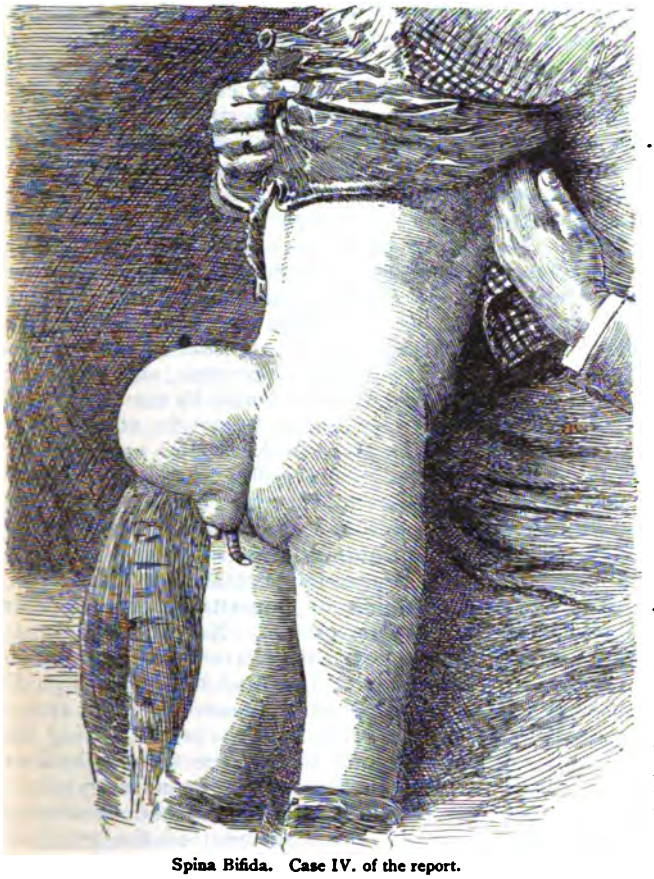
July 5th.—He left the hospital, the operation wound almost healed. He remained perfectly well and went to school the following winter.

March 30, 1888.—Suffered for ten or twelve days with symptoms of meningitis which ended in death, nine months after operation. The doctor has given me a photograph taken before operation of his remarkable case.

The next is from the practice of Dr. William Lovett, of Ayr, and is also given verbatim. The operation was performed by him on May 1, 1890.

Case V.—C——, a healthy boy, six months old. When born a slight tumor about the size of a plum was situated at the level of the lower lumbar vertebræ, which gradually increased until I saw it, when it was the size of a large orange, or perhaps better the shape of a lemon, one-half covered with skin. Having operated three times by Morton's operation without success I wrote to Dr. Howitt for his plan of operation, which to me appeared the most reasonable and scientific. Assisted by

Dr. Burt we proceeded to operate, using antiseptic precautions, by dissecting off as much of the skin as would make a full flap; but as the skin was firmly adherent to the tumor from the irritation produced by lying on it, we wounded it three times. Each time I immediately caught it in my fingers and applied a pair of forceps; having got to the base we separated the pedicle from the surrounding opening in the vertebræ. We then tied it with strong aseptic silk and cut it off, clos-



Spina Bifida. Case IV. of the report.

ing up the flaps and sewing with gut. I then applied a pad of bichloride gauze over the wound, and upon it a large piece of gutta-percha tissue sufficiently large to cover it well, around the under surface of the margin of rubber. I brushed with collodion, which made a firm attachment, air-tight, with the skin so that it was perfectly free from danger of the urine of the child interfering with the operation. I left this for five days; again dressed it. The case continued to heal without a single unfavorable symptom; the opening, which was left, by the undeveloped laminæ has been gradually lessening. I feel satisfied that had it not been for the operation that ere this (seven months later) the child would have been out of existence, whereas we have it perfect in every respect.

Case VI.—(Reported by Dr. Wardlaw, of Galt). Date of operation, September, 1890. Baby S——, aged three days; tumor situated over lower lumbar vertebræ (used chloroform). Washed with bichloride solution (1 to 4,000). Made incision through skin on each side up as far on tumor as possible. Owing to thinness of skin could only get about one and a half inch. Then made incisions around each side, joining side incisions and dissected skin, etc., down to base. Ligated and severed pedicle and returned stump. Stitched up flaps and dressed antiseptically, covered up with satin tissue.

Being so low down, had some difficulty in keeping urine, etc., from wound (nurse not being very careful); but it healed all right, and yesterday I heard that the child was doing nicely, and its back all right.

Case VII.—Report taken from a private letter received from a friend at a distance. It lacks particulars but is extremely candid:

"I followed the instructions given me by you in the case of spina bifida. Had mother and child go to the hospital here. The operation turned out as you stated, except that the pedicle was much larger—would almost admit the tip of my little finger. The sac was as large as a small orange, and its walls extremely thin, and they were ruptured, but a ligature prevented the sac from being emptied. Child rallied and did remarkably well for a week. And now comes the point where I have wanted to kick myself ever since. The child was so well and the mother so anxious to get home that I consented, and that afternoon and evening the child was on exhibition to the neighbors, the delighted mother acting as show-woman. It wound up about midnight with convulsions, and death the next day.

"Examination of the wound after death found it perfectly sweet and its surface adherent. Cause of death, stupidity of surgeon and disobedience of mother."

Four of the patients are alive and well to-day. The last case is the only one, in my opinion, in which death should be attributed to the operation, and even in it under more favorable circumstances the result probably would have been quite different. The procedure, you will admit, has so far proved highly satisfactory.

The more my attention is drawn to the subject, the more I am convinced that spina bifida, in an otherwise healthy child, will, with comparatively little risk, yield to the treatment.

A MARKED CASE QF EXOPHTHALMOS DUE TO INTRA-ORBITAL CYST.

By CHARLES I. PROBEN, M.D.,

NEW YORK.

That exophthalmos of such a marked degree as depicted in the cut should have existed for seven years, and have escaped the scalpel of the eager surgeon, is

Fig. 1.—Exophthalmos Due to Intra-orbital Cyst.

about as remarkable in this progressive chirurgical decade as the rarity of the lesion itself. The lesion, not being of a painful character, nor in any way interfering with the vocation of the afflicted, relief was simply sought for its cosmetic effect, in order to avoid the conspicuousness of this unique condition. The annoyance the patient was subjected to, owing to the hideous appearance of the deformity, led him to desire

an operation, which would otherwise not have been considered. The hope that this rare condition may be of interest has incited me to record the history, with a few remarks relative to this subject, with the accompanying illustrations, for which I am indebted to Dr. Frederick Roth. The perspective (Fig. 2) shows exceedingly well the hideous appearance produced by the dislocated organ lying far below the horizontal plane of the other eye, which is in its normal situ. The profile view (Fig. 1), in which the lids are retracted, depicts the complete exophthalmos, exposing the entire eyeball. The lids are easily retracted without any pain, and tend to contract behind the dislocated organ. This very marked dislocation was commented upon by different medical men as a rare condition. The patient's history was as follows: A strong, healthy Italian, of vigorous physique, who emigrated from his native land five years ago, aged twenty-six; with a negative family history, the parents being alive and healthy. No history of tuberculosis, syphilis, tumor, or other infirmity elicited. All the patient remembers is that he never had had any of the exanthemata, and that he only suffered from repeated attacks of gastric dyspepsia. A special inquiry and examination fails to reveal any evidences of syphilitic infection. Absence

Fig. 2.

of history pertaining to carcinoma or to any form of local traumatism. General health excellent. The first clew pertaining to the recognition of the exophthalmos dates back seven years, when the attention of the patient and his friends was attracted by a mere protrusion or prominence of the eyeball. The apparent exophthalmos was, no doubt, produced by a neoplasm, which must have existed for a long time prior to its producing the noticeable deformity. From its slow growth and freedom of symptoms we surmise the benign character. The time of its existence can only be conjectured, whether years, or possibly of congenital origin. Taking the slowness of the growth into consideration, during the last seven years, from the time of its apparent inception, we must at least surmise its existence, prior to this period, from five to ten years. Its insidiousness, slow growth, freedom from pain, and the uncertainty of the period of its existence, make the etiological factor very dubious. The deviation of the pathological from the normal condition can readily be perceived by a comparison of the following measurements:

	Oculus Dexter. Centimetres.	Oculus Sinister. Centimetres.
From median line	3.4	4.4
From brow	1.9	3.7
Interciliary space	⅛	1
From inner to outer canthus	3.7	4.4
From cornea to meatus auditorium	7.5	9

From the above we ascertain that there is a marked protrusion of the eyeball of 1½ ctm., with a dislocation downward, 2 ctm., and outward, 1 ctm. The globe, as far as can be ascertained, is normal in size and of normal tension. Absence of pulsation and bruit. Ophthalmoscopic examination negative, visual field and size of pupil normal. Sight, O. D., ⅝⅝; O. S., ⅝⅝. Reaction to light and accommodation. Humors clear. Absence of pain, excessive tenderness or congestion of the cornea or sclera. The dislocated organ lies upon the orbital edge of the superior maxillary bone restricted in its movements. When gathered between the fingers after retraction of the eyelids the organ is practically outside of the orbital cavity. The tissues of the eyelids have gradually hypertrophied *pari passu* with the descent of the eyeball, covering it completely. The distance between the eyebrow and the ciliary margin has been much increased, not due to tension but a real hypertrophy. The weight is borne by the lower lid and the sagging produces a semilunar interciliary space instead of a normal elliptical one, making the fissure appear much larger. Puncta lacrymali situated much lower than normal. This leaves the globe not as well protected as it should be. Motion is more or less limited, especially abduction, adduction, and rotation; the upward motion is interfered with by the tumor very perceptibly and is checked at a certain stage. The natural habitat of the globe in the orbital cavity is occupied by a rounded, fairly well-defined, soft, fluctuating mass, partly discerned through the lids, regular in outline, partly movable, and conspicuous by absence of any attachment to neighboring walls or to the eye. Its freedom from tenderness, its peculiar fluctuating feel, its absence of pulsation, or non-attachment to other organs indicates a cystic growth. Neighboring glands are normal. The nares, naso-pharynx, or antrum do not reveal any pathological conditions which may guide us as to its origin. Absence of pressure or reflex symptoms. To recapitulate: we have a cyst occupying the greater part of the orbital cavity, free from adhesions to its walls, the lids, the eyeball, or its nerve, producing by its slow continuous growth a marked protrusion of the eyeball, with an enlargement of the extrinsic tissues and coverings, and what is of most interest is the normal overgrowth of the optic nerve, this revealing no pathological condition at its endings in the retina.

From measurements accurately taken we must assume that an elongation of the optic nerve has taken place of nearly two centimetres. This is both interesting and instructive. The character of the cyst, whether containing simple cystic fluid or echinococcus, can only be determined by puncture and a microscopical examination. Congenital cysts are simple, or more frequently dermoid, and are produced by an inclusion of the epiblastic layer. We may mistake the condition for solid tumors springing from the orbital walls as exostoses, sarcoma, carcinoma, or for aneurisms, pulsating tumors, or for the cystic changes occurring in tumors from disintegration and softening.

Cystic growths of the orbit should be divided into three classes:

1. Those that originate in either the orbital tissue, periosteum, or from the sheath of the optic nerves. These are cysts pure and simple.

2. Those that arise in some adjacent bony cavity and encroach upon and invade the orbital fossa secondarily. These may arise from the frontal, ethmoid, sphenoid, and maxillary sinuses, the nares and the naso-pharynx.

3. Pathological disintegration and liquefaction of the contents of solid tumors, as sarcoma carcinoma, etc., which may resemble cysts in some respects only.

Each have their distinct history, and an examination will reveal their character and their origin. Cysts of the sheath of the optic nerve are rare and not readily recognizable when small. The abstraction of nutritive

pabulum and the interference with the function by pressure produces in it a pathological descending degeneration, which leads to vascular and later atrophic changes, recognizable in the retinal field by the ophthalmoscope, and decided loss of vision.

Those cysts that arise from adjacent cavities, especially the frontal sinuses, are usually due to an occlusion of the duct, producing an accumulated retention of its secreting contents, over-distending its bony walls, and so encroaching upon the orbital cavity. Direct extension of septic processes to the cavities, producing empyæmas or specific necrosis with growth of tumors, may produce tumors simulating cysts. In the beginning the diagnosis is impossible, and only when marked over-distention of the walls takes place, and its encroachment on the orbital fossa, can a diagnosis be positive. Especially is this true of growths from the ethmoid and sphenoidal sinuses and the maxillary antrum. It is readily seen the vast magnitude the tumors must assume before producing exophthalmos. The displacement of the globe varies according to the direction from which the growth comes; from the frontal it is down and outward. It is interesting to note that the frontal sinuses are not developed to any extent in childhood, and any distention of them will give rise to local manifestations recognizable, while those arising from the deeper fossæ do not. An examination by illumination, nasal and post-nasal, and digital exploration should not be neglected. Interference with the respiratory function and disturbance of speech are significant. If antral tumors are suspected, transillumination in a dark room may be of service. If we have concluded that we have to do with a simple cyst, it should be determined whether it has attachments to the orbital walls or the optic nerve, for this materially influences our treatment. Puncture and injection, drainage and excision, form the procedures for its relief. If we have to deal with a cyst attached to the optic nerve, one is very reluctant in adopting radical means before resorting to the simpler methods. The withdrawal of the fluid and injection of irritating fluids form the simpler means of treatment. The injection of the latter may produce a contiguous inflammation of the optic nerve. The choice of incision, whether subconjunctival or supra-orbital, depends upon the size and location of the tumor. No cast-iron rules can be laid down. If the tumor arises from a neighboring cavity our treatment is a different one, and the attack must be centred to the direct origin. Indiscreetness and over-aggressiveness may result in the loss of the most delicate organ, and judicious action can only be contemplated after a most careful examination of the tumor, its origin and attachments, if any, and, above all, excluding any pathological factor from the neighboring fossa. The patient whose history is recorded is at present under observation, awaiting a trial by the more simpler methods for the relief of his condition.

970 Lexington Avenue.

Cocaine in Chloroform Narcosis.—Rosenberg, at a recent meeting of the Berlin Medical Society, advised the anæsthetizing of the mucous membrane of the nose with a spray of cocaine solution before the administration of chloroform. By this means anæsthesia is more readily induced, and the reflex action on the heart is prevented. Cocaine is an antidote to chloroform, and, therefore, its absorption would probably lessen the danger of the latter.

Senile Heart.—Four cardinal rules with regard to diet: 1. There must never be less than five hours between each meal. 2. No solid food is ever to be taken between meals. 3. All those with weak hearts should have their principal meal in the middle of the day. 4. All those with weak hearts should have their meals as dry as possible.—Balfour.

THE CAUSE AND TREATMENT OF CORNEAL ULCERS.

By S. Latimer Phillips, M.D.,

Savannah, Ga.

The cornea, from its prominent situation at the forepart of the eyeball, naturally becomes the frequent seat of accident and disease. A goodly portion of these takes some form of ulceration, and it behooves us to be ready to recognize the cause, to remove it, if it is within our power, and to institute a treatment that will arrest the progress of the disease, and bring it to as speedy a termination as possible.

In a paper of the scope of this we cannot go too much into detail, so I shall only glance in a rapid manner at some of the more important causes, which we will divide into constitutional and local.

Constitutional Causes.—Oftentimes we see this condition of corneal ulceration developing in people pulled down by some chronic disease, as phthisis, malarial fever, etc. I know of a case of a man here, far gone in consumption, who by careful attention to his diet, etc., is able to get about and attend to his business; but as soon as he becomes run down from indigestion or overwork, the left cornea begins to ulcerate. He has had several attacks of this mass, and, as a sequel, a large central leucoma with but little vision.

Ulcers of the cornea are much more frequent in the adult and aged than in childhood and youth, if we except that very common affection of childhood, phlyctenular keratitis. Here there appears to be a peculiar dyscrasia, or scrofulous condition, with enlarged glands, eczema of lids, catarrhal conjunctivitis, and tendency to ulceration at angles of lids, nose, etc. Of course where there is lowered vitality the cornea, like other portions of the body, becomes weakened, and the slightest irritation will serve as a starting-point of inflammation, which may progress to complete destruction of the part unless the system is put in a condition to resist the disease. We find in old people sometimes ulceration of the cornea slowly progressing, with no other appreciable cause than lowered vitality. I have seen in the aged ulceration of the cornea after undue straining of the eyes from reading, writing, sewing, etc.

Local Causes.—Anything acting as an irritant to the cornea will serve as a beginning for the ulcer. Foreign bodies of any kind resting on the corneal surface, as pieces of wood, metal, etc., produce abrasions, through which the germs gain access to the underlying tissue, and set up suppurative processes.

Some of the severest cases of corneal suppuration I have met with have been those where the cornea was pierced by beards of grain, with sharp serrated edges. These make a jagged, irregular wound in which the germs easily obtain a resting-place and multiply. I have known stubborn, persistent ulcers easily get well after the removal of an ingrowing lash; this by constant scratching has kept up the disease. Granulation of the lid, too, is not an uncommon cause of corneal ulcer. In a very serious form of this disease we are apt to see more or less complication. A diseased condition of the nose may be a cause also. The germs of the disease passing up through the lachrymal canal. I remember several years ago the case of a man with ozena, the result of syphilis, with destruction of cartilage, and caries of the bones of the nose, who was under my care. He had a central corneal ulcer, sequel to a burn by a small piece of hot iron, and notwithstanding the most vigorous treatment the eye was totally destroyed. Of course acute and chronic catarrh of the conjunctiva play a part in the causation of corneal ulcers. In those severe forms of purulent conjunctivitis we meet with sometimes, where there is so much swelling of the conjunctiva that the corneal nourishment is interfered with, the ulceration varies from a very small point to the suppuration of the whole cornea and its consequent complete destruction.

Treatment.—This I should divide into medical and surgical, and the adoption of one or the other depends upon the state of the ulcer when we find it; oftentimes we have to employ both. Of course where the patient is in a reduced or debilitated condition, tonics must be freely prescribed, the hypophosphites, iron, strychnine, etc. In those scrofulous conditions so often seen in children I prefer the iodides in some form. I usually employ the syr. ferri iodid., and with much satisfaction, together with strict rules as to diet. Cod-liver oil is called for at times, and in old people with delicate stomachs the vin Mariani appears to be a most helpful tonic.

The local medical treatment consists mostly of sedatives in acute ulcers, and stimulants in the indolent kinds. Atropia is useful in all ulcerations of the cornea, save where the ulcer is peripheral and there is perforation or danger of it. Here eserine is called for, but not in too strong a solution (1½ to 1 grain to 1 ounce of water). In a suppurating condition of the cornea hot applications should always be used, water as hot as can be borne to bathe the eye in, or what I have found at times soothing, a decoction of poppy head, a large towel to be wrung out of this and applied over the closed lids, to be repeated at intervals of every few minutes for fifteen or twenty minutes. If dry heat is desirable there is nothing more useful than the Japanese hot box. The box, after the cartridge has been lighted, can be wrapped in a piece of soft cloth and laid over the closed eye. If we find these remedies to fail, then we must resort to surgery.

The one great means which we have at hand, and which can always be depended upon, is the actual cautery, though frequently patients object to its use. But if they should, however, we have another means which in my hands has been most satisfactory. There is nothing in it that appears appalling, nor is it very painful. The treatment I refer to is the application, on a probe, to the entire ulcerating surface, of pure carbolic acid. I believe the late Dr. Williams, of Cincinnati, was the originator of this method. Its application requires care and delicacy of manipulation, for over-doctoring the eye with carbolic acid in its pure state would bring about results most direful. I take a small probe, wrap a thin piece of absorbent cotton tightly around the end, dip it into deliquescent carbolic acid, press out any surplus when withdrawing from neck of bottle, and touch gently the ulcerated surface. Only the smallest quantity is to be used, the acid flowing freely into every sulcus and furrow, however small, and thus coming into direct contact with all the diseased surface. Wherever the acid comes in contact with unhealthy tissue a thin veil of slough forms, which is soon thrown off, leaving the ulcer in a healthy condition, so that in a little time it is filled up with new tissue. This treatment is especially adapted to children with phlyctenular ulcers, for with them hardly more than one application will be necessary, unless the ulcer be very large. It can be made usually without an anæsthetic. The head of the child is held by an assistant while the operator holds apart the lids and steadies the eyeball with thumb and forefinger of left hand, rapidly making application with right. I hardly ever use cocaine, save in a very small child, as the burning is almost nothing, carbolic acid being a well-known obtundent of sensibility.

There is nothing, though, in my opinion, that can fully take the place of the topical application of the actual cautery. This is used principally in the progressive variety of ulcer, though it can be employed with telling effect from the superficial phlyctenular ulcer, through all grades, to the deep, largely sloughing kind. For convenience and elegance I prefer the platinum tips made for the purpose, fitted into a suitable handle and brought to a bright crimson glow by an electric battery. Having the eye cocainized, or the patient under the influence of chloroform, we may cauterize as much as we deem expedient, and we rarely fail to derive benefit from the operation. If the battery is not at hand we can use the bulb-pointed platinum instrument devised by Dr. Grüning, brought to a red heat in an alcohol flame; or even an ordinary strabismus hook may be employed. The difficulty in using Grüning's instrument without chloroform anæsthesia is that after the eye is fixed in position for operation the patient seeing the heated instrument approaching the eye has hardly enough fortitude to hold the eye steady, but moves it away, and the instrument loses its heat before the eye is again fixed. Besides, there has to be an assistant to hold the lamp near the eye. After cauterization the bandage had better be applied, and the regular treatment of atropia, etc., carried out. One application of the cautery will usually be sufficient; but if not, it can be repeated at intervals of three or four days. The greatest care must be observed in this operation not to puncture the cornea. Especially is this so when the ulcer is deep-seated, though if we watch closely what we are doing we can touch thoroughly the parts desired and escape emptying the anterior chamber.

Progress of Medical Science.

Cardiac Irregularity and Obesity.—According to Dr. Kisch, of Marienbad, no functional disturbance in the organism occasions the individual so much anxiety and apprehension as when the regular action of the heart gets disturbed. The educated man is so accustomed from infancy upward to the regular work of his heart, and is so convinced of its supreme importance, that any disturbance of it readily arouses in him the fear that the heart may refuse completely its office. The author has seen medical men who had observed cardiac irregularity in themselves plunged thereby into deep mental depression. There is no reason for this. The author points out that irregularity may awaken apprehensions in grave disease of circulatory or respiratory apparatus, while, on the other hand, it possesses only trifling significance. The author discusses the cardiac arhythmia of obese persons. Slight irregularity is observed in youthful patients with slight heart trouble, especially in young girls who exhibit the anæmic form of lipomatosis. Actual irregularity, in which regular beats and pulses alternate, is seen chiefly in fat people who have already passed their fiftieth year, and in whom other symptoms of heart trouble are present. Complete irregularity, in which pulse-waves alternating in tension and size regularly follow one another, is seen in cases of obesity with marked heart weakness in which there is dyspnœa, angina pectoris, pronounced backward pressure in the venous system, with œdema and dropsy. Kisch holds, in contradistinction to French authors, that simple cardiac intermittency and slight irregularity are not unfavorable as regards prognosis, and these cases may be seen, after a course of treatment directed to adiposity, to recover their pulse regularity. On the other hand, he regards the occurrence of complete irregularity, delirium cordis, as a sign of grave disturbance of the heart mechanism which can never be completely removed, and is sometimes also the sign of suddenly occurring death.—*Berliner klinische Wochenschrift.*

Incoercible Vomiting of Pregnancy.—Apply the continuous current, placing the positive pole on the clavicle, between the two branches of the sterno-cleido-mastoid, and the negative pole over the umbilicus. Use a current of ten or fifteen milliampères for from fifteen to thirty minutes. This method succeeded in five cases in which vomiting was so intense as to render provoked abortion almost imperative.—*Gazette des Hôpitaux.*

MEDICAL RECORD:

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THE STUDY OF CANCER.

ONE of the most interesting problems engaging the attention of medical thinkers and investigators at the present day has to do with the true nature of cancer. What is cancer? Is it a morbid process owing its existence to the presence of a micro-organism in the tissues exciting the cells to an over-activity of growth? If so, is this micro-parasite of the nature of the malarial organism, inhabiting certain localities and being taken into the human body in the water or in the inspired air, or in both? Or may it be transmitted like the parasite of syphilis, directly from the sick to the well? Is the cell stimulation, assuming that there is a plasmodium or a bacterium of cancer, due to direct irritation by the micro-organism, or is it due to the action of a toxin elaborated by this parasite? Or is cancer an inherited vice of cell life and growth, and as presumably independent of a micro-organism as is club-foot? These and a dozen similar questions have been asked again and again since the new views of the nature of infectious diseases have gained acceptance, and while they remain thus far unanswered, it seems not extravagant to hope that the day is not far distant when a solution of some, at least, of the main points of the problem will be reached.

It is not, however, by experiment alone that this question will be settled, for much can be accomplished by intelligent clinical observation. The number of those investigating the subject experimentally is large and ever increasing, and there are among them not a few well fitted, by trained habits of scientific research and by freedom from preformed opinion, for the work they have undertaken. But they can be assisted greatly by those general practitioners, especially country practitioners, who have lived and worked all their lives in one community, and who know the medical histories of every family for perhaps three or four generations.

In a paper read before the Oxford Branch of the British Medical Association, Mr. D'Arcy Power, to one of whose interesting experiments in relation to the etiology of cancer we referred not long since, speaks of the assistance the general practitioner may give those who are trying to work out the problem from a scientific standpoint. In the first place, he says, the influence of heredity should be ascertained in every case of cancer, the inquiries being made in reference to the collateral as well as to the lineal descent. The family diathesis on the parents' side should be noted, for it is still undecided how far, if at all, the various manifestations of the arthritic diathesis are associated with cancer. Then, again, there is the question of the soil and water in any locality where cancer appears to prevail to an unusual extent. Reports of "cancer houses," that is, of houses several successive inmates of which, unrelated to each other, have died of cancerous disease, are interesting; they may possibly also become instructive when a sufficient number of them, giving details of soil and water-supply, of age, occupation, and antecedents of the successive occupants, etc., have been collected. In thus collecting data general practitioners may aid greatly in the solution of the perplexing, and for that very reason most interesting, problem of the pathogenesis of cancer.

SCIENCE AND THE FRENCH DRUGGIST.

THERE has been a great deal of vague writing on the subject of phosphates, hypophosphites, and the various other phosphorous compounds. A very general impression exists in the profession that these preparations have some value in medicine, but we are not aware that there yet exist substantially established clinical facts which demonstrate that phosphates or phosphites do any good whatever. What is a common belief and common practice, in the medical profession of to-day, has, however, probably some substantial basis. A distinct "boom" was given to the phosphorus compounds by the introduction of the hypophosphites, and the extreme claims made for these preparations at the time of their introduction are still remembered by many. Physicians, however, have very largely forsaken a strict adherence to the phosphite compounds and prescribe phosphates and phosphorus solutions in their place with apparently much the same effect.

A year ago Dr. Albert Robin read a preliminary communication before the Paris Academy of Medicine upon the therapeutic use of the glycerin-phosphates, which up to that time, he said, had never been useful as medicinal agents. He may perhaps have been mistaken on this point; at least we are informed that a good many years ago there was sold in this city under the name of "protogon," a phosphorous compound, which was really a glycerin-phosphate. This protogon was extolled as a new discovery of extraordinary value in nervous and wasting diseases of all kinds, but the bottom fell out of "protogon," as it has of so many other secret or proprietary remedies which are not advertised with sufficient persistence.

M. Robin asserts that his new preparation has occupied his attention for the past six years, and he believes that there is a great future for it, because he thinks it exercises an elective action upon the nervous system. He has made a study of the nutritive conditions, particularly in neurasthenia, and he believes that in this disease, among other things, there exists an exaggerated consumption of the lecithin of the nervous centres. On the other hand, he finds that the ordinary medicinal phosphates supply this need in a very imperfect way. Dr. Robin gives, in the *Bulletin Général de Thérapeutique*, an account of a long series of experi-

ments which he has made upon the nutrition as influenced by different drugs, and particularly by the phosphates. His article is accompanied with many tables which have a most scientific appearance, and give evidence of a very great amount of chemical and physiological work. We have not space for any detailed description of the experiments. Dr. Robin, however, concludes his study with certain propositions which he considers have been demonstrated.

These are, first, that the glycerin-phosphates given by subcutaneous injection accelerate the metabolic changes of the organism, affecting both the organic and the inorganic substances, but particularly the latter. Though accelerating principally disintegrating changes, they act in all the stages of physiological metabolism. In other words, they favor both the assimilation of albuminous matter, and its cellular integration and disintegration. They influence but little the formation of uric acid. They act upon the sulphur compounds and increase the oxidation products. The result is that the organs rich in sulphur, like the liver particularly, become the seat of more active nutrition under the influence of these wonderful glycerin-phosphates. They have no marked effect upon the intestinal fermentations. They increase the excretion of chloride of sodium; they favor, probably, the assimilation by the nervous system of the phosphates of the food, and they moderate the waste of the nervous system, acting upon these centres as a protection and fixing the materials of the nervous centres more firmly. They increase the changes in the calcium compounds and the other salts that go to form bony tissue, without influencing the changes in the phosphated compounds.

We observe that all these remarkable effects upon the nutrition of the nervous system are accompanied with an inset advertisement of the glycerin-phosphates of Robin as prepared by certain skilled Parisian druggists. In other words, coincident with the appearance of Robin's article, is a very conveniently placed announcement of where you can get the effective preparation. We confess to some serious doubts about the value of the glycero-phosphates, despite the elaborate chemical tables and laborious physiological analyses of M. Robin. If he has got a good thing, it is a pity that he has united the commercial and scientific aspect of it in such an ingenious fashion.

A MENACE TO THE COUNTRY'S HEALTH.

EVERY summer the eastern seaboard of this country, from New Orleans to New York, is threatened with an invasion of yellow fever by vessels hailing from Cuban ports, especially Havana and Santiago. Our only defence against this invasion lies in a quarantine service which varies in efficiency at different points, and which may fail at any time in one of a dozen ports through a single error in judgment of the executive officer. This is a very weak defence, as the country learns to its cost every few years; yet as long as Cuba belongs to a foreign power, and that one which ranks low in the scale of practical sanitation, so long shall we be menaced with every returning summer. The only way to escape the danger is to stamp out the plague in its home. There is no more reason why yellow fever should be endemic in Cuba than in Jamaica. Kingston, in Jamaica, was once a pest-hole, now it is a health-resort. Havana, Santiago, and dozens of smaller places along the Cuban coast could be made as healthy as Kingston if the Spanish authorities would undertake the task. But they never have, and they never will, if we may judge from the way they have neglected their duty in this respect in the past. Sanitarians, therefore, can scarcely help sympathizing with the revolutionists who are struggling for the freedom of their native island. The manifest destiny of the island appears to be to enter the federation of American States, and this result will doubtless be hastened by the success of the revolution. When once it is a part of this country, the government will see to it that this breeding ground for the yellow scourge is cleaned and garnished, and one more victory will be won for the cause of sanitation.

News of the Week.

Fatal Quarrel Between Surgeons.—Two surgeons of Portland, Ore., who had formerly been partners, quarrelled over an operation performed by one of them at the city hospital, and shot each other fatally.

Yellow Fever still prevails extensively in Cuba, and appears to be steadily increasing. Most of the victims are the unacclimated soldiers from Spain who are fighting the revolutionists.

The Late Professor Huxley.—It is proposed to establish a memorial to the late Professor Huxley, which shall take the form of an annual lecture and science scholarship and medal, at the Charing Cross Hospital Medical School.

Dr. Salomon Moos, Professor of Otology at the University of Heidelberg, died recently at his home in that city. He was born at Randegg, in Baden, July 15, 1831.

Dr. Thomas McKennan, of Washington, Pa., died at his home in that place on August 9th. He was born in 1824.

Surgeon-General James R. Tryon, of the navy, has been elected a member of the Red Cross Society of Venezuela. He has also been awarded the bronze medal of that society in recognition of the services he rendered the wounded at La Guayra during the revolution of 1892, when Dr. Tryon was attached to the flagship Chicago.

Henry Dunant, the founder of the Geneva Red Cross Society, is now, it is reported, at the age of sixty-seven, in great poverty and nearly starving. He spent all he had in promoting his idea.

Dr. Charles F. J. Lehlbach died at his home in Newark, N. J., on August 14th. He was born in Baden in 1835, and came to this country when fourteen years of age with his father, the Rev. Frederick Augustus Lehlbach, who took charge of a German church in Newark. Dr. Lehlbach was graduated from the College of Physicians and Surgeons in this city in 1856, and practised in Newark until the war. He enlisted at the beginning

of the civil war and served until its close, when he returned to Newark and built up an extensive practice.

In Memory of Dr. Danielssen.—A memorial tablet of the late Dr. Danielssen, designed by Max Klein, of Berlin, has been placed on the front of the Lungegaards-Hospital at Bergen.

The Continental Anglo-American Medical Society held its annual meeting in London on August 2d, at the Savoy Hotel, under the presidency of Sir Richard Quain. Five new members were elected, and the Secretary, Dr. Barnard, of Paris, stated that the total membership in the Society had now reached ninety-six. After the meeting those present sat down to a luncheon. After the toast "The Queen and the President of the United States" had been drunk, Sir Richard Quain proposed "Prosperity to the Society," expatiating on the need supplied by such a body. Responding to the toast of "Our Guests," Mr. Ernest Hart expressed his pleasure at having an opportunity of meeting such a representative gathering of British and Americans practising on the Continent. The Society was one which had a very useful future before it, and he wished it a career of ever-growing usefulness and prosperity. The address of Dr. Barnard, the Secretary of the Society, is 362, Rue St. Honoré, Paris. The next meeting will be held at the same time and place as that of the British Medical Association.

British Laryngological, Rhinological, and Otological Association.—The annual summer meeting was held on July 25th and 26th, Dr. W. McNeill Whistler, President, in the chair. A discussion on the Surgical Treatment of the Accessory Cavities of the Nose, was opened by Dr. J. N. Mackenzie (Baltimore), who dealt with Empyema of the Antrum of Highmore. He was in accord with Freeman, who opened below the nasal duct, but considered that the opening by an alveolus was required in all but recent cases. Dr. Luc (Paris) dealt with Disease of the Frontal Sinus. His method of operation consists in opening wide by the anterior wall of the sinus, and establishing a free communication with the nose by means of an india-rubber drain. Dr. Bryson Delavan (New York) confined his observations to Ethmoidal Disease; and Dr. F. H. Bosworth (New York) said his favorite method of gaining access to the cells after removal of the anterior end of the middle turbinal, was by the use of a drill. Dr. W. H. Daly (Pittsburg), Dr. Roaldes (New Orleans), Mr. Mayo Collier, and Dr. Dundas Grant, continued the discussion. The subject of the treatment of Laryngeal Stenosis was opened by Dr. Sajous (Paris), who dealt with the stenotic conditions of the infra-glottic space. A paper on this subject by Professor Massei (Naples) followed. On July 26th Dr. Krause (Berlin) and Dr. Heryng (Warsaw) opened a discussion upon the Surgical Treatment of Laryngeal Tuberculosis, and described their methods of treatment by curettement and the application of lactic acid. Dr. Gleitsmann (New York) stated that he had adopted, with certain slight modifications, the methods originated by Heryng and Krause. Dr. Sims Woodhead introduced a discussion upon the Antitoxin Treatment of Diphtheria, and described his views and experiences as gained from an investigation of 2,000 cases. He supported the treatment not only for diphtheria, but also as a prophylactic against its occurrence in those exposed to infection. Mr. L. Browne, Dr. Macintyre, and Dr. Roaldes closed the discussion. The Society dined at the Langham Hotel on Friday night, and a very successful meeting was then concluded.—*British Medical Journal.*

The First Chinese Woman Doctor.—An item is going the round of our exchanges concerning a Dr. Hu King Eng, recently graduated in Philadelphia, who is said to be the first Chinese woman to acquire an American medical degree. This is incorrect, for she was preceded by Dr. Y. May King, who was graduated in this city several years ago, and has since been in practice in Kobe, Japan. Recently Dr. King married Mr. H. Eça da Silva, and went with her husband to Honolulu, where she now resides.

The Woman's Medical Journal, not to be outdone by its contemporaries, has begun the publication of portraits and biographical sketches of the women of the profession. Concerning the first portrait, the *Journal* says that it "shows a young woman with a strong and bright face, a face that shows determination to succeed, and to succeed because success means not only much for her, but because it helps every other woman, not only the woman of to-day, but the vast army of to-morrow, who are waiting now, learning what to do and when and where they may serve the world best." To which it is our pleasing duty to add that the face is not only strong and bright, but comely as well. We predict for our esteemed contemporary a rapidly increasing circulation.

To Prevent the Spread of Cholera from Mecca.—Dr. Saleh Soubhy, in a recent work on the Mecca pilgrimage, offers the suggestion that as cholera reaches Mecca from the south, it should be arranged throughout the Mohammedan world that pilgrimages to Mecca from the north and from the south should take place only on alternate years, so that the two sets of pilgrims should never touch or intermingle.

The American Dermatological Association.—The nineteenth annual meeting of this Association will be held at the Windsor Hotel, Montreal, Canada, September 17, 18, and 19, 1895. The *President* of the Association is Dr. S. Sherwell, of Brooklyn; *Vice-President*, Dr. J. A. Fordyce, of New York; *Secretary and Treasurer*, Dr. C. W. Allen, of 640 Madison Avenue, New York.

A Portuguese Medical Congress is being organized by the Sociedade de Sciencias Medicas. It will be held in Lisbon.

Australian Medical Students.—The total number of students in the Medical Faculty of the University of Sydney during 1894 was one hundred and nineteen.

Diphtheria is increasing in London, but the mortality from the disease is decreasing.

The Jenner Centenary in Russia.—In commemoration of the centenary of vaccination, the Russian National Health Society proposes to offer four prizes for the best works on vaccination; to collect and publish materials for a history of the practice of vaccination in Russia, and also a short history of the same in Western Europe; to publish a Russian translation of Jenner's

works, with his biography and portrait; to organize an exhibition of objects connected with vaccination; and finally, to hold a commemorative meeting on May 14, 1896.

The Kansas City Medical Record has appropriated twelve columns in its August issue from the MEDICAL RECORD without giving any credit therefor. We are ashamed of our namesake.

The City of London and the British Medical Association.—It was thought that the corporation of the city of London would extend its hospitalities to the members of the British Medical Association during the late meeting, but it did not. It entertained the son of the Ameer of Afghanistan, but said it would cost too much to feed the doctors. Even a request that the Association have the use of the Guildhall was granted only on condition that the Association furnish the necessary expenses. The offer was declined with thanks.

A Parisian Medical Quarrel.—Drs. Proust and Roux are at present engaged in a bitter controversy concerning the merits of the diphtheria antitoxin. A child died soon after receiving an injection of antitoxin, and Dr. Proust said that the death was due to the remedy. No autopsy had been made on the child, and Dr. Roux naturally declaimed against the assumption that the antitoxin was to blame. The controversy has grown so acute that some of the participants even forget their patriotism and assert that the antitoxin treatment is a German discovery anyway, and Roux simply appropriated it without warrant and proclaimed it as his own.

Noble Tattooed Men.—According to a writer in the *Lancet-Clinic*, the Duke of York, his uncle, the Duke of Saxe-Coburg-Gotha, the Grand Duke Alexis, and many of the English nobility, have had themselves tattooed with flags, initials, coats-of-arms, and other designs.

French Brandy.—Dr. Laborde recently read a paper before the Académie de Médecine of Paris on the liquor supplied to the French army under the name of cognac. He had analyzed the stuff used for making the worst spirit into the best cognac, and found that it consisted of castor-oil, cocoanut-oil, and other fatty substances treated with nitric acid and labelled "Bouquet de Cognac." "Pure Jamaica rum," sold by an English house, proved, on analysis, to be much of the same quality.

Pasteurized Vichy is advertised for sale in a Broadway drug-store. A fortune awaits the man of enterprise who will provide aseptic oysters next month.

Kiel and Rostock are the only German universities which have no psychiatric clinic.

The Meeting of the British Medical Association was not so largely attended as was at first announced. It was thought that the number of those present would reach six thousand, but the official record shows that the attendance was under three thousand.

London Doctors and Advertising.—The English medical man is nothing if not ethical, and few things shock him so much as the way in which he imagines his American confrères keep themselves before the public. The Londoner seems, however, to have made hay while the sun shone during the week of the British Medical Association. One of the daily papers had columns of biographical notes on the metropolitan physicians and surgeons, prominent and otherwise, the details of which could hardly have been obtained from any but the subjects themselves, and the photographs of the same individuals were exposed for sale in many of the shops along the Strand, in company with those of royal personages, actresses, and other celebrities.

Tri-State Medical Society.—The seventh annual meeting of this Society will be held in Chattanooga, Tuesday, Wednesday, and Thursday, October 8th, 9th, and 10th. A large attendance is expected.

The Effect of Ovariotomy upon the Voice.—The well-known effect of castration in young males in heightening the pitch of the voice has led Dr. E. J. Moure, of Bordeaux, to investigate the effect of ovariotomy upon the voice. His observations in two cases of ovariotomy in young women showed an effect exactly the opposite of that of castration in men, since the voice became deeper and harsher, and the patients thought they were hoarse. The higher notes were lost and the voice fell from soprano to mezzo-soprano. This small number of observations is obviously entirely insufficient to establish a fact; and as no previous cases are on record of the production of any changes in the voice by ovariotomy, the observations must await confirmation from further cases.—*Boston Medical and Surgical Journal.*

The Metric System in England.—A committee of the House of Commons has made a report, which will be voted upon at an early date, in favor of the adoption of the metric system in England. It would have its use made immediately legal, and obligatory after an interval of two years. As a preparation for the change it would make the metric system a compulsory part of teaching in all public schools, "as a necessary and integral part of arithmetic."

La Technologie Sanitaire is the title of a new sanitary journal published in Louvain.

The Medical Faculty of Harvard University has voted to authorize approved physicians having the necessary facilities and desirous of teaching its medical students, to announce their courses yearly in the Medical School.

Treatment of Soft Corns.—Mr. Philip Miall writes to the *British Medical Journal* that a concentrated solution of tannin, made by dissolving an ounce of perfectly freshly made tannin in six drachms of water with the aid of gentle heat, gives immediate relief to soft corns, if applied once or twice a day between the toes after washing. Tannin in powder is not quite so effectual.

The Lancet as a Chromo.—An enterprising accident insurance concern in London has issued circulars to medical men in England, offering a subscription to *The Lancet* in conjunction with an accident policy. Our esteemed contemporary assures its readers that it cannot approve of this scheme, with which it is in no way connected, and of which it was wholly unaware until one of the offensive circulars came into its possession.

Clinical Department.

THE EFFECT OF REMOVAL OF THE OVARIES UPON THE SEXUAL APPETITE.

By A. LAPTHORN SMITH, M.D.,

MONTREAL, CANADA.

Miss X——, twenty-five years of age, consulted me this morning for a discharge, which on examination proved to be gonorrhœa. She gave me the following history: She had had her ovaries and tubes removed about seven years ago by another surgeon, on account of pain and enlargement in them. I saw her a few months afterward, when she consulted me for troubles of the artificial menopause, through which, however, she passed successfully. I then lost sight of her until to-day, when she told me that her menstruation had gradually left her, until the end of the year, when it disappeared entirely, so that she has had no periods during the last six years. She went to Boston three years ago and returned to Montreal last month, when she met a former male acquaintance and had intercourse with him. During this act she became very excited, having an orgasm, and straining herself, which she thinks is the cause of her discharge. On further inquiry she assured me that she never had experienced so much sexual pleasure as she did this time, and in her opinion the removal of the ovaries in no way alters the feelings of a woman toward the opposite sex.

This, of course, is not the general belief, and I therefore think it well to report this case as one among many others in which the removal of the ovaries has not been followed by loss of sexual desire, but, on the contrary, by a marked increase of it.

250 Bishop Street.

A CASE OF TETANUS CURED WITH ANTITOXIN.[1]

By C. F. TIMMERMAN, M.D.,

AMSTERDAM, N. Y.

About ten years ago, I read a paper on tetanus before this Society, and at that time I devoted considerable time to the etiology of the disease, and gave the opinion of our best authorities prevailing at that time. Lockhart Clark expresses the opinion that tetanus depends, first, upon an excessively excited state of the nerve-tissue of the cord, induced by hyperæmia and morbid conditions of the blood-vessels and exudation, and disintegration resulting therefrom. Second, that the spasms are the result of the persistent irritation of the peripheral nerves, by which the exalted excitability of the cord is aroused, and thus the cause which at first induced in the cord its morbid susceptibility to reflex action is subsequently the source of that irritation by which the reflex action is excited. Another states that a large percentage of cases of tetanus is caused by injuries to the peripheral nerves due to compression. To-day, thanks to some of the observers, as Rosenbach, Nicolaier, and Kitasato, the specific bacillus has been discovered. Carle and Rattone, in 1884, furnished the first proof of the communicability of the disease by inoculation of rabbits with pus from a wound, in a case of human tetanus. Nicolaier, in 1885, found disseminated in all kinds of earthy matter bacilli which, introduced subcutaneously into mice, guinea-pigs, and rabbits, produced typical trismus and tetanus with fatal termination. Rosenbach, in 1886, demonstrated the tetanus bacillus for the first time in man. Thus was established the generic relation to the diseases of the bacillus of Nicolaier. The poison appears to be in the ptomaïnes, a specific product of the tetanus bacillus. Kitasato observed that the filtrate, perfectly free of germs, produced the same tetanic effect. Since wounds of the most trivial nature are as apt to be followed by the disease as those more serious, it stands us in hand to be on our guard at all times.

In the treatment of this disease, since such poor results have been attained with the old remedies, I think the hope of successful treatment lies in the use of antitoxin.

I have been unfortunate enough to have had three cases of tetanus.

Case I.—J. R——, a Pole, aged thirty-four. On the evening of October 16, 1885, he was injured in a railroad accident, and remained near the track all night. Fourteen hours after the injury, I found him with the foot crushed, two scalp wounds, and many cuts and bruises on the face, arms, and hands. I dressed the wounds and he received the best attention, the wounds healing very kindly. On the eighth day the first symptoms of tetanus were present. He died on October 25th, nine days after the accident.

Case II.—J. S——, a Pole, aged twenty-six. He was injured in a mill, his arm being terribly lacerated from the middle third of the humerus to the wrist, with fracture of the humerus at the middle third. I dressed the wounds, placing the entire arm in a metal trough, using hot-water dressing and antiseptics. I can truly say I never saw a wound improve better than this did, but on about the twelfth day that sardonic grin caused wrinkles on my own countenance, and in spite of all the well-known remedies, and the assistance of the hospital staff and nurses, he died on the nineteenth day. At autopsy I found a sharp fragment of the broken bone imbedded in the median nerve. I was then about satisfied that this was the principal cause of the trouble.

Case III.—William W——, an Irishman, aged nineteen, burned by his clothes catching fire from a lamp, on the evening of April 28, 1895. The entire left side from the sternum to the spine, and from near the spine of the ileum to the base of the neck, and the entire arm from near the wrist to the base of the neck, including the axilla, and also both hands and fingers, were burned deeply, in some places to the bone. When I arrived at the house, about 2 A.M., I found what is commonly known as a potato poultice applied. (The entire wound was covered with scraped raw potatoes, fresh from the cellar—a most excellent habitation for the bacilli of tetanus.) I removed as best I could all this material and applied Carron-oil dressing. I again dressed the wound the next morning, removing all that remained of the poultice, considerable of the burned skin coming with it, opening the blisters and pressing the skin down gently. All went well, the wound acting very kindly.

Nothing occurred to cause alarm until May 15th, seventeen days after the accident, when the man complained of some stiffness of his jaw, which he said he had felt for two or three days. I lost no time in writing to Dr. Paul Gibier, of the Pasteur Institute, New York City, who promptly replied and advised me to use antitoxin immediately, also stating that he had never cured tetanus in a human being, but had in a number of horses. At the same time I did all I could to relieve the advancing tetanic symptoms. I gave sulph. physostigma hypodermically, grains, 1 to 100, twice daily, and by mouth every three hours. Later I increased it to grains 1 to 50 each dose, and I gave morphia as indicated, and chloral very freely, sometimes 30 grains, repeated every two, three, or four hours. The spasms were at first so well controlled by these remedies that it was not until Tuesday morning, May 21st, three weeks after the injury, I used the antitoxin. There was an apparent fixation of the muscles of respiration, and he was almost unable to breathe; nearly all the muscles were in a constant state of spasm. I admin-

[1] Read before the Montgomery County Society, June 12, 1895.

istered anodynes with a more free hand and with the family's consent. The patient then grew so much worse I availed myself of the only remaining chance, and tried this remedy. I gave the first injection of 25 c.c. (about 6 drachms) tetanus antitoxin, in the lateral part of the abdomen; the serum was very rapidly absorbed, and at 10 P.M. I gave another 25 c.c. The following morning I gave 10 c.c., and intended to give the remaining 15 c.c., but he was so exhausted I waited until the next morning. I wrote to Dr. Gibier, who advised me, as the treatment was begun so late, to give him more serum, and also to wash the wounds with Gram's solution (iodine, 1 gm.; iodide of potassium, 2 gm.; and distilled water, 300 gm.). On Monday morning, May 27th, I injected 10 c.c. more of the serum, and in the evening 15 c.c., when the spasms were almost subdued. I waited for more symptoms to appear to use the other bottle, but there was no use for it, and I relied only on chloral afterward. The present condition of the wound is most excellent, everything healing very rapidly, and patient sitting up most of the time. In looking over recent publications I find only six or seven cases in all where antitoxin or tetonine has been used successfully in tetanus, and they were all by foreigners, and I believe this is the first case in America where antitoxin has saved a human being.

A CASE OF ACUTE ATROPHY OF THE LIVER.

By W. KIRKER BEATTY, M.D.,

LONG ISLAND CITY, N. Y.

LATE RESIDENT PHYSICIAN ASTORIA HOSPITAL, LATE INTERNE EMERGENCY HOSPITAL, WASHINGTON, D. C.

ACCORDING to Bartholow the term acute yellow atrophy of the liver means "an acute affection of the liver characterized by a rapid wasting or degeneration of the organ accompanied by the systemic symptoms belonging to an acute acholia or cholæmia." According to Murchison, "acute atrophy of the liver is probably but a symptom of some blood-poisoning. The liver becomes rapidly atrophied with the development of jaundice and cerebral symptoms, what remains of the organ after death is found to be extremely soft and yellow, with no appearance of lobules and with the secreting cells in a great measure broken up into granular matter and oil-globules."

The following is the history of the case from the date of entrance to the hospital to death, which occurred three days later, including as much of the antecedent history as could be obtained.

April 17, 1895, I admitted to the wards of the hospital M. B——, aged thirty-five, white; female; American by birth. Has had nine children, seven of whom are living and healthy. Last confinement had occurred sixteen months previous. A probable one or two months' pregnancy existing. Her antecedent history showed her to have been a strong, healthy woman, with no hereditary predisposition, though her mother died of a disease which strongly resembles in description this one. Her hygienic surroundings were of the worst, poverty with its squalor and privation of nourishing food. The husband, a painter, kept his kit and paints in an outbuilding, so that little influence could be attributed to them.

The first symptoms of the present illness were observed April 11th, when she complained of slight backache. The following morning symptoms of acute gastro-duodenal catarrh presented themselves, pain in the epigastrium, anorexia, nausea, vomiting, bitter taste in the mouth, headache (which was very persistent), and general malaise. Icterus was probably existent to some degree, but was not noticed by the husband, who being a working man seldom saw his wife save by lamplight. April 13th, all symptoms save that of the persistent headache were relieved, and on the next day, Sunday, she felt well enough to be up. But on Monday marked icterus set in and the patient rapidly grew worse, until Wednesday the 17th, when she was admitted to the hospital in the following condition: Temperature, 37.8° C. (99° F.); respiration, 52, and pulse, 150, scarcely perceptible. She tossed about constantly in a state of active delirium. Her skin was hot, dry, and harsh, perspiration having been entirely checked. The entire body was jaundiced, the color being more intense on the upper part. Tongue dry, brown, and glazed smoothly: teeth encrusted with sordes; lips discolored from capillary hemorrhages. The mucous membrane lining the nasal passages was stained with dried blood and discolored by capillary hemorrhages. Shortly after admission she vomited, the matters ejected containing mucus and blood. There was an involuntary passage of colorless, watery, and foul fæces. On catheterization eight ounces of urine were obtained, which when examined was found to be of a very dark golden brown color, specific gravity 1.020, acid reaction, a large amount of albumin, and devoid of chlorides and phosphates. Physical examination of the hepatic region elicited pain on pressure; on palpation no part of the liver could be felt although carefully sought for; on percussion hepatic dulness extended but two inches below the nipple, below the hepatic dulness tympanites was found. Splenic dulness was slightly increased, but the intestines were so distended that this was not easily determined.

The history subsequent to this was that of progressive decline from the active delirium to low muttering delirium, tremors, subsultus tendinum, carphologia, stupor, coma, and death due to exhaustion of all the vital forces. Briefly it is as follows: By 8 P.M. the pulse had gained in strength and diminished in rate, being 140; respiration had decreased to 40; temperature had risen to 38.7° C. (101.6° F.). The temperature apparently rising as delirium increased.

April 18th.—During the night the noisy delirium merged into a condition of stupor from which the patient could be partially aroused by shouting in her ear. 8 A.M., the pulse was 128, the temperature had risen to 39.5° C. (103° F.). Skin was more moist, and the icterus of a darker shade about the head and upper part of the trunk; the extremities slightly lighter. 1 P.M., pulse imperceptible; respiration, 44; temperature, 37.2° C. (99° F.). 8 P.M., pulse again perceptible, being 160; respiration, 44; temperature, 39.2° C. (102.6° F.). Extremities cold and moist. 11 P.M., a hemorrhagic discharge from the uterus occurred, but nothing definite could be ascertained on examination; in all probability it was a one or two months' conception.

April 19th.—During the night vomiting occurred frequently, the vomitus consisting of the ingesta, mucus, and blood. The pulse-rate and strength had improved, being 120; respiration continuing uniformly at 44.

The patient was rapidly drifting into a very low typhoid condition; she was constantly sinking down in bed, muttering, hands trembling, and ceaselessly picking at the bedclothes, etc. Mouth was constantly open, as if the muscles were too weak to close it; tongue dry and glazed, with a smooth dark brown coating; lips more discolored from capillary hemorrhages; breath heavy and foul. Bowels had several involuntary movements during the night, the stools being light in color and of large quantity. Pupils very much dilated and not responding to bright light nor to pilocarpine which had been injected several times. Color of the skin seemed to be of a lighter shade. Pulse, 150; respiration, 48; temperature, 38.1° C. (100.6° F.). At 1 P.M. the pulse was 128; respiration, 46; temperature, 38.7° C. (101.6° F.). At 8 P.M., the lower delirium merged into coma; mucous râles over the entire chest were heard.

April 20th.—During the night the coma gradually deepened. Pulse weaker though slower, being 106; respiration, 56; temperature, 38.2° C. (100.6°) F. The bowels ceased to move. At 1 P.M. the respirations increased to 65. Died comatose at 5 P.M.

The treatment was wholly symptomatic and tentative, as the patient was practically moribund when brought in. Efforts were made to produce diaphoresis by hot packs, fluid extract of jaborandi by mouth, and hypodermic injections of muriate of pilocarpine, but with no apparent effect, though as much as one-third of a grain was used. To keep the bowels open magnesium sulphate and the mild chloride of mercury were used. Free and bold stimulation was employed throughout, most reliance being placed on nitro-glycerine, which was given by hypodermatic injection hourly in $\frac{1}{100}$ grain doses. Strychnia by hypodermatic injection was used every four hours without apparent effect, so was discontinued. Digitalin $\frac{1}{75}$ grain was also tried with no result. The nourishment for the first day was milk, but this being vomited before digestion could be effected, I substituted bovinine with success.

Autopsy.—An autopsy was made but permission could be obtained to examine the abdominal viscera only. Body well nourished and muscular. Deeply jaundiced hue of the entire body including all the abdominal viscera. No scars on the genitals nor in the groins. A layer of fat, one inch thick, deeply bile-tinged, covered the abdomen. Serous covering of the intestines greatly congested. Stomach and intestines much distended with gas. The liver was hidden by distended intestines, the lower edge being above the margin of the ribs; about two inches only of the liver was opposed to the thoracic wall. The organ, on account of its friability, was detached with some difficulty in order to remove it intact. The volume was reduced at least one-third, but as there was no facility at hand for weighing we could not make a more accurate estimate. It was quite friable and flabby, the surface somewhat wrinkled and splotched with greenish-yellow patches. On section a dark greenish substance oozed. Bile-ducts were patent, but the gall-bladder was much diminished in size and capacity, and empty, save for a small amount of inspissated mucus. Spleen, much enlarged, very soft and friable. Dark greenish red on section. Kidneys, jaundiced and somewhat enlarged, rather soft and flabby. Much fibrous tissue in its substance. Pancreas, jaundiced, very much indurated and enlarged; adherent to all surrounding tissues; resistant on section. Appendix vermiformis, calibre narrow, admitting only small probe. Uterus, slightly enlarged.

The following is a chronological list of all cases reported in America:

Date.	Reporter.	Periodical and Place.	Date.	Vol., Pages.
1856	A. T. Holmes.....	Medical Chronicle, Montreal, Canada.....	1856	iii., 281–288.
1868	J. Homans.....	Amer. Journal of the Medical Sciences, Philadelphia, Pa..	1868	lvi., 53–73.
1871	W. M. Chamberlain	MEDICAL RECORD, New York, N. Y.....	1871–72	vi., 265.
1871	I. G. Porter.....	Amer. Journal of the Medical Sciences, Philadelphia, Pa..	1871	lxi., 150–152.
1873	F. W. Chapin.....	Philadelphia Medical Times, Philadelphia, Pa.....	1873–74	iv., 486.
1873	R. Watts	MEDICAL RECORD, New York, N. Y.....	1873	viii., 140.
1878	G. T. Thomas	North Carolina Medical Journal, Wilmington, N. C.....	1878	ii., 233–238.
1878	H. Curtis..... ...	Boston Medical and Surgical Journal, Boston, Mass.....	1878	xcviii., 615.
1880	A. L. Loomis	New York Medical Journal, New York, N. Y.....	1880	xxxi., 31–33.
1883	S. C. Chew	MEDICAL RECORD, New York, N. Y.....	1883	xxiv., 369.
1883	J. H. Musser	Proceedings of the Philadelphia County Medical Society, Pa.	1882–83	v., 13.
1884	J. Bowen.....	Archives of Medicine, New York, N. Y.....	1884	xi., 175–179.
1885	E. T. Marsh.....	MEDICAL RECORD, New York, N. Y.....	1885	xxviii., 203.
1886	J. X. Ziteke.....	Therapeutic Gazette, Detroit, Mich..	1886	ii., 73–83.

TWIN-BIRTH—ONE CHILD DEAD, THE OTHER LIVING.

By HENRY HEIMAN, M.D.,
NEW YORK.
ATTENDING PHYSICIAN TO THE CHILDREN'S DEPARTMENT OF THE MT. SINAI HOSPITAL DISPENSARY.

MRS. S——, aged twenty-eight, married seven years, had two living children and three abortions. I was called to see her on March 31st, and found her in labor pains. On vaginal examination I was surprised to make out, instead of the usual presentation, a sharp irregularly circular edge of bone, extending backward from which the examining finger could map out a soft, pulpy mass. After a few sharp pains a dead fœtus was delivered. It was of a grayish color, skin macerated in different spots; the upper and lower extremities were flattened, probably from pressure; the cranial bones easily compressible and freely movable; cranial cavity nearly empty. On my first examination I did not find the membranes which should have contained the dead fœtus. Three hours after delivery of the dead fœtus a living child was expelled. There was no history of any vaginal discharge at any time during pregnancy.

Parvin gives the following varieties of dead fœtus: "1. Liquefaction generally occurring during the first or second month of pregnancy, *e.g.*, fleshy mole. 2. Mummification: In this variety the fœtus appears as though it had been preserved in alcohol. 3. Maceration: In this variety the fœtus appears swollen, its form changed, abdominal cavity often distended, bones of the cranium move freely upon pressure, the epidermis comes off in large flakes; odor is not pleasant, but not like putrefaction." My case seems to correspond with this type, the fœtus having lived up to the fourth month. "4. Putrefaction, caused when membranes rupture and accompanied with general symptoms of putrefaction." The patient made an uninterrupted recovery, and the living child is doing well.

220 EAST 116TH STREET.

Rise of the Medical Profession.—During early mediæval times the monasteries, serving as centres of instruction, gave some embodiment to the medical profession, like that which our colleges give. In Italy there later arose institutions for educating physicians, as the medical school of Salerno, in 1140. In France, before the end of the thirteenth century, the surgeons had become incorporated into a distinct college, following, in this way, the incorporated medical Faculty; and while thus integrating themselves, they excluded from their class the barbers, who, forbidden to perform operations, were allowed only to dress wounds, etc. In our own country there have been successive consolidations. The barber-surgeons of London were incorporated by Edward IV., and in the fifteenth century the College of Physicians was founded, and "received power to grant licenses to practice medicine—a power which had previously been confined to the bishops." Progress in definiteness of integration was shown when, in the time of Charles I., persons were forbidden to exercise surgery in London and within seven miles, until they had been examined by the company of barbers and surgeons; and also, when, by the eighteenth year of George II., excluding the barbers, the Royal College of Surgeons was formed. At the same time there have grown up medical schools in various places, which prepare students for examination by these incorporated medical bodies; further integrations being implied. Hospitals, too, scattered throughout the kingdom, have become places of clinical instruction, some united to colleges and some not. Another species of integration has been achieved by medical journals, weekly and quarterly, which serve to bring into communication educational institutions, incorporated bodies, and the whole profession.—Herbert Spencer, in *The Popular Science Monthly.*

Society Reports.

THE BRITISH MEDICAL ASSOCIATION.

Sixty-third Annual Meeting, held in London, July 30 and 31 and August 1 and 2, 1895.

(Specially Reported for the MEDICAL RECORD.)

SECTION IN MEDICINE.

FIRST DAY, WEDNESDAY, JULY 31ST.

Discussion on Diphtheria.—This discussion embraced the following points: 1, Pathology of diphtheria and its sequelæ; 2, symptoms and progress; 3, statistics of mortality under the antitoxin treatment and under other treatment; 4, effect of the antitoxin treatment upon the local affection, upon the general condition, and upon the sequelæ; 5, effects that may arise from the antitoxin treatment.

DR. SYDNEY H. C. MARTIN, in opening the discussion, said that although the idea was combated for a long time even by eminent men like the late Dr. Murchison, it is now definitely established that there exists a number of micro-organisms intimately connected with the various diseases, and that each disorder has its specific organism, which may sometimes also be found elsewhere. Pasteur laid the foundation of the theory when he discovered that micro-organisms could be artificially cultivated outside the body, and that when these culture-products were inoculated in an animal, such as a rabbit or a guinea-pig, they gave rise to a disease of the same kind as the one from which the original germs had been derived. Bacteriology is not merely an abstract science devoid of practical application, for numerous experiments have proved the existence and character of a number of micro-organisms and determined the part they play in the causation and progress of disease, and within the last few years it has been proven that it is possible to prevent their development. But how to prevent the spread of disease is only one of the discoveries that we owe to the science of bacteriology. It has been demonstrated that inoculation with a cultivated micro-organism will produce a milder form of a disorder. The attenuation of these micro-organisms can be effected by causing them to pass through the system of some animal, or by an artificial culture in various media.

The pernicious effects due to the presence of a micro-organism are referable, not to the action of the bacilli themselves, but to the poisonous effects of the products to which they give rise. Antitoxin is derived directly from the toxin produced by the bacillus, whether in or outside the body, and is separated from the latter by filtration.

The most recent method of treating diphtheria is by inoculation with the serum of a horse that has been previously inoculated with diphtheritic poison. A large number of remedies had been from time to time proposed for the treatment of diphtheria, but without producing much effect on the general symptoms of the disease; and whenever a new therapeutic remedy is introduced it is necessary to study it carefully and watch it with the utmost attention. The employment of antitoxin in the treatment of diphtheria is based on the study of the pathology of the disease, which is an inflammatory condition of the mucous membrane of the mouth and air-passages excited by a special bacillus which gives rise to nerve degeneration. It is not the bacillus that induces the death of the patient, but the degeneration of the nerves, the chief symptoms being suppression of urine and a fatty degeneration of the muscular fibres of the heart. A single dose of the poison will give rise to the disease, and the fluidity of the blood is affected if this dose be a large one, but it is the absorption of repeated small doses of the poison during the course of the disease that has such a disastrous effect.

Two rabbits were experimented with. In one a dose of unmixed poison was injected, and in the other a mixture of poison and antitoxin. On examination after death, the former was found to have fatty degeneration of the muscular fibres of the heart and nervous degeneration, but the second rabbit had a perfectly sound heart and only a tracè of nerve degeneration. Experiments have proved that antitoxin is quite innocuous, but the toxin induces paralysis on the fourth day after its introduction into the system of the animal.

Cardiac syncope in diphtheritic disease is due to the fatty degeneration of the muscular fibres of the heart.

In reply to a question Dr. Martin stated that the normal temperature of a healthy rabbit was 103° F., and to another he said that not only was the injection of antitoxin followed by no inconvenience to the animal, but that the latter even increased rapidly in weight.

DR. G. SIMS WOODHEAD stated that the persistence of the local exudation indicated a severe form of diphtheria, and that when it was gelatinous the case became a very grave one indeed. The symptoms were albuminuria, sometimes but not always pyrexia (occasionally there was no elevation of temperature), and drowsiness; vomiting was of frequent occurrence, as was also suppression of urine; when the renal secretion continued to pass it was much more concentrated than usual; there was also more or less hemorrhage from the mucous membrane, and dropsy. If convulsions supervened they were the immediate precursors of death. Some of these aggravations of diphtheria, especially the last, have been attributed to the use of antitoxin, but, the speaker considered, without adequate reason. In some cases the diphtheritic bacillus could not be detected, and in such cases the injection of the antitoxin was productive of no effect.

In 241 cases of diphtheria 105 were treated with antitoxin and 136 by other methods, and the mortality in the latter was considerably higher than in the former. Age was an important factor and the older patients were found to do better without the antitoxin; nevertheless, a general consideration of all the facts tends to prove that the antitoxin treatment of diphtheria is one to be commended and followed.

The antitoxin does not cause any diminution of the albumin in the urine, nor does it influence the anuria; but in cases where it was used there was found to be a larger proportion of paralytic complications than in those cases where it had not been employed, although it must not be too hastily concluded that the paralysis is the actual result of the use of antitoxin. Paralysis is usual after severe cases and infrequent after those that are of a milder type, and many of the former would probably have succumbed had they not been tided over the peril by the antitoxin. Where antitoxin was used in mild cases, no paralysis was observed. The fact is that the antitoxin has no control over the paralysis, which, however, is never permanent, and from the effects of which no deaths have been recorded. Antitoxin, in like manner, does not influence glandular enlargements or broncho-pneumonia.

In all cases it is important to commence using the antitoxin as early as possible, but there is no benefit to be derived from other concurrent treatment. In complicated cases not much can be hoped for from its employment. About the worst combination of diseases is that of diphtheria and measles, which nearly always ends fatally from broncho-pneumonia.

Diphtheria varies in severity in different years, in some being of a much more serious type than in others, and although the results of the antitoxin treatment have been less favorable in the former, enough encouragement has been obtained all round to induce the speaker to persevere with it.

DR. ALEXANDER JOHNSTON mentioned the occur-

rence of paralysis of the soft palate, a subnormal temperature, diminution of urine, and vomiting as being of frequent occurrence in diphtheria, and said that the diagnosis of the disease was established by bacteriological examination, notwithstanding the fact that other micro-organisms were found along with the diphtheria bacillus. He had used antitoxin in some cases which turned out to be scarlet fever, and they were uninfluenced by it in any way. In the Belvedere Hospital, Glasgow, the highest mortality was 41.4 and the lowest 28.63 per cent.; he tried the antitoxin in 7 cases, 5 of whom died, and the other 2 derived no benefit.

Dr. von Ranke said that he began the use of antitoxin nine months ago, but he only treated cases of pure diphtheria, all very severe cases, the mortality being 17.7; 28.4 per cent. of his cases were treated by incubation and 41.1 by tracheotomy. In only three cases did he have to retain the tube longer than four days; he always has it removed every day for a little while to see how the patients get on without it.

In his cases of diphtheria of the pharynx only two per cent. died, and they succumbed to heart failure; nineteen per cent. had septic symptoms. The mortality varied according to the age of the patients. Under twelve months all died; between one and two years 27.5 per cent. Before he began the use of the serum treatment the average mortality was forty-six per cent., the highest, 57.7 per cent. Since he had used the serum it was 17.7 per cent., and the change in the clinical course of the disease was also very marked. Before, it was progressive. Laryngeal stenosis was benefited in a special manner. Croup cases improved in the most wonderful way, and twelve hours after admission no operation was necessary; if the little patients were intubated the tube could be removed much earlier than would otherwise have been possible without the serum treatment. If antitoxin was not a specific in diphtheria, at least it was a most powerful remedy.

Dr. Lennox Browne was not altogether opposed to serum injections in diphtheria, but he was watching the treatment and had arrived at a very different conclusion from that of the last speaker. He thought that the importance of the rise and fall of the temperature has been over-estimated. Antitoxin had no influence over nephritis. It was said that the serum was only of use in cases of uncomplicated diphtheria, but others were inclined to believe it was beneficial in mixed cases also. Statistics, he thought, should not be too much insisted upon, as the records made were the result very frequently of only a small number of observations. Antitoxin and classical treatment contrasted showed much the same result. He did not think the reviews in the *British Medical Journal* had been fairly set forth. One case was counted twice over, and one was stated to have been treated on June 31st, a day he did not find on the calendar. Improvement under good hygienic conditions was certainly to be taken into account.

Dr. Baginsky, of Berlin, said that he had written a book about this method of treatment. Before the introduction of the serum treatment the mortality from diphtheria had been appalling. He began the use of antitoxin in March, 1894, prior to which time from forty-one to fifty-eight per cent. died; now the mortality was no more than fifteen per cent. and in the best class only five per cent. The whole character of the disease had been changed. True, they had still some cases of failure of the heart, but only in mixed cases that had come late under observation; probably had they been seen earlier these patients would have lived, for he had never lost one from cardiac complications when the case had been under his care from the commencement of the complaint. If some patients had nephritis it was not a recent development. The mortality of cases with laryngeal stenosis before the serum was introduced was sixty per cent., but only twenty-one per cent. since. He thought he had some little excuse for his enthusiam.

Dr. Sims Woodhead had got past the stage of enthusiasm that was untempered by facts. He thought some were too timid in their use of the antitoxin, for the best results were obtained from the largest doses, which were employed by those who had the greatest amount of experience with the serum. He was not prepared to find the mortality influenced in so marked a manner, but he had remarked upon the alteration in the character of the disease that had been mentioned.

Dr. H. M. Biggs, of New York, spoke from memory only, having no data within reach. He explained that any medical man in New York can obtain a supply of antitoxin free of charge on application to the Board of Health, and can have it administered, if desired, by a medical inspector. The mortality had been very considerably reduced as regards both private and hospital cases. The antitoxin conferred a remarkable immunity.

Diphtheria broke out in four institutions for children in New York. There were 107 cases in all. Then the rest of the children were inoculated with the serum, and after that only three more cases occurred. The immunization, however, only lasts for about a month, and then the inoculation has to be performed again; but in all probability a few successive inoculations would ultimately confer permanent immunity. He could not speak too highly of the treatment by antitoxin. No bad results followed, except a slight and temporary urticaria in a few instances, and a trifling rise of temperature for four or five hours.

Dr. Campbell Hall had not much to add to the discussion; nevertheless he came from a place where diphtheria was endemic, and he began the serum treatment as an unbeliever, but was surprised with the result. In not a single instance did the membrane spread after inoculation, and he would not now think of treating the disease in any other way than with antitoxin.

Operative Treatment of Athetosis. — Dr. C. E. Beevor then read a paper, the joint work of himself and Mr. Horsley, "On the Pathology of Severe Athetosis." The first patient operated on had suffered from an incessant, uncontrollable movement of the hand and arm, but after the removal of a portion of the cortes cerebri there was complete paralysis of the affected arm lasting for a year, when motion began to be gradually restored. Then the man "had a bad turn" and eventually died, having been relieved by the operation for a period of a year. The athetosis in this case was the result of injury through a fall on the head.

In the second case the athetosis was also the consequence of an injury, and the relief was complete for two years, when, owing to hernia cerebri occurring through the necrosis of the bone graft, meningitis set in, the inflammation became general, and the patient died.

Before trephining in these cases numerous experiments had been made on monkeys and on an orang-outang.

The Thyroid Treatment of Myxœdema. — Dr. George R. Murray, of Newcastle-on-Tyne, read a paper entitled "Notes on the Progress and Present Condition of the First Case of Myxœdema Treated by Thyroid Extract."

The question had been asked if this was a complaint that was capable of being cured, to which he would reply that it was, and that it would not return when the remedy had been discontinued. Myxœdema is a disease of the thyroid gland, but even when the gland cannot be restored the patient can be cured, and there will be no return of the disease as long as he continues to take the remedy in daily doses of ten grains each.

Dr. Colin Campbell mentioned a case in which a relapse had taken place and all the symptoms of myxœdema had returned after a shock caused by a railway accident; but the patient had ceased taking the extract

four months before, as she considered that she was completely cured.

Dr. Murray, in reply, said that he doubted very much whether the railway accident had had anything to do with the return of the symptoms, for a relapse might be expected in about one hundred days after a patient had given up the daily dose of the extract.

Uranium Nitrate in Diabetes Mellitus.—Dr. Samuel West said that in large doses this salt acted as an irritant poison, and small doses interfered with the digestion of starch and albumin. A knowledge of this action had induced a homœopathic physician to try the drug on a patient suffering from diabetes. Dr. West first tried it on some out-patients who were suffering from that disease, and they informed him that after taking it for a short time their secretion of urine was diminished by about half. The uranium nitrate was then administered to some other patients more favorably situated than the first. He began with small doses of one grain, gradually increased to twenty grains three times a day, and the effect was most marked, for not only was the output of urine greatly diminished, but the quantity of sugar contained in it was also correspondingly decreased, the excessive discharge of both sugar and urine returning as soon as the drug was stopped. This certainly proved its restraining power.

Another case that had hitherto been treated by a strict attention to diet was then put under the uranium nitrate treatment, with the effect that the urine was much diminished in quantity, but as the drug caused nausea it had to be discontinued, and then the diabetic symptoms at once returned. It was now cautiously resumed, and for four or five months this patient's urine was normal in quantity and absolutely free from sugar. The patient then had an attack of influenza, when the uranium was discontinued and the patient soon relapsed into her former condition.

Several other cases also derived great benefit from the use of the uranium salt. The drug does not, however, cure the disease, but it certainly exerts a very marked effect upon its progress.

When the minimum secretion of sugar has been reached the dose of the drug may be gradually lessened, even down to one grain a day, without a return of the symptoms, but it had better not be left off altogether.

Dr. Garrett-Anderson wished to know if uranium nitrate was an expensive drug, and also what effect it had on the diabetes of children.

Dr. West replied that he did not know the exact cost of the drug, but he imagined it was by no means an expensive one. He had never tried it on a child.

Bronzed Diabetes.—Dr. Hanot then gave a short address in French, entitled "Notes sur le Diabète Bronzé." He began by apologizing for speaking in French, but his knowledge of the English tongue was too limited for him to venture to use it. The essential character of this disease, for he considered that bronzed diabetes was a special and independent malady, was the deposition of pigment not only in the liver, but in every organ of the body. This deposition was not an effect of the diabetes, but was due to an obscure common cause; it differed in many essential points from morbus Addisonii, especially in the bronzed or pigmented condition of the mouth and fauces. It was certainly a disease *sui generis*, and terminated rapidly in the death of the patient. He had seen seventeen cases of bronzed diabetes, in all of which there was a large concretion of sugar. The final complication was generally pneumonia, but occasionally the patient succumbed to mere exhaustion or to syncope.

Direct Intra-pulmonary Medication. — Mr. Colin Campbell said that the lungs were possessed of great absorbent power, perhaps as much as the intestinal tract itself, and much greater than that of the latter in many diseased conditions. Therefore he considered that direct treatment of diseases of the lungs would be found to have a great future before it. At present the only mode of directly medicating the lungs was by means of the inhalation of vapors, but it was more than doubtful whether the latter reached the ultimate ramifications of the bronchi, and if creosote, for instance, could be introduced directly and brought into immediate contact with the pulmonary tissue, much more good might be expected from its employment.

The complaints most amenable to treatment by this method were all bronchial affections, asthma, tuberculosis, and similar morbid conditions of the lungs; in chronic bronchial asthma it had a marked beneficial effect.

Considering the *rationale* of the treatment, it might be expected to do good in cases of chronic interstitial pneumonia, but the result was somewhat disappointing. In hemorrhage from the lungs, however, the direct injection of a mixture of glycerine and turpentine was productive of benefit, and was followed by no bad results, or even by inconvenience; even in cases where a cure is impossible, it will afford great relief. He had known cases of hereditary phthisis presenting large cavernous abscesses in the lungs to be entirely and permanently cured. At first there might be a little difficulty in practising these intra-pulmonary injections, but what operation was not attended with more or less difficulty when first practised? The difficulty, however, is soon overcome and the operation is performed as easily as the passing of a catheter or the administration of an enema.

Dr. Murray bore testimony to the efficacy of the treatment in several cases of pulmonary affections, but he had not employed it in tuberculosis.

In reply to a question Mr. Colin Campbell said that he had a special syringe made for practising these injections. It was longer than those in ordinary use and had a more extended curve. He used turpentine in equal proportion with olive-oil, and in the interval between the acts of inspiration and expiration he injected one hundred minims three times into the lung, which he had found was as much as was required. The administration was productive of so little inconvenience that no patient had ever objected to a repetition of the injection. He found that a mixture of olive-oil and menthol recommended by Sir T. Grainger Stewart did not mix with the sputum, and had substituted glycerine for the former, which mingled freely and carried the menthol along with it, rendering the act of expectoration easy by liquefying the viscid sputum. He had never found that dypnœa was produced, and should not think it would be twice in ten thousand cases. Of course it required practice to give the injection in the right way, but a little experience would soon enable this to be done with complete satisfaction to the patient.

Second Day, Thursday, August 1st.

Discussion on Acute Lobar Pneumonia.—After some preliminary remarks by the President of the Section (Dr. Pavy), Dr. Douglas Powell opened the discussion by observing that we are on the border-land of a new method of treating this formidable disease, the death-rate of which still holds its own. To describe the well-known symptoms of pneumonia would, he thought, be a waste of time, while its etiology has exercised the minds of physicians from all time. The disease bears no proportion to the inclemency of a climate, but in the temperate zones it is more prevalent during seasons of low temperature, the months of January, February, and March having the highest proportions, both as regards the incidence of pneumonia and its mortality. Among other conditions favorable to the development of the disease are personal imprudence, exposure to atmospheric effects in exposed places, insufficient or inappropriate clothing, the artificial conditions of social life, sudden changes of temperature, which are all to be taken into consideration when estimating the etiology

of pneumonia. It has been said that he is a contemptible man who is always absorbed in the contemplation of his own skin; but an imprudent man who takes no notice of his surroundings is not much more to be commended.

With regard to an etiology depending solely on the entrance of a micro-organism into the system, such an assumption would certainly have a tendency to give rise to carelessness; we always have organisms with us, and they will do us no harm unless we furnish them with an occasion for destructive development.

The compensatory powers of the system may be defeated by nervous shock and imprudence, for nasal catarrh is unquestionably due to a surface chill, and of all the ills that flesh is heir to it is decidedly one of the most contagious, running its course rapidly through a household when one of the members has been attacked.

When pneumonia occurs in the course of a febrile disease, it does not arise during the period of active pyrexia, but when the temperature has begun to decline. With regard to pneumonia being caused by a special organism, the disease is a general rather than a local one, and its manifestation in a given locality is only part of its general presence in the system. Rheumatism is not favorable to the development of pneumonia. There are three favorite candidates for the honor of distributing pneumonia among us; the coccus that is found at all times in the saliva is the one that occurs most freely in cases of this disease; but, on the other hand, it is also found to exist in other diseases that are not quite analogous with pneumonia.

Osler did not find the pneumo-micro-organism constant, but observed others in different cases, and the pneumococcus exists largely in healthy saliva. Impaired vitality is an exciting cause of the disease.

Pythogenic pneumonia is practically the same affection as ordinary pneumonia, but the temperature is more fluctuating. When pneumonia spreads among the members of a household the probability is that they contract it from the same originating cause, and not through contagion. How far this cause is associated with the effects of sewer-gas is undetermined.

With regard to the treatment, the speaker's experience justified the routine employment of salines, diet, rest in airy room with a medium temperature of 60° F., but he preferred the dose of medicine to be given every six rather than every four hours, so as to allow more time for the administration of nutriment, and of more powerful drugs when these were indicated by the general symptoms. Quinine was far preferable to the old method of blood-letting and antimony, which were powerful depressants, and weakened the heart at the critical moment of the struggle. Tincture of iron was a valuable aid.

Pyrexia is a normal condition of pneumonia and is present in most cases; it is inimical to the development of microbes, and in interfering with it too much there is a risk of their increased action. But if the temperature of the patient rises above 104° F., it had better be reduced. The cold cradle is useful for this purpose, as are the antipyretics, but care must be taken not to let the temperature fall below the normal.

The consideration of pain in pneumonia is a most important one. Poultices, hot or cold, have but little effect in reducing it, but the use of ice-compresses is a vexed question at present. They are of decided advantage in the case of children and young adults, they do no harm, and as a rule relieve the pain, but have no effect on the respiration, and on the whole leeches are more reliable than ice for dispersing pain. Blisters of small size, followed by a rapid succession of hot poultices, are often useful, but the employment of morphine is of less decided advantage, as it certainly checks the secretions. When there is a tendency to cyanosis the inhalation of oxygen is productive of much benefit. Strychnine and caffeine are two powerful remedies, and the latter is the less dangerous, requires less supervision than the former, but is less potent. It should be administered subcutaneously, for the stomach cannot be depended upon to act, and when the patient recovers he may find himself confronted with an accumulation of the drug in poisonous quantity. Oxygen must not be reserved for a last resource, but be given as a cardiac tonic at an early stage to supply the left cavity of the heart with a sufficiency of red blood and sweep away the products of imperfect combustion.

Plethoric people are often carried off rapidly by an attack of pneumonia—overwhelmed by it, so to speak—and in such case leeches are indicated. On the fifth day of the disease acids should be substituted for salines.

The antitoxin treatment of pneumonia by the introduction into the veins of a patient of blood drawn from a convalescent from the same disorder is not satisfactory for several reasons, but chiefly owing to the difficulty of obtaining what is wanted at the right moment, and the operation, moreover, is not free from danger.

Dr. Washbourn was of the opinion that pneumonia was due to a coccus and to that alone. The inflammation had a tendency to spread, but was susceptible of being localized. The micro-organisms (pneumococci) spread through the walls of the alveoli. Both lobular and lobar pneumonia were due to a coccus, though its demonstration is difficult, for it dies out at a later stage of the disease, and is replaced by others.

Different animals evince a differing degree of susceptibility to the action of the pneumococcus; thus mice are peculiarly liable to its action, guinea-pigs less so, and fowls are immune.

The pathological changes observed are due to the action of a number of different factors, and the several micro-organisms give rise to modifications of the inflammatory process. Several varieties of the pneumococcus have been described, but they differ in appearance only. The pneumococcus produces fibrous pneumonia. The treatment of the disease by the injection of the blood of a convalescent is not difficult in the case of animals, and gives strong reason to believe that it will prove to be a specific for pneumonia.

Dr. Auld, of Glasgow, said that the inflammation of pneumonia was not confined to the lungs, but also spread to the meninges of the brain; the disease itself (pneumonia) was, however, a genuine inflammation due to the pneumococcus which circulated in the blood and produced or gave rise to a bacterial toxin. Leucocytosis diminished with the fall of temperature, and the local lesion in the lung was often a means of checking the general development of the micro-organism by preventing its expansion in other parts of the system. He agreed with Dr. Douglas Powell that pneumonia is due to the action of a special coccus. Pleurisy, though often associated with pneumonia, is nevertheless a distinct disease, for some rabbits he had inoculated with pleuritic serum developed pleurisy but not pneumonia.

The toxic crisis might be determined by the elaboration of antitoxin, but this was no sign that the disease was arrested or even diminished.

Dr. Dreschfeld, of Manchester, said that he would be practical in his remarks. The pneumococcus was the cause of pneumonia, and low vitality favored its development. The sputa should be carefully disinfected. Wandering pneumonia was similar to typhoid, the sputa were not sanguineous and the bacilli were not to be mistaken for pneumococci, but were more like the bacilli of influenza.

Dr. J. E. Pollock would rather add to his knowledge than discuss doubtful points. What was the meaning of pneumonia; what its cause and treatment? A micro-organism had been detected in croupous pneumonia, but it was also found in other diseases. What was to be inferred from that? Again, was it the cause or the result of morbid action? Certainly there are

many cases of the disease in which it is impossible to trace the action of a microbe. For instance, a robust man of thirty-five, who had always been healthy and temperate, without the least tendency to the disease, drove seven miles in an open trap in the face of a keen east wind. He was lightly clad, took a chill, developed pneumonia, and in spite of every care and attention died in a few days. Was this the result of the invasion of his system by a microbe, or was it due to the effects of a chill? We live in a world of microbes. The speaker then instanced himself as having been a resident physician in a hospital for phthisis without contracting the complaint, although he was not without a hereditary bias, as his mother had died from that complaint. Cause and effect are by no means invariable. Can phthisis be accounted for in every case by the microbe theory? He thought not; but if so it was contagious and our consumptives ought to be labelled "dangerous." Very well, but do not forget that theory is not proof, and must give way to clinical experience; laboratary knowledge by itself must be looked upon with caution.

Dr. Foswell, of Birmingham, considered that pneumonia was a constitutional disease which attacks other parts of the body as well as the lungs, and sometimes the inflammation of the latter organ is quite a minor part of the complaint; wherefrom the question arose, should it always receive the same name? In fatal pleuro-pneumonia there was always suppuration, but the presence or absence of that complication depended on the tissues involved. It is advisable to take the widest view of every case. The speaker once lost a patient who had enteritis as well as pneumonia because he took cognizance only of the latter.

Ice-packing is a valuable method of combating the effects of pneumonia, particularly in the case of children; after half an hour, sleep is induced and pain relieved, but if the latter has not disappeared by that time then a blister, or preferably a couple of leeches, should be had recourse to. Strychnine is valuable in cases with cardiac complications and should be administered subcutaneously. He had never observed any bad effect from its use.

Dr. Tyson, of Folkestone, could not hope to say anything new about pneumonia, but he differed on some points from several previous speakers, being compelled so to do by his own clinical experience. The time had come, he thought, when the word pneumonia, as significative of a distinct disease, could no longer be used by itself, but must be coupled with a differentiating adjective; thus, asthmatic pneumonia, inflammatory pneumonia, alcoholic pneumonia, septic pneumonia, which all differed, and must be taken, each on its merits. Country practitioners, as a rule, cannot undertake the study of bacteriology, and the treatment useful in each class or type of the disease is not the same, so that the laboratory student must work in conjunction with the clinical observer.

Dr. G. W. Balfour, of Edinburgh, had a theory of his own. No disease had ever been so diversely treated as pneumonia. Blood-letting, antimony, phosphorus, alcohol, etc., had each in turn been lauded as a panacea, and it was just the same to-day, new specifics for the cure of the disease were being announced every week in the medical journals. He was strongly of the opinion that treatment has little or no effect on the course of pneumonia, in which there is a tendency to recovery, and that the part of the physician is rather to obviate death than to control the course of the disease. Death, when it occurs during the progress of an attack, is always due to cardiac failure. No treatment can nullify exhaustion or prevent disease, but we must not aggravate either. Two grave features of the disease are to be guarded against, rise of temperature and consolidation of the lung tissue, while exudation in the pulmonary centre is not worse than it is anywhere else, the heart takes little notice of the apparent obstacle. A very high temperature is productive of exhaustion and indicates complications.

The more powerful antipyretics each possess a danger of their own, but digitalis is eminently useful along with free stimulation. The recumbent position should be strictly enforced, and the digitalis must not be pushed too far. Too much trust should not be reposed in opium, but chloroform is possessed of valuable remedial power; pain is vanquished, cough allayed, temperature dropped under its use, but it must be carefully watched and its administration in small doses by the mouth, in some convenient emulsion, is preferable to inhalation; it can be conveniently replaced by chloral, which is at once an antipyretic, an hypnotic, and eminently manageable.

Dr. Baümler, of Freiburg, preferred the treatment of pneumonia by the cooling method—cold-cradle, ice-packing, both of 70° F., all of which assisted nature by causing the external blood-vessels to contract and a flow of blood to pass through and "flush" the internal organs; but a patient with a fatty heart requires a different course of treatment. The kidneys, especially, are benefited, for the cold excites their action, and without it the urine becomes concentrated, but with the cool method it flows freely and many injurious products are carried out of the system, strength is saved, and a restless, wakeful brain receives rest and quiet. This is especially noticeable in the case of children. Where there have been convulsions, these disappear after the cold bath, owing to the beneficial effect of the latter on the extremities of the sensitive nerves in the skin. To sum up the matter, the general effect on the whole course of the disease is great. Treatment should not be wholly symptomatic, as could be easily proved, but the speaker had not had time to prepare statistics. He had used antipyretic medicaments, but had latterly come to the conclusion that cooling measures are infinitely preferable, owing to their direct action on the circulation and the various organs. So many differing causes affect the progress of a case of pneumonia that it is not always possible to estimate the issue, and much depends on the remnants of previous disease in the lung.

Dr. Clifford Allbutt agreed with Dr. Pollock that if a bacteriologist said that a certain microbe was the cause of the disease he should be put down, but he doubted that anyone had ever said so. He thought the disease could not be traced to chill alone or to bacteria alone. Leucocytosis was a marked means of differentiation between the different forms of pneumonia. If cold water depresses the enemies more than the defenders of the citadel of life, well and good; but to the speaker it seemed to cut both ways. The inhalation of oxygen was most valuable. He had seen a patient kept alive by it for six weeks, and it alone had kept off cyanosis and death as long as it was possible for anything to have done so. Superinfection was due to the spreading of the original toxin, and in such cases the ordinary tincture of iron was of great benefit. Bleeding produced a temporary effect in acute pneumonia, but only a temporary one.

Dr. G. A. Gibson, of Edinburgh, agreed with Dr. Clifford Allbutt as to leucocytosis and the part it played during the progress of pneumonia, and thought that Dr. Pollock misunderstood the question of bacteriology. How was it that the clinician never found out by his observations at the bedside that cholera was propagated by a bacterium that lurks in water?

Dr. Sinclair Coghill, of Ventnor, thought that croupous pneumonia was the gravest type of the disease, and preferred laudanum to morphine in treating it. Aconite lowered the temperature, and sponging with tepid or cold water was also beneficial, especially if the former was mixed with a large proportion of eau-de-cologne.

Dr. Hawkins, of Reading, considered that pneumonia is an infectious disease that deranged many

physiological functions, of which one result, consolidation, might persist for a considerable time. Injury might give rise to pneumonia. He considered strychnine to be useful in the treatment of the disease.

Dr. Lees thought it was most important to give the patient sleep first of all, but by means that would not cause subsequent depression. He deprecated venesection, and thought with regard to cooling measures that the use of the ice-bag was preferable to the bath, but reducing the temperature of the patient was not very important. When the ice-bag failed to give relief it was owing to timidity on the part of the physician. He instanced as a parallel case the all but instantaneous relief in acute sciatica from the use of the ice-bag.

The microbic origin of pneumonia was bar to the treatment of the disease by the ice-bag, for the pneumococcus had been shown to be extremely susceptible to changes of environment. In the case of children it was requisite to apply bottles of hot water to the feet in order to keep up the temperature of the extremities and of the abdomen; but if there was the least tendency to cyanosis the ice should be at once discontinued.

A subnormal temperature was not opposed to the ice-bag treatment, by the adoption of which, the speaker affirmed, some cases under his care were much benefited.

Dr. Pope, of Leicester, was of the opinion that the pneumonia developed during the course of an attack of typhoid fever was distinctly infectious, and recommended the immediate isolation of a patient showing symptoms of it in a fever ward, otherwise the other inmates would probably all become affected. He had seen much benefit result from the admixture of spiritus ætheris nitrosi with the usual salines, and had found that sodium nitrate was no adequate substitute for the more volatile preparations.

Dr. Shingleton Smith, of Clifton, had been informed that gigantic doses of digitalis had been followed by the most beneficial results at Bucharest, and hoped that should he ever contract the complaint that Dr. Powell would not evince any timidity in prescribing it.

Dr. Squire objected to the term "croupous," being applied to the pneumonia of children, and had seen as good results follow the ordinary treatment of the disease as were said to come from the use of the ice-bag, if not, indeed, better.

Dr. Douglas Powell, in reply, was much gratified by the discussion that had taken place upon his paper, and was of opinion that the use of antitoxin was the line that must ultimately be followed in the treatment of pneumonia. Oxygen was undoubtedly a valuable cardiac stimulant in grave cases, but he was reluctant to apply blisters to a child; in the case of children slight counter-irritation was preferable.

Leucocytosis was one of Nature's methods for getting rid of the disease. As to the mode of treatment in vogue at Bucharest, where such excellent results were obtained from the use of heroic doses of digitalis, he had been informed by Professor Baümler, who was sitting beside him while Dr. Smith spoke, that the patients were all strong, vigorous young men, soldiers, in the prime of life.

He did not attach much importance to the use of spirits of nitrous ether in consequence of its action on the skin, but it certainly was of benefit in promoting the excretion of urine.

Guaiacol in Tuberculosis.—Dr. Sinclair Coghill, of Ventnor, then read a paper on "The Hypodermic Use of Guaiacol in Acute Pulmonary Tuberculosis." Guaiacol, he said, was obtained by distillation from creosote, and was administered to the patient by inhalation. His experience with the drug in these cases was most encouraging. When it was given subcutaneously, the buttock was the most favorable region for the injection.

Serotherapy of Tuberculosis.—Dr. Maragliano, of Genoa, presented a paper, which was read by the Secretary, on the treatment of pulmonary tuberculosis by specific serum.

It is impossible to argue from an effect upon one animal to another. When the tuberculin has been injected into a tuberculous patient, the latter experiences a sensation of well-being that is not produced by any other treatment; by degrees the characteristic bacillus disappears from the blood, and from being acute the symptoms become slight, but there is no instance as yet of complete recovery from the disease. Is no benefit derived? Yes, providing the treatment is prolonged sufficiently; but where destructive centres exist the complaint will break out again and again, and a perfect cure cannot be hoped for. Fever has an unfortunate influence on the result. Hæmoptysis does not counter-indicate the employment of tuberculin, and any part of the body that may be most convenient may be selected for the purpose of injecting the remedy, as no reaction follows.

Dr. J. E. Squire said that naturally the association of the disease with bacilli had given rise to an attempt to destroy the latter *in situ*, but he questioned whether it was possible to do so. We cannot reach the microbes in their retreats, and if we could we could not introduce a sufficient quantity of the antidote without endangering the safety of their host, and so the bacilli will be only scotched, not killed. Drugs have their value in the treatment of phthisis; they prevent secondary infection by destroying the bacilli that have been ejected from the system. He preferred the use of inhalations to the dosing of the patient by the mouth, but hygiene was better than antiseptics, while good food and good fresh air were superior to every other remedial agent that had been or could be devised. The strengthening of the tissues might be lost sight of in a vain attempt to kill an offending bacillus. If inhalations were employed, they must be used freely, as half-measures only defeated their own object.

Third Day, Friday, August 2d.

The Causes of Acute Rheumatism and its Relation to Other Affections.—Dr. W. B. Cheadle said that he used the term acute rheumatism in a strict sense, as implying a disease in which were manifested pericarditis, endocarditis, and rheumatic joints. Endocarditis had seldom any other exciting cause, a possible exception being in the case of chorea, which, however, was intimately associated with a history of rheumatism, as were also its pathological associations, so that where endocarditis was found in a case of chorea, the latter was rheumatic in its origin. Pericarditis also had a rheumatic origin and might be associated with endocarditis in the same subject, but might occur alone.

Tonsillitis was a disease of debility often associated with the rheumatic diathesis as well as with arthritis, and the erythemata had a similar connection, so had purpura. The erythema might occur in any part of the rheumatic series. Fatal chorea resulted from extravasation of blood, and in cases of scarlet fever that ended fatally endocarditis was always present, showing the close relationship of this disease as well as of chorea to acute rheumatism.

Chorea, whether alone or associated with endocarditis, might be followed by arthritis, and occurred in families in which rheumatism was ripe. He instanced the case of a patient who had chorea only, like her mother, but the grandmother had suffered from rheumatism. Statistics, however, were imperfect and unsatisfactory, rheumatic arthritis in children being often slight and evanescent.

False chorea, affecting the face but not the limbs, was more common in boys and presented a good deal of analogy with stammering; in such cases there were no

rheumatic manifestations. In fifty cases of chorea that he had collected, there was history of family rheumatism in fifty-two per cent., and including erythema, sixty-five per cent. Chorea resembled rheumatism in its liability to relapse and might occur in any part of the rheumatic series, and in the majority of cases there would be a history of acute rheumatism.

In rheumatism complicating scarlet fever there might be pericarditis or endocarditis, or both, also erythema nodosum, articular rheumatism, pneumonia, bronchitis, though the position of each in the series was uncertain, and such was the Protean character of rheumatism that they might all arise separately and independently of each other. In a case of bronchial catarrh where the heart was affected without any other symptom of rheumatism, the patient, a child, developed chorea a few months afterward, in nine months more acute rheumatism, and in a year both.

The rheumatism of childhood differs in many respects from that of adult life. While age increased the tendency to affections of the joints, it had a contrary effect upon those of the nervous system. Chorea was an affection of childhood and at that age arthritis was at its minimum, but with the progress of years the position was reversed. In adults, arthritis was the most ordinary complication, but in childhood the tendency to it was only slight.

Diversity of opinion prevails as to the etiology of the disease. Was there a morbid agent? What was the effect of surroundings, of age, of sex, of constitutional proclivity? An external factor was chill, which was often invoked without reason but must in rheumatism be allowed. A boy fell into a stream, but stood about in his wet clothes, for fear of incurring reproof or punishment, until they became dried upon him, and this imprudence on his part was quickly followed by an attack of acute rheumatism, so that the relation of cause and effect admits here of little doubt.

Acute rheumatism is a disease of temperate climates, in which chill is a common but not an invariable factor; seasonal influences are important, the disease prevailing more in winter and spring than in summer and autumn. Acute rheumatism, however, often occurs in dry seasons when the ground is hot, but this is by no means incompatible with the theory of causation by chill, for prolonged bodily exertion in hot weather not only weakens the system, but is not infrequently followed by a rapid lowering of the body temperature—in a word, chill—and where there exists a constitutional tendency the disease is very apt, under such circumstances, to develop itself.

Parents of the better class know all about their children and their ailments, but there is usually a defective history in the great majority of the cases brought to our notice. Where there is a double inheritance, that is, where there is a rheumatic tendency in both parents, we find the most striking instances of acute rheumatism. A girl of nine had a severe attack of chorea with endocarditis and pericarditis, and subcutaneous nodules, and she ultimately died from cardiac dilatation. Her family history was charged with rheumatism on both sides.

The most potent influences are chill, bodily fatigue, a dry season, and constitutional proclivity. Is the *materies morbi* a simple chemical product, or a micro-organism, or an irritation of nerve extremities by chill? We have no proof that endocarditis and pericarditis are due to any other factors.

Gout and rheumatic arthritis have no relationship to each other, and when pericarditis supervenes in the course of the former disease it is referable to Bright's disease and not to rheumatic toxæmia.

Lactic acid and uric acid have been suggested as the toxic agents in acute rheumatism, but the theory is one that is difficult of acceptance, for we have no evidence of the presence of either. Clinical observation is opposed to the idea of any relationship between gout and acute rheumatism; the diseases occur in different classes of patients.

The theory of microbic origin has analogy in its favor, but on the other hand acute rheumatism is not communicable from one person to another, nor is it malarial in its origin, but is directly excited by a sudden chill; one attack leads on to another, as in the case of influenza. True, family proclivity does not directly militate against the microbic theory of the origin of acute rheumatism. Cases of the transmission of the disease are rare and by no means indisputable. No organism peculiar to the complaint has been identified, nor does the disease spread by inoculation, so that on the whole we are bound to maintain an open mind and admit that the direct cause of acute rheumatism has not yet been determined.

Sir Dyce Duckworth had been much impressed by the ability and lucidity of the paper, to which he had listened with as much profit as pleasure, and he was guilty of no exaggeration when he termed it a masterpiece. The subject of rheumatism was one that had much interest for him, but it was not a simple subject. On the contrary, he might say that there were many rheumatisms. It was not merely a disease of the joints. There must be predisposition to the disease which must have a basis. Low vitality, exhaustion, chill, shock, and predisposition made an individual the prey of an organism that had a power of generating toxin. True, no organism had yet been identified, but its existence was clearly indicated by analogy, and a low temperature favored the bacillary invasion; there was a tendency to relapse, new germs recurring when dieted with favored pabula. The infective theory certainly failed to explain all the phenomena. The theory of nervous causation and a hereditary diathesis undoubtedly assisted the work of the infecting agent; many persons present no such soil and never develop rheumatism, as some never contract tuberculosis, so that, on the whole, we must come round to the infective theory.

Dr. Archibald Garrad thought that rheumatic fever was a systemic disease, and not merely a local one confined to the joints. A momentary chill could not cause such an accumulation of lactic acid as to produce the disease, although it had been said by Sir W. Foster that a diabetic patient had developed acute rheumatism after taking large doses of lactic acid. The local manifestations of the disease are such as might be expected to occur from the invasion of a micro-organism, but the erythemata of acute rheumatism were not infective in the ordinary sense of the term. The disease had more analogy with those of undoubted malarial origin; but in that case how did chorea fit in? It bore the same relation to rheumatism that paralysis did to diphtheria. The specific poisoning might precede motor disturbance without other changes; there were no morbid alterations in chorea, and in acute rheumatism the temperature presented no definite curve, although when it affected certain serous membranes there was more disturbance, though endocarditis frequently produced no rise in the temperature.

Dr. Mantle thought the etiology of acute rheumatism was decidedly bacterial, and this view was acquired from observations at the bedside in localities which were devoid of sanitation, and there rheumatism was endemic, as well as scarlet fever and tonsillitis. He had seen five cases of scarlet fever in young people, and only for the rash would have put them down as acute rheumatism. Rheumatism occurred in two-thirds of all scarlatinal cases as part of the disease, and not as sequelæ. Endocarditis was common in scarlatina, but sweating was not. He had seen two cases of rheumatism and two of scarlet fever in the same house at the same time, which proved, he thought, the concurrence of the two, so-called, diseases. Erythema nodosum was seldom accompanied by rheumatic fever, and he rather looked upon it as the manifestation of a distinct

disease; it was occasionally associated with scarlet fever.

Tonsillitis and acute rheumatism had a subtle connection, and followed as well as preceded an epidemic of scarlet fever. Rheumatism was rarely infective, but sometimes it appeared to be transmitted from one person to another.

He had searched for a micro-organism in the serum, and always found a coccus in it as well as in the blood, and in all probability this was the cause of the disease; the toxin might be lactic acid produced by the action of the micro-organism in the system.

Dr. Newsholme objected to the term acute rheumatism being applied to rheumatic fever, for chronic rheumatism is not entitled to be called a distinct disease. Some years rheumatism is more prevalent than in others, and the epidemics occur at more or less regular intervals. In Norway, all cases of rheumatic fever are compulsorily notified. There is, however, no evidence to show that one person has ever been directly infected by another. It was thought that the greater or lesser abundance of the rainfall had an influence on these epidemics of acute fever, but they had occurred when the fall of rain was deficient. A dry subsoil and a high temperature favored the development of rheumatic fever.

Sir T. Grainger Stewart must suspend his judgment for the present with regard to the presence of a micro-organism in rheumatic fever, but admitted that the trend of opinion was in that direction. Various affections were included in the term rheumatic fever, and a differentiation of the different forms of the disease had become a necessity for the elaboration of a satisfactory plan of treatment. Rheumatism begins by being a local disease, and remains so for days before it infects the system generally. It originates in exposure to cold, the patient takes no notice, and after awhile other tissues than the one first affected are attacked; but if the local manifestation is taken in hand and proper remedies and precautions taken, the patient escapes; therefore, take warning by the first twinge and you will be rewarded.

Dr. Handford referred to the relation of endocarditis to rheumatism in children. He would not accept the theory of the bacillary origin of the disease. He had seen endocarditis where there was no affection of the joints, but the endocarditis may progress for weeks after all outward manifestations of the disease have subsided; which, he thought, was not reconcilable with the theory of bacillary origin.

Dr. Haig was an absolute radical in the matter of the etiology of rheumatic fever, and must plead the excuse of *audi alteram partem* in order to obtain a hearing. Rheumatism, in his opinion, was due to the introduction and retention of uric acid which was not formed in the body. Test the urine to discover uric acid, not the blood or the tissues, and form a right conclusion. Because no uric acid was found in the blood was not to be taken as a disproof of his theory; for if there was none, the reason was that it was all gathered into the joints and could not be in two places at once. The disease is due to this accumulation of uric acid in the joints; if it was in the blood there would be no rheumatism. In some cases salicylic acid has no effect, but that is because the blood is alkaline and has no relation to rheumatic fever.

Diet and drugs act on the rheumatic diathesis, for meat does harm by introducing uric acid and its salts into the body; cold and moisture favor its excretion from the blood and its deposition in the joints. Iron is objectionable, for the urate of iron is insoluble.

Dr. Stephen MacKenzie agreed with Dr. Cheadle that in the adult arthritis is the chief symptom of acute rheumatism, which, however, is not merely arthritis but a disseminated disease. The name rheumatic fever is not satisfactory, for sometimes no fever is to be demonstrated. The general tendency of the disease is in favor of microbic origin, but in the present state of our knowledge one must not commit oneself to it, although the absence of an organism is not a proof that the theory is not correct. Rheumatism may begin locally. Dr. Haig certainly had the courage of his opinion and a feeling of pity for all who did not agree with his view, which however carried no conviction to the speaker, for it is unsupported by facts. Its propounder appears to confound gout with rheumatism, if both are due to uric acid retained in the system. He remarked that some diseases did not frequently concur in the same subject. If a young person has rheumatism, a subsequent attack will be rheumatic also and not gout, and *vice versa*. If the supposed relationship really existed, then salicylic acid should have some effect in gout, but it had no influence at all upon that disease.

Chorea was certainly rheumatic in its nature, whether occurring before, after, or during the progress of the other phenomena of the disease. The embolic theory of its origin, which at one time had a strong head on the profession, was now never heard of; chorea is a form of rheumatism, as well as polyarthritis acuta, endocarditis, pericarditis, and tonsillitis. Salicylic acid has no effect on chorea, erythema nodosum, or purpura, but the difference between the tissues affected accounts for this. In conclusion he offered the most hearty thanks for his paper to Dr. Cheadle, who had left nothing for anyone else to say upon the subject.

Dr. Lees differed with Dr. Cheadle only in one point: erythema nodosum had no connection whatever with rheumatism, but was as distinct as scarlet fever or measles, coming and going in the same person again and again, and never causing a cardiac murmur. No person with acute rheumatism ever develops erythema nodosum; other erythemata? yes, but nodosum never, or but occasionally, and at long intervals between the two affections.

Chorea is essentially rheumatic, is a rheumatic condition, and fright is much exaggerated as a determining cause; a rheumatic child is as liable to be frightened as any other, but no harm results if there is no rheumatic history.

Chorea is the first indication of rheumatism, and the patient will be found, subsequently, to develop the remaining symptoms of the disease.

In chorea the knee-jerk is normal, or exaggerated, or absent; no neurotic theory can explain this. There is, however, evidence of a blood-poison acting on the spinal cord or the peripheral nerves. Occasionally there is a rapid dilatation of the heart in rheumatic children, which is due to inflammation. If there is an acid poison in the blood, it may act as lactic acid would, or if not, as a direct toxin.

The rheumatic state is produced by a blood-poison, which may be eliminated in the tissues by a micro-organism. He had examined the brain and cord in a case that had a fatal termination, but the evidence was entirely of a negative character. Rheumatism is often associated with tonsillitis; diphtheria is due to a microbe poisoning the system by toxin which it elaborates, and the rheumatic microbe may similarly poison the fauces and give rise to the tonsillary affection.

In some cases of tetanus the local lesion is slight, and yet the system is affected by toxin originating from a restricted focus.

Dr. Longhurst had had no intention of taking part in the discussion, but thought there was too great a tendency to localize the disease, of which he believed it quite possible that the origin might be bacterial, but so far, he was sorry to say, none of the speakers had been able to convert him to their view. He believed the disease to be of constitutional origin, and occurring in families prone to rheumatism. Climate has a direct influence, for we do not find the disease making its appearance in hot and dry countries, unless in subjects who had a constitutional tendency to it—for example, in India, during the hot weather; but when the

rainy season set in, the change of condition of the atmosphere developed it. In the mountains it was common enough. That it was due to something in the soil set free by the rain is probable; that this something is a microbe is possible; but statistics are misleading, for they do not take the state of the atmosphere into consideration. What is really wanted is accurate meteorological observation of the disease.

Dr. Cheadle then replied and thanked all for their kind appreciation; he imagined he had been telling them an old story, and was grateful for the gentle criticism. Salicylic acid affects the temperature as it affects the joints in acute rheumatism, rather than neutralizes the poison. The occurrence, simultaneously, of scarlet fever and acute rheumatism in the same house was certainly very suggestive, but he had nothing more to say upon that point. The terms acute rheumatism and rheumatic fever were, he agreed, both open to objection, but what was there as an alternative? The remarkably slow progress of the epidemic in Norway remained unexplained. The cases that derived no benefit from salicylic acid were not ordinary rheumatic cases. That endocarditis should go on developing when other symptoms had disappeared did not disprove the microbic theory of the origin of rheumatic fever. He was quite incapable of dealing with the chemical points advanced by Dr. Haig, but was of the opinion that erythema nodosum is distinctly of rheumatic origin.

Aortic Valvular Disease.—Dr. Alexander Morison read a short paper on "The Treatment of Aortic Valvular Disease," and laid considerable emphasis on the employment of digitalis as a remedial agent. Several members joined briefly in the discussion, all agreeing that digitalis still holds the field.

Rest in the Treatment of Rheumatic Endocarditis.—Dr. R. Caton then read a paper on the arrest of endocarditis in acute rheumatism by the use of complete rest in bed, in the recumbent position (which was never altered even for the purpose of evacuating the bowels), and by a succession of small blisters over the intercostal nerves. In support of his contention he produced statistics of cases treated by him, in which the affection was arrested and in a number of them had entirely disappeared.

Dr. Stephen MacKenzie thought that such a remarkable paper should not be allowed to pass unnoticed, and would certainly give the plan a trial at the first favorable opportunity.

Rheumatism and Gout.—Dr. E. S. Reynolds read a paper on the diagnosis between chronic rheumatism and chronic gout, in which he said that the deformities of the hand due to the former disease were symmetrical, and those to the latter asymmetrical, an opinion that was unchallenged.

Arsenical Multiple Neuritis.—Dr. Alfred Parsons reported a case of arsenical multiple neuritis following the application of a cancer cure, illustrated his remarks by excellent photographs of the unhappy victim of an amateur quack, and was confirmed in his diagnosis by another associate who related the particulars of a very similar case.

Excision of the Breast.—In my own practice I rarely ever apply any ligature whatever in excision of the breast; four or five deep sutures are passed entirely under the wound cavity, and, before closing these, the edges are brought accurately together by a fine continuous suture, no drainage-tube being used; the deep sutures are now firmly closed over lead plates and, usually, bleeding is absolutely stopped; if hemorrhage still continues from any point, an additional deep suture will usually make the wound absolutely dry. The result is that there is practically no bloody serum discharged from the wound, and the original dressings can be left undisturbed for many days.—Ball.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON GENERAL SURGERY.

Stated Meeting, May 13, 1895.

B. Farquhar Curtis, M.D., Chairman.

Thyroidectomy for Exophthalmic Goitre.—Dr. A. J. McCosh presented a girl, twenty years of age, who had been healthy until three years ago, when symptoms began to develop leading up to a well-marked case of exophthalmic goitre. When he first saw her, three months ago, the exophthalmia was well marked, the thyroid was large, the right half being the larger, the voice was hoarse and husky, the heart-beat was 150. She suffered from palpitation and nervousness, and had become very weak and anæmic. In the medical wards she was treated two months by galvanism, arsenic, and thyroid extract, but with no benefit further than what came from rest. She was then transferred to the surgical ward, where Dr. McCosh removed the right half of the thyroid gland. The operation was exceedingly bloody, ligatures alone not being sufficient to control hemorrhage, so that gauze pressure had to be employed. For two weeks after the operation the pulse was very rapid, a part of the time 200, but the protrusion of the eyes diminished noticeably within twelve hours, and at present there was little exophthalmia. The left half of the thyroid which was not removed had decreased to half its former size; the pulse now averaged about 115 or less. She had gained much in weight, and was continuing to improve. After the operation the number of red blood-corpuscles was fifty per cent. less than before, being the greatest diminution which he had ever observed after a bloody operation.

Dr. McCosh said some authors claimed that thyroidectomy was not more dangerous for exophthalmic goitre than for simple goitre, but this was not his opinion. He believed that twenty per cent. of the former class of cases died after operation. Not all of the deaths were due to shock or sepsis, but to a condition attended by symptoms pointing to thyroid poisoning, which had resulted from the manipulations of the surgeon and opening up of vessels. The symptoms were like those produced by over-doses of thyroid extract given for myxœdema—cardiac and respiratory oppression, great prostration, sometimes high temperature, perhaps ending in sudden death. Of cases which survived thyroidectomy, about seventy-five per cent. were cured, of the remaining twenty-five per cent. about half were slightly benefited, the others not at all.

The Chairman, Dr. Curtis, said he had performed thyroidectomy in three cases, and one patient had died, the death having been due, it was thought by Dr. Starr and himself, to absorption of thyroid material. The patient had high temperature, became comatose; in the intervals of coma there was nervous excitement; the urine contained albumin; death at the end of forty-eight hours. The wound was absolutely aseptic, and there had been no inflammatory reaction to account for the rise of temperature. In the other two cases there was also albumin in the urine and rise of temperature after the operation, but the patients recovered.

Suture of Fractured Patella.—Dr. B. B. Gallaudet presented a man in illustration of the treatment of fracture of the patella by open incision and suture, a method which he liked as well as any and had practised in four cases. As there was large swelling of the knee when the patient was first brought to the hospital, he decided to wait a week, meanwhile applying pressure to assist absorption. He then made a transverse incision over the patella, drilled two holes in the upper and lower pieces, which were of equal size, and united them by two silver-wire sutures, closed the wound absolutely, without drainage, and put on a plaster splint. The plaster was removed on the eighteenth day; primary union was found complete. The plaster splint was re-

applied and kept on until the twenty-sixth day, when massage was begun, followed by firm cotton bandage. The patient was discharged, practically cured, two weeks later.

Dr. Gallaudet had been satisfied with this method of treatment, although he was aware that some preferred silk suture, some without drilling holes, some a longitudinal incision, some conservative methods without opening the knee.

DR. LILIENTHAL said conservative treatment was not necessarily slow in bringing about a perfect functional result. He had recently shown a patient at the Surgical Society, in which under massage treatment the patient was able to be out of bed by the tenth day, and was discharged cured by the fortieth day. The functional result was perfect, and but for a slight transverse ridge in the line of union, one could not tell there had been a fracture.

DR. DAWBARN thought there was no difference of opinion among surgeons that the method of treating fracture of the patella described by Dr. Gallaudet was ideal for one who could assure perfect asepsis, but this could not be expected of general practitioners, and for them a conservative method was to be recommended, especially inasmuch as it was likely to give close fibrous union and good functional result. Should it fail, and the patient at the end of a few months should be unable to advance one foot before the other in going upstairs, it would still be time to unite the fractured bone by incision and suture.

Nephrotomy for Stone.—DR. H. LILIENTHAL presented a man on whom he had performed nephrotomy for stone. Eight years ago he had had stricture of the urethra in the perineal portion, which had been operated upon by perineal section. Two years and a half ago he had been operated upon for abscess of the kidney, probably pyonephrosis, but as the abscess was very large and had perforated the diaphragm, two ribs were resected and drainage established in that way. He remained well two years and a half, then on February 12th of the present year entered the hospital with high fever, chills, great emaciation, pus in the urine, pain in the left side running downward and forward. No tumor or swelling could be felt. An exploratory incision was made over the left kidney, very firm adhesions due to the former abscess were found. No hard body could be felt in the kidney either by palpation or with the needle, no pus was found; an incision was made down to the pelvis of the organ, but still nothing could be felt. The patient was returned to bed, the high fever and pains continued, and he was expected to die; but three days after the first operation it was decided to explore the organ again without giving anæsthesia, thus having the patient's sensation to guide the exploring finger to the exact seat of pain. Nothing could be felt even then, but on introducing the needle he fancied it produced a little friction, and cutting down on this spot a small stone was found and removed. The patient then went on to recovery. Had he been deprived of the patient's guidance through his sense of pain to the exact location of the stone, as he must have been had he given an anæsthetic, the stone would not have been found and the patient would have died.

Resection of the Buccal Nerve for Neuralgia.—DR. E. ELIOT, JR., presented a man on whom he had resected about an inch of the buccal branch of the fifth pair on the left side of the face for the relief of periodic pain of seven years' duration, located in the face just over the bicuspid teeth. Zukerkendel's operation was performed with slight modification. The parts supplied by this branch remained absolutely anæsthetic a few days. Sensation was now returning, but there had been no pain. It was not improbable, however, that this would recur in the course of time.

Repair After Bone-flap Operation on the Skull.—DR. GEORGE WOOLSEY read a brief paper, describing a case in which a bone-flap was removed from the skull for the relief of convulsive and mental symptoms. The boy had had convulsions, and when he regained consciousness there was paralysis of the right side. A year later he could walk well, but had little use of the right hand, and began to have epileptic seizures which increased the next five years. He showed more religious feeling than intelligence. The epileptiform seizures were sometimes limited to the left side, sometimes were general. A horseshoe incision was made over the motor region on the left side, exposing the dura, about two inches and a quarter in diameter. The skull in this region was an inch thick. The membranes were not adherent. The aspirating needle was introduced and brought out fluid which seemed to be cerebro-spinal, from the lateral ventricle rather than from an independent cyst. Dr. Woolsey then closed the wound, suturing the dura, the pericranium, and scalp in three different layers. The boy lived a year and eight months, and was improved a part of the time, but gradually grew worse and died. Dr. Fisher, who had referred the case to him, viewed the autopsy and stated that it was a case of parencephaly, the skull in the motor region being an inch in thickness; the entire left hemisphere much atrophied, the space being taken by a cyst which was continuous with the lateral ventricle; the nerve-tracts below had also undergone degeneration; the left lobe of the cerebellum was also smaller than its fellow.

The points of interest in connection with the case were: 1, By bevelling the chisel only on the inner surface the blows of the mallet were slanting, and caused less concussion of the brain than where the chisel was ground on both surfaces; 2, a number of temporary overlapping sutures through the scalp *en masse* prevented hemorrhage; 3, the method of operating was shown to be applicable even where the skull was enormously thickened; 4, that the inner flap might heal promptly, without adhesions to parts beneath, with smooth inner surface; 5, that the dura, after incision and suture, with use of drainage through the lateral ventricle passing through the suture for two or three days, might heal without adhesion to either bone or pia.

DR. DAWBARN could not imagine a more successful plan for the prevention of hemorrhage from the scalp wound than that suggested by Dr. Keen, of tying a rubber tube around the head. He had used it many times, and with the result of securing an absolutely dry wound. There were two objections to chiselling the bone, namely, danger of the chisel slipping, and of producing concussion of the brain. He thought the chain-saw, operated by electricity or other motor, devised by an Ohio doctor, was going to prove very useful in bone surgery.

DR. E. D. FISHER said that, before Dr. Woolsey operated, he thought this boy's condition was probably due to an inflammation starting at the time of the commencement of the fits, but after the operation it was shown that there was parencephaly, and this had probably originated in intra-uterine life; since in parencephaly there was loss of brain substance, one could not expect to accomplish much by an operation. He had not seen concussion from the use of the chisel.

DR. WOOLSEY said the saws which he had seen used had not operated satisfactorily. The Esmarch bandage around the head had, according to his observation, been more in the way than it had proven useful in controlling hemorrhage.

The Use of Torsion Instead of Ligatures.—DR. JOHN F. ERDMANN read a brief paper on this subject, basing it upon the use of torsion in over one hundred cases operated upon at the City Hospital. At the present day, he said, we want primary union, and knowing how difficult it was to keep ligatures sterile, he resorted to torsion as a means of checking hemorrhage, for by its use we could dispose of ligatures which acted as foreign bodies, which were apt to excite irritation, which

were apt not to be thoroughly aseptic or to become infected by our hands, and also avoid the possibility of hemorrhage by slipping of the knot. Disposing of these conditions, primary union was more likely to attend our efforts. The possibility of secondary hemorrhage after torsion was very slight, much less, he thought, than after ligation. A hæmatoma had occurred in only one of his 105 cases, and then was due to the patient displacing the dressing. Only a compress was required to stop the bleeding.

Torsion was limited or unlimited. By limited torsion was meant twisting of the vessel below a point at which it was held by forceps, while by unlimited torsion was meant simply twisting the end of the vessel without grasping it above. From four to eight turns were made. Care should be taken to grasp the vessel so as to include its entire lumen. As a result of torsion the inner and middle coats of the artery were ruptured and retraction took place, forming a valve-like occlusion against the exit of blood. Dr. Erdmann said he had not had opportunity to apply torsion to so large arteries as the femoral and brachial, but that Thomas Bryant and others used it on the femoral as well as on smaller vessels.

The Chairman, DR. CURTIS, remarked that by some the fact had been overlooked that by torsion one could get rid of ligature material in the wound. This was very important when we were in doubt as to the aseptic condition of our ligature material. He had seen torsion applied where ligation had to be resorted to afterward, but he thought the fault lay in the operator, not in the method.

DR. DAWBARN doubted whether there was a surgeon in New York who, if about to be operated upon, would consent to torsion being applied to his femoral instead of ligation. Torsion might do for smaller vessels.

Unusual Deformity of the Coccyx.—DR. ROYAL WHITMAN presented a small boy who had been brought to the hospital because of pain on sitting. Examination showed an unusual congenital deformity of the coccyx, the bone being movable and projecting backward, the usual direction in such cases being forward.

Correspondence.

APPARENT HYPERTHERMIA.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In the MEDICAL RECORD of July 27, 1895, page 127, in a paragraph headed "The Value of a Good Name," after mentioning the comment of the *Berliner klinische Wochenschrift*, that if Dr. Jacobi's name was not attached one would not believe in the statement that he had had a patient with a temperature of 65° C., and after mentioning the statement in the same journal that I had reported another case of 77° C., or 171° F., you say: "Professor Welch has also a good name, but it would not stand many more degrees centigrade."

I desire to lift some forty degrees centigrade off from this burden on my reputation. I am not responsible for the report of the case of 171° F. It was reported by Dr. Galbraith, of Omaha, in an article entitled "A Remarkable Case," and published in the *Journal of the American Medical Association*, March 31, 1891. In the discussion at the last meeting of the Association of American Physicians, following the report of Dr. Jacobi's case, I referred to Dr. Galbraith's case as an even more remarkable one.

The chief interest to me in the latter case was less the extraordinary height of the temperature than the entire good faith with which Dr. Galbraith, one of the most experienced and best known surgeons in Omaha, reported the case, and the apparent thoroughness of the tests to which he subjected the patient. When called to see the patient in consultation he at first declined, but later went in an attitude of complete scepticism and of confident belief in some mode of deception practised by the patient. He described one test which he made in the following words: "The patient was placed in a chair, all clothing removed, and a careful examination was made of her mouth and axillary region, every possible precaution taken in order to prevent any deception, and holding the end of the thermometer so that it could not be tipped in any way, we again proceeded to take her temperature; but, gentlemen, the result was the same, the thermometer under the axilla registered 137° F., while that under the tongue registered 131° F." His personal examination made a complete convert of Dr. Galbraith. Especially constructed and carefully tested thermometers were used. There were no symptoms indicative of high temperature.

In my comments upon this case and that of Dr. Jacobi at the meeting of the Association, I used the following words (stenographer's report): "So far as one can judge from the description of Dr. Galbraith's case, and the same is true of Dr. Jacobi's case, there was no apparent mode of deception. Still, Dr. Jacobi must pardon me, if, with the greatest respect for his skill as an observer, I express complete scepticism as to the trustworthiness of these observations. I do not undertake to explain in what way deception was practised, but there is no doubt in my mind that there was deception. Such temperatures as those recorded in Dr. Galbraith's and Dr. Jacobi's cases are far above the temperature of heat rigor of mammalian muscle, and are destructive of the life of animal cells. They could not be present even in the integument alone, for any length of time, without leaving behind manifest lesions where they existed. I consider them to be physical impossibilities under the conditions described."

When I made the preceding remarks I was not aware that Dr. Galbraith's case had already been thoroughly discredited by subsequent developments. A physician, Dr. Bridges, who happened to be present when I was speaking, immediately afterward told me that he had been an interne in a hospital when this patient was detected in attempts at malingering. Those who are interested in the remarkable performances of this versatile malingerer will find them narrated in articles by Dr. J. E. Summers, Jr., and by Dr. C. T. Poe, in the *Omaha Clinic*, September, 1891, and February, 1892. I have seen in the Army Medical Museum, in Washington, specimens of the bones sent to Dr. Billings, of which the woman passed per vaginam over one thousand, and which were supposed to come from a macerated fœtus in the abdomen. These bones were pronounced to be bones from fowls, probably chickens, and other animals. None of them were from "any organism developed in the human female." I am not aware that the precise method of deception practised upon Dr. Galbraith has been explained, but Dr. Poe detected the patient once in the old-fashioned trick of heating the thermometer by a hot bottle in the bed. It may be mentioned that the woman had attended a course of lectures in the Woman's Medical College of Chicago.

Yours respectfully,

WILLIAM H. WELCH, M.D.

BALTIMORE, August 9, 1895.

Prostatic Disease.—About the earliest symptom is an increased frequency of urination, especially at night. This symptom very often precedes any enlargement that can be discovered either by rectal examination or by the use of the catheter.—KEEN.

Ligation of the Stump-end.—I can see no sense in ligating the stump-end at all, if it is going to be inverted, any more than I should think of tying a string around a wound in a gut before inverting its edges and using Lembert sutures. The analogy is perfect.—DAWBARN.

THE QUESTION OF AN INTERNATIONAL LANGUAGE.

To the Editor of the Medical Record.

Sir: The agitation for Greek as the international scientific language, by Dr. Achilles Rose, has found many responses. While some are in accord with his views, all agree that since scientific works are no longer written in Latin, a means of common intercommunication is manifestly needed.

The claims of the opponents to Greek are too evident to require discussion. Yet it may not be amiss to call attention to the letter of Dr. George W. Smith, of Chicago, in the Medical Record of August 3, 1895, in which he shows some of the difficulties which present in translation into Greek. But, like many others, he politely omits mention of the impediment to the acquisition of Greek in its written and printed characters. The adjective "politely" is here used advisedly, for Dr. Smith premises that everyone remembers more than the "Alfred, beat her, damn her, belt her," which was more or less successfully hammered into him. Truth is that very few physicians of over twenty years' practical experience can spell the simplest Greek word. In face of this fact, how many could take time from their necessary daily medical studies to learn Greek?

Spanish, on the other-hand, offers *inter alia* the following attractions as an international language: 1. Today over eighty million people speak Spanish. Their scientific publications are numerous, and many among them are of a really superior character. 2. Spanish is written and printed in Latin characters. 3. The Spanish alphabet is unchangeable; no matter how a letter is placed, its pronunciation does not vary. 4. The language is so euphonious that its acquisition is a diversion instead of a task. 5. Spanish spelling is purely phonetic. 6. The learner has but three letters to acquire. 7. The grammar is exceptionally free from irregularities.

To demonstrate how easy of acquisition the language is, and how readily it lends itself to scientific expression, the following is presented without translation, in confidence that no one can fail to understand its meaning:

"La gonorrea es una enfermedád contagiosa que depende de un micróbio especifico, descubierto por Neisser y titulado gonococco. Su tratamiento moderno es por inyecciones intra-vesicales de permanganato de potasio."

How many, if the above were presented in Greek, could see anything in it but several lines of hieroglyphs? It is by no means offered as an example of classical Spanish, but as the effort of a mere tyro, who without more than mediocre intelligence and no special linguistic ability, learned enough Spanish in six weeks to no longer require an interpreter.

Ferd. C. Valentine, M.D.
242 West Forty-third Street, New York.

To the Editor of the Medical Record.

Sir: Although you have answered Dr. George W. Smith's letter in your issue for August 3d, "Modern Greek as an International Medical Language," I beg leave to say a few additional words.

The living Greek is a highly developed language. Without much difficulty, every thought expressed in a foreign idiom can be translated into living Greek. We need only read the daily papers published in Greek at this day to convince ourselves of this fact; or we may take for illustration some of the innumerable words which from all languages have been translated into Greek. Moreover, the best contradiction of Dr. Smith's reproach is the Greek medical journal "Γαληνός," which is almost exclusively composed of translations from English, German, French, and Italian medical literature.

Germans are amused or annoyed, according to individual disposition, in reading notices in our railroad depots, saying in monstrous German that smoking is prohibited. Judging from these notices, the German language must be miserably poor and awkward, not even capable of translation of the words "Smoking in the cars is forbidden."

As to the correspondent who wrote upon Latin in a recent issue, I would say that his views are not new, for the Principal of the University of Louvain, in the "Vicar of Wakefield," is made to say: "You see me, young man; I never learned Greek, and I don't find I ever missed it. I have had a doctor's cap and gown without Greek; I have 10,000 florins a year without Greek; I eat heartily without Greek; and in short, as I don't know Greek, I don't believe there is any good in it."

Yours,
A. Rose, M.D.
336 East Fifteenth Street.

To the Editor of the Medical Record.

Sir: "Latin as She is Wrote and Spoke" is the headline of a letter from Dr. H. L. Waldo, of Troy, N. Y., in your issue of August 10th. The doctor deals with his subject in a comic, serio-comic, serious, half-satirical manner, which leaves the reader somewhat in doubt as to his early classical education.

We hope we do not flatter that early training, however, when we take it for granted that he could once read Pindar, quote freely from Horace, and readily unravel the intricacies of Æschylus and Sophocles, but now, like most of us, has grown a bit rusty. Seeing German freely quoted, medical articles displaying great erudition with their multitude of German foot-note references, his heart has been won by the Teuton. Overwhelmed with the mass of German literature, thrashing over and over theories in a spirit of mysticism, he hurls into the background his Virgil and his Homer, and frantically calls for the "Vaporings of Goethe and Schiller, the pseudo-science of Virchow and Ziemssen."

He is serious when he requests the Medical Record to inform him what has been printed, in either Greek or Latin, during the past five hundred years that will pay the physician of to-day to read, if it were printed in his mother-tongue. Again he lays bare his innermost thoughts on the subject when he asks us to remember that our profession is a practical profession. This practical chain of reasoning of the doctor will appeal to many of your readers. No time for dead languages. There are families to keep, babies to feed. No time to unravel the etymological meaning of oculist, aurist, rhinologist, dermatologist, etc. It is enough for us understandingly to call these Æsculapian disciples eyemen, earmen, nosemen, skinmen. However, the advanced medical colleges are demanding from their students some classical education, and it is fast becoming not easy for the machine-shop or grocer boy to obtain his license. The standard is being elevated. It may not be expected from "we busy old fellows," long in the harness, to take any time from the babies and delve into Greek and Latin roots. Those of us who have lived without knowing when and where to use *ferrum* or *ferri*, *rheum* or *rhei*, may remain happy if we do not know the wealth of knowledge pertaining to our profession buried in the classics. In blissful ignorance we may be content to remain Philistines; content to prescribe eyewashes, injections, blisters, and pills, practising on in the same happy frame of mind with that type of day-laborer who returns at night, eats his dinner, drinks his beer, smokes his clay pipe, and goes to bed. To the writer of the article it may be parenthetically remarked, that the physician who unintelligently writes *ferram*, *ferri*, or *ferra*, *aquam* or *aqua*, for iron

and water, does not trifle with the ending any more than he would trifle with the butt-end of a mule. He is content with *fer.* and *aq.* In other words he adopts the trick of the bad speller, when in doubt whether to use i or e, rounds his i, dots his e, and plays it double. The "busy old fellow" is a great abbreviator, and who can know the depth of his knowledge of declensional endings? In one breath the doctor gasps, "What's the use?" while in the next he says, "A large percentage of the technical terms employed in medicine are of Latin or Greek origin." This leads me to ask if he does not agree with the editorial view expressed in the MEDICAL RECORD, to which he refers, "It will not take a great deal of scholarship to correct the general defects of classical learning, and as Latin has become attached to medical literature and nomenclature beyond possibility of divulsion, we suggest that medical students be drilled a little in the mother-tongue." This will apply equally to Greek, which to us at the present time appears of even greater value than Latin, as we watch the newly-coined medical words appearing from day to day, rising, as Barnum would express it, Sphinx-like from the ashes of the Attics.

Yes, Latin and Greek are with us to stay. The new physician is fast being compelled to study them; the "busy old fellow," bearing in mind that Cato learned Greek at eighty, if possessed of any linguistic bump at all, will not find it difficult to acquire enough to make him proud to have lived and gotten one peep into the Promised Land, and see his science unfold itself before him, as he in his practical moments never dared to dream. We may make this good by calling attention to the fact that in the "Beginners' Greek Book" by White appear three hundred words in the first twenty-five lessons. Among these three hundred words, there are about one hundred we use constantly; many of them well-known medical terms. Here are a few:

μικρός	little, small.
κεφαλή	head (micro-cephalus).
ζώνη	girdle (zona or shingles).
στενός	narrow.
ἄνθρωπος	man (anthropology).
λόγος	discourse (all the 'ologies).
ἵππος	horse } hippopotamus.
ποταμός	river }
στρεπτός	necklace.
σῴζω	save.

Note here the practical turn made by the business sharp in tacking to the last the Greek word for tooth, and giving us the world-wide advertised dentifrice, Sozodont.

I need not continue this, but repeat that nearly one hundred common words appear in the three hundred words occurring in the first twenty-five lessons of a "Beginners' Greek Book." This means five weeks, one hour daily recitation, for the school-boy.

Does it not suggest the saving of time for the busy practitioner, did he, along with his knives and his scissors, his cumbersome electrical plant, his desk overcrowded with advertisements of headache powders, possess a small Greek and Latin armamentarium? Does he not see how much less the young men and maidens would fool away their time in the laboratories with culture-tubes, etc., did they enter those laboratories with even a limited classical education? They would not stagger under words like streptococcus. Their Greek would at once suggest cocci arranged like a necklace, *streptos* being the Greek for the latter.

Medical education is in the ascendancy, and Greek and Latin must remain invaluable since, from the standpoint of brevity alone, they will remain in use for scientific names.

This wave, starting in the larger medical centres, will surely extend to the surrounding country, and in time reach the suburban towns of East Chatham, Chatham Four Corners, Lansingburg, and Troy.

GEO. R. ELLIOTT, M.D.

48 EAST TWENTY-SIXTH STREET.

PROSTATITIS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Since my letter in the MEDICAL RECORD appeared, many private letters from various parts of our continent have been sent here, asking further information in regard to the treatment I proposed. The one word sterilization of the testicle is in my experience the embodiment of success; the moment semen ceases to be developed and spermatozoa no longer manifest themselves, recovery commences.

Any form of injection that will accomplish these ends will, in my opinion, succeed; the body of the testicle should alone be pierced by the needle. I use cocaine because it is painless; because there is no soreness afterward, and the patient is not incapacitated for business; but I presume cold water would serve the same purpose.

I use suppositories made of cocoa butter: 1 grain cocaine, 5 drops extract belladonna, and 5 drops extract henbane—one of these pressed into the bowel every other night.

Where there is a constant desire to urinate I use 1 ounce of hot water 112° to 120° F., 3 grains cocaine, and inject slowly into the bladder, the patient lying on his back in a horizontal position.

I have had remarkable success with this treatment, and am of opinion that castration is wholly unwarranted.

My treatment neither affects sexual desire nor prevents the act of coition. It does wholly prevent reproduction, and would, I think, be a good plan to adopt with noted and hereditary criminals.

Yours,
S. E. MCCULLY, M.D.

TORONTO, CANADA.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending August 10, 1895.

	Cases.	Deaths.
Tuberculosis	53	110
Typhoid fever	19	9
Scarlet fever	30	2
Cerebro-spinal meningitis	1	5
Measles	99	10
Diphtheria	124	23

Penalty for Circulating False Reports.—There is a law in Florida which provides that "any person or persons who shall falsely or maliciously disseminate or spread rumors or reports concerning the existence of any infectious or contagious disease shall be guilty of a misdemeanor, and, upon conviction, shall be punished by a fine in a sum of not less than $100 nor more than $1,000, or be imprisoned in the county jail for not less than three nor more than six months."

The Cost of Typhoid Fever.—Dr. Munro, an English medical health officer, has recently computed the cost of an epidemic of typhoid fever occurring in his district of Mid-Renfrewshire. There were 859 cases, 74 of which were fatal. The average cost of hospital treatment was about $45, on which figure Dr. Munro puts the average cost of treatment of home and hospital cases at $25. He estimates the total amount of wages lost to the patients at about $16,000. The cost of funerals is estimated at $25 each, and the value of a human life a little less than $800 per head. The total pecuniary cost of the epidemic was accordingly almost exactly $125 for each case.

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Original Articles.

A CURIOUS CASE OF APPENDICITIS; WITH A DISCUSSION OF CERTAIN POINTS IN OPERATIVE TECHNIQUE.[1]

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THE following case of appendicitis presents an unusual number of points of interest in itself. For this reason, and because it will serve as a text for a brief discussion of a few details in operative technique, it has been selected as the subject for to-night's paper.

About eleven o'clock on the night of January 16, 1895, I was called in to see Theodore Van B——, a child eleven years of age. He had then felt moderate pains all day, with some tenderness in the appendicular region, and had been kept in bed by his mother, although seemingly not very seriously ill. He looked up at me brightly and cheerfully at the time of my call. His temperature was one degree above normal; pulse, 120; respiration, 26. The bowels had been moved both that and the preceding day, by a saline. Some anorexia was noted. No tumor could be felt, but a slight degree of rigidity of the right half of the abdominal wall, as compared with the left half. The right thigh was drawn up, and added pain in the abdomen resulted from a gentle attempt to extend this limb.

I have been led to feel that when the symptoms indicate appendicitis, the combination of a rapid pulse and respiration, going with a temperature normal, or nearly so, points to the necessity for prompt operation. Here, however, as the child seemed so bright and cheerful, showing no constitutional evidences of septic absorption, I thought I might safely wait from the time of this my first visit, at nearly midnight, until morning. Before leaving the house orders were given to prepare a room for the purpose; also to fill a wash-boiler with normal salt solution (heaped teaspoonful to quart of water) and boil it, prior to the morning visit.

That night I was awakened before daybreak with the news that the little patient had just been seized with a severe chill. Reflecting on Dr. Fowler's remark—that in three hundred cases of appendicitis he had only seen two in which a chill ushered in the symptoms, and in both of these the appendix was found gangrenous—I anticipated a similar condition here, although the chill did not absolutely begin the case. And this assumption proved to be true.

As soon as assistants could be gotten together we operated, in the early morning. These gentlemen were Drs. William J. Kress and Richard A. Barr. Upon our arrival the patient's condition was deplorable, and in striking contrast to that of the midnight visit. The pulse was now running and thready, at about 140 per minute; respiration, 40; temperature, about 99° F. The tenderness had spread over the whole abdomen, though still worse on the right. The little fellow was covered with a cold sweat, and his face showed anxiety.

The prognosis seemed to be of the worst, and perhaps hardly justified operating. However, the parents chose the only course offering the least hope, and we went ahead with ether anæsthesia. Upon opening the abdomen there was a prompt escape of fluid fæces mingled with pus, dark and very malodorous. This seemed to bathe the bowels everywhere, most of it being found in the pelvis. The estimated amount removed in cleansing was from four to six ounces. The bowels were distended, dark red or purple, and distinctly inflamed. Upon searching for the appendix, a curious and beautiful instance was made manifest of Nature's attempts to protect herself against threatened bowel-perforations. That corner of the great omentum which lay nearest had wrapped itself completely around the diseased appendix—just as a woman might wrap the corner of her apron around a sore finger.

From beneath this attempted protection the fluid fæces could be seen welling up; showing that the effort had not quite succeeded. The omentum in this region was greatly congested and stiffened, and was swollen to several times its normal thickness in a child. Upon unrolling this corner of the great apron, the appendix lay exposed, gangrenous for its distal three-fourths, and perforated at two or three points. Where the partly healthy joined the dead portion was a round distention of its wall, evidently old, and covered with smooth peritoneum; and this cavity was filled with a round and hard body the size of a large pea. This sacculation is quite clearly shown in the specimen to-night, which has been sewn together where it had been split lengthwise, and then filled with plaster-of-Paris.

Strangely enough, although this sac in the wall of the appendix is evidently of old standing, yet the parents insist that no tenderness nor pain whatsoever had been complained of prior to the day before the operation. The hard body resembled a stone in density, not yielding at all to the finger-nail. Examination later on, however, showed it to be scybalous. The appendix was now removed by a technique which I have used almost exclusively for several years past and will discuss later on.

Next, the wound was freely enlarged at both ends, until seven inches in length; and then every foot of the bowels capable of removal was quickly withdrawn so as to lie upon the skin of the abdomen. Now, the normal salt solution, as hot as the hand would bear, was poured from a pitcher upon the bowels, which were gently moved in all directions, to favor thoroughness of cleansing. Pitcherful after pitcherful was used, and then the empty cavity in which the intestines had lain was as freely flushed, the inserted hand aiding the washing continually, the fingers searching out all recesses, until the water returned absolutely colorless. Without exaggeration, almost an entire wash-boilerful of hot normal salt solution was used in this way. The bowels were replaced with some difficulty, as they were distended with gas when first exposed. A shorter skin incision would have rendered their return almost impossible, save by a most serious degree of rough handling. Next, the infected and swollen portion of the omentum, as referred to heretofore, was ligated in sections and amputated. In this way about one-third of the great apron was sacrificed. The wound was now closed as to its ends with silkworm gut sutures, and all the rest of it packed with a mass of sterile gauze, strips of which ran like the spread fingers of a hand in as

[1] Read, in major part, at a meeting of the New York Surgical Society, held April 10, 1895.

many different directions among the bowels, and particularly into the pelvis.

The little patient's condition at this time was such that it was feared he would die on the table. Hot saline infusion, intra-venous, was employed, nearly a quart being used with great benefit; also whiskey and hot water by enema and strychnine by needle; and finally he reacted well.

As to the subsequent history, only those portions which are of unusual interest will be recorded here, and these as briefly as may be.

First, the extreme difficulty of moving the semi-paralyzed bowels. This it was thought best to attempt on the second day. Large doses of salines were given by mouth hourly, and, later on, castor-oil; stimulant enemata of soap, of glycerine, with salines, with ox-gall, with turpentine, were used at intervals—and all without effect for a long time. After between one and two days of effort, success was achieved in this direction.

As showing the extremely ichorous character of the fluids which came in contact with the raw surfaces of the incision in the belly wall during the operation, it is to be noted that the entire thickness of the wound, on both sides, sloughed, presenting a gray, offensive surface on the third and fourth day, and compelling the removal of the few sutures at the ends. In the treatment of this sloughing surface sterile gauze soaked in oil of turpentine was freely employed and changed daily, the skin being thickly dusted with compound talcum or bismuth subnitrate, to avoid turpentine blistering. This treatment was not much complained of, and was ideal in its results. Indeed, in foul and sloughy wounds, everywhere, the writer knows of no plan of equal value with this, which he first saw suggested many years ago by Dr. Banks, the Liverpool surgeon.

Since then he has found that from time immemorial it has been standard treatment for foul wounds among the people of the pine-woods districts of this country.

On January 22d, six days after the operation, there developed with rapidity an acute and severe degree of parotitis on the child's right, causing him much suffering. At this time the sloughs were not yet gone from the wound, and the temperature was 100° to 101° F. Under an ice-bag the pain and swelling diminished, and two days later had in some measure subsided, when the same complication supervened, this time involving his left parotid gland. This again took a similar course under the same cold treatment.

I had feared the worst when this sympton developed. It is, I believe, generally regarded as of very grave prognosis; not of course *per se*, but as indicating a condition of profound sepsis. It will be remembered that a few years ago one of the surgeons to the New York Woman's Hospital published an article pointing out its extreme fatality.

The next complication presented by this little sufferer was about this same time in its inception. The temperature after the double parotitis did not drop to normal, but gradually and irregularly rose, covering about a week, until upon February 4th it had reached 103½°. During this week he had several slight rigors with sweating, at irregular intervals; and his strength fell away alarmingly, in spite of strychnine, stimulants, and concentrated foods used freely. Quinine had no effect upon this fever, and I felt certain that there must be concealed somewhere in his abdomen a pocket of pus which was poisoning him. But exactly where I could not determine, either by subjective or objective means. During the last few days of this period the wound looked quite normal and was covered, including the adherent bowels which formed its bottom, with healthy granulation-tissue. The temperature alone prevented secondary suturing, or other means of closing this great gap. I hoped that the suspected abscess might point and break in this direction if the wound were kept open.

Upon February 3d it was determined to use a coarse aspirating needle in various directions through the thick bed of granulations at the bottom of the wound. This was done, but no pus was found. It was thought that the little patient was too weak to bear a fresh laparotomy, or even to endure the rough handling involved in tearing apart the firmly adherent bowels beneath and about the wound.

Upon the day following this aspirating, Dr. A. G. Gerster was called in consultation. He made a careful examination and confirmed my diagnosis of an abscess-cavity concealed somewhere, and poisoning our patient; but could not localize it; and he, too, advised against operation, for the reasons named.

Within a few hours after Dr. Gerster's visit, the child solved this mystery for himself, by discharging this abscess through some unknown point into his bowel, and thence per anum. This movement was large and fluid and dark, and was so peculiarly atrocious in odor as to be almost overpowering. The mother told me that, in spite of the wintry weather, every window and door in the flat had to be opened for exit of the smell. Within an hour after this the temperature had dropped nearly two degrees; and it quickly fell to normal.

A few days later the fever and all these symptoms of poisoning again returned, but to a lesser degree. A second and smaller offensive movement ended them, and since then they have not recurred, nor has anything further happened to interrupt convalescence. Daily, under saline laxatives, the bowels were made to move freely during the septic periods mentioned. Each time, a soft and normal movement preceded the very foul ones by a few hours, so that the latter could not have been due to constipation with retention and decomposition of fæces.

It would seem quite plain that in this case an abscess beginning in some peritoneal recess such as the fossa of Treitz, or perchance the fossa sub-sigmoidea, and walled in by matted intestines, had at length softened and penetrated a contiguous loop of bowel.

The patient is now in good health and free from pain. His wound is solidly healed, and has contracted one and a half inch at each end; it is now measuring four inches along the scar.

I. First, as to the incision. As a general thing, Dr. McBurney's plan of splitting the abdominal muscles so that the split external oblique makes nearly a right angle with the split internal oblique and transversalis, would seem a distinct gain, and for the reasons which Dr. McBurney has pointed out. But in a case such as this, and indeed in any case where one has reason to expect pus, it would seem wiser, as he has himself stated, to make the more usual cœliotomy incision. The McBurney plan compels a free dissection and fully double as much raw surface to absorb poison.

II. Regarding the recognition of peritoneum as distinguished from transversalis fascia. These membranes cannot always be distinguished by a differing appearance. I have often seen transversalis fascia that did not look fibrillated and was just as shining as the peritoneum. Possibly it may be worth while, for others than the members of this Society, to refer to a valuable point which many years ago I obtained from Dr. McBurney, and have never seen in print, namely, that after cutting the deepest muscle, its cut edge be lifted and its deep surface examined. If, now, that surface be found bare, then the transversalis fascia has not yet been cut. But if that under surface of the deepest muscle be found covered with a fascia, however thin, that is the transversalis fascia, which has already been cut, and then the next membrane attacked will of course be the peritoneum.

III. In common with certain other surgeons, the writer is now inclined to advocate a double incision in every appendix case with a tumor.

Through the first and very short incision, at or near

the middle line, the forefinger is introduced into the peritoneal cavity, and by it the tumor is felt. If adhesions separate the general peritoneal cavity from the pus-cavity, then this finger serves as the best possible guide, while the second cut is being made, to enable us by that second cut to enter that pus-cavity without at any point through inadvertence entering and contaminating the general peritoneal cavity.

IV. Suppose, in an appendicitis case with a tumor, we have made our first and short cut, introduced the finger, and have found it capable of sweeping all over the front of that tumor; that, in other words, there is no blocking off of that tumor from the general peritoneal cavity, at least at the front. Shall we now, after making our second incision, which exposes the tumor, attack it at this sitting, open, wipe out the pus, and drain? Or shall we pack gauze around the periphery of the tumor and wait, before cutting into that pus, a day or so for the rapid adhesions which will in that time make a protecting barrier, closing out absolutely the general peritoneal cavity?

As Dr. Wyeth has so strongly advocated, I think the latter plan by far the preferable, because the safer. But on page 159 of his recent work upon appendicitis, Dr. Fowler takes the opposite course, and opens into the pus at once.

The plan in two stages is directly in line with the tehnique which has, elsewhere in the abdomen, made a wonderful change in the direction of lowered mortality; as, for example, doing inguinal colotomy in two steps a day apart, instead of one, as formerly. Of course, in the appendicitis contingency just discussed, if the localized abscess were tense, threatening to burst, it would be wise to aspirate, to avoid this occurrence, and then pack gauze about as aforesaid.

V. Regarding the position to be assumed by the patient. The writer is not an advocate of Trendelenburg's posture in this operation, either in purulent or non-purulent cases.

As to the former class, Dr. Fowler, in his work (p. 152 *et seq.*), points out the objection (when there is a tumor, or any other reason for assuming that septic fluid will be encountered) that in such cases the Trendelenburg position "has the disadvantage of favoring the passage of the pus to the upper portion of the peritoneal cavity; and, at the same time, of preventing the rapid turning of the patient upon his right side, in order to obtain the assistance of gravity in preventing the infection of the peritoneal cavity."

As to the latter class—the non-purulent cases—I would say that here again the horizontal dorsal position is the best; for another reason, namely, that it enables one, more readily than by the Trendelenburg posture, to overcome a common annoyance, that caused by the small intestines crowding into the field of operation and persistently hiding the deeper appendix in the most exasperating way.

In such a case, the plan I suggested here several years ago gives prompt relief. This is to roll the patient over, so that the right side is uppermost. Now, with a stout retractor, draw the belly-wall, at the cut, forward, *i.e.*, away from the spinal column. Thereby a capacious pocket or pouch is formed, into which the small intestines drop by gravity. The cæcum, having no mesentery, cannot, however, follow the small intestines, and must remain uncovered and where it is desired, namely, directly beneath the cut. This little device alone has many times saved precious minutes of peritoneal exposure. The cæcum being plainly in view, the appendix is now found by following either of its bands down to its ending.

To a lesser degree the Trendelenburg position also removes the intestines from the operative field; but often (and especially when they are at all tympanitic) not so perfectly as in the plan just described, because the liver, right kidney, and hepatic flexure of the colon are near enough to the wound to prevent as large a free space being formed for the bowels to drop into as will be obtained by the writer's method.

VI. *À propos* of the curiously dense, scybalous ball which filled the sacculated side of the appendix, as alluded to in the case recorded here, perhaps it will not be amiss to record another and similar instance, which teaches a lesson.

Last week the writer operated upon a patient of Dr. H. G. Myers, of this city; another little patient with gangrenous appendix. The belly was full of pus mingled with fluid fæces, and the child died of shock and sepsis a few hours later. The curious and instructive point was that we removed from the appendix what seemed to be a date-stone. This was handed about for inspection, and no one questioned its nature. But upon being washed, later on, it softened and crumbled into fæces.

I have seen two similar cases: one in which a "peanut," removed by another doctor, proved to be scybalous, and the other in which an "orange-pit," which was shown me months after the operation, and after dozens of people had accepted its nature without a doubt expressed, under the finger-nail finally revealed itself as hardened fæces.

I question whether a large percentage of supposed offending fruit-seeds may not be of this character. Dr. Fowler and other writers also take this view.

VII. It is with great interest that the writer has noted the wide difference of opinion which exists regarding the proper treatment of the appendix in ordinary non-perforative cases. In this surgical society he has found by casual inquiry three or four plans in use by as many different members with whom he has talked, and of course referring to one and the same kind of appendices. This fact has led to a collection of different plans, by aid of the library. The following methods have all been used and advised by different writers, and comprise (save for minor and unimportant details) all the plans with which the writer is acquainted:

1. Division flush with the cæcum, and the hole so left closed with one, or more commonly two, rows of Lembert sutures.

2. Ligation at junction with cæcum; section; disinfection of stump by dissecting or by scraping away the infected mucous membrane. And finally, attempted sterilizing of stump, either by Paquelin cautery, or else chemically, as by fuming nitric acid, or rubbing with a bichloride of mercury tablet, or applying a drop of pure carbolic acid.

3. This is plan No. 2, plus burial of the stump beneath the peritoneum of the cæcum. This may be done either by (a) simply one or two rows of Lembert suturing, hiding the stump at the bottom of a furrow, or (b) the peritoneum is incised, flaps of it are dissected up, the stump (made up of ligated muscular and mucous coats of the appendix) tucked beneath these flaps, which are then sewn together.

4. Division, leaving a short stump of appendix; which is then disinfected by being cauterized within—the mucous membrane being seared by a slender Paquelin point. Next the stump is ligated, thereby bringing the burned surfaces in contact.

5. Same as method 4, except that a final step is the closure of the peritoneum over the burned and ligated stump, by Lembert sutures, with either (a) or (b) of method 3.

6. Same as method 5, except that ligation is omitted. The divided appendix has its stump seared within; and then the said very short stump is buried beneath the cæcal peritoneum by one or two rows of Lembert sutures.

7. Leaving the divided appendix stump a half-inch long; sewing its mucous coat together at the divided end; then sewing the peritoneal coat together over this; and finally, sometimes sewing the stump so that its end is brought in contact with adjacent peritoneum, as an added protection—either that of the cæcum, or

perhaps that of the divided mesentery of the appendix.

8. Tying and dividing, leaving a half-inch stump. Disinfecting this as heretofore mentioned (in plan 2). Inverting it and sewing the cæcal peritoneum over it by Lembert sutures.

To this last step—concealing the end of the stump under mesenteric or adjacent omental peritoneum—several writers refer.

9. In cases greatly softened by inflammation, so that stitches cut out of the cæcum, or a ligature would cut through the appendicular base, we may apply one or more small, light hæmostatic clamps; divide distally to these, and leave them in place a day or two.

10. Inverting the entire and unopened appendix into the cæcum.

11. Doing nothing to the appendix, if this organ is found so placed, or so bound by adhesions, that considerable violence would be needed in order to free and remove it, or that by freeing it a protecting layer of adhesions against peritoneal infection would be opened up.

12. The plan advocated by the writer.

This last I have employed in every suitable case for several years past. It is as simple as it is effectual and easy of accomplishment. (It has recently been described by a writer in the *International Journal of Surgery*, together with a study of these eleven other methods.) Regarding the question of its novelty, both Dr. McBurney and Dr. Fowler, of this Society, have told me that it is new to them. Dr. Fowler will include it in the new edition of his well-known work upon appendicitis. A recent letter from this gentleman, showing his estimate of the device, is as follows:

"DEAR DR. DAWBARN: In reply to a communication received from you some time ago, would say that I have attempted your procedure in six cases, since you so kindly demonstrated it for me upon the cadaver, at the Polyclinic. In four of these (two of which were recurrent cases operated upon between attacks, the other two being early acute cases) no difficulty was experienced in accomplishing the inversion. In a fifth, after attempting to invert the appendix and failing, I at last succeeded, after shortening the appendix-stump considerably, and destroying the stenosis at its base, by introducing the thermo-cautery, and "boring through," as it were. The sixth case was gangrenous at its base (and hence not applicable). I congratulate you upon this clever and efficient device for disposing of the stump of the appendix. I am

"Yours very sincerely,

"GEORGE R. FOWLER."

Upon May 29th Dr. Fowler mentioned to me, as a *postscriptum*, four additional cases in which he has used the plan—all easily and successfully. He spoke of it as being the "briefest and best."

Dr. Fowler's assistant, Dr. H. B. Delatour, Visiting Surgeon at the Methodist Episcopal and Norwegian Hospitals, Brooklyn, has just recently written a note saying, "I have used your plan in three cases of acute appendicitis, and in two cases where the appendix was removed during operations on the pelvic organs. It has been entirely satisfactory, and is the best I know of. It has certainly shortened the duration of the operation, too. Even in the acute cases with adhesions, by means of a small, curved needle the purse-string suture, which precedes the inversion, was readily placed."

Dr. Edward L. Williamson has kindly spent a part of several days at the New York Academy of Medicine library, looking over appendix literature, and has not found this plan described. And in further evidence as to priority, I beg to submit the two letters printed at the end of this article. The steps are as follows:

a. A continuous Lembert suture of silk is made to surround the appendix, running like a purse-string or gathering-string in the superficial layers of the cæcum, one-fourth inch from the appendix. This suture is not yet tightened, though the first half of a surgeon's knot is made ready.

b. The appendix is divided, leaving a stump of variable length, but never shorter than a half-inch.

c. This stump is stretched for a moment, as to its calibre, by introducing through it a closed pair of mouse-tooth forceps, into the cæcum, and then gently opening the blades. Thereby any stricture, from swelling or plastic deposit, will be stretched; and the next step made even easier than otherwise.

d. The stump is seized at the extreme of its free end by a similar fine-pointed pair of mouse-tooth forceps; and the stump is promptly invaginated—turned "outside in," as a glove-finger might be. So that when completed the forceps and appendix-end are one-half inch inside the cæcum.

e. The suture is tightened, during which step the forceps are withdrawn. Sometimes it is a help to insert a grooved director or a probe between the open jaws of the forceps, prior to withdrawing the latter, in order to prevent the appendix drawing itself out again with them.

In this, as in so many points of surgical technique, attention to the smallest details is worth while. For instance, as the appendix, the cæcum, and the surgeon's fingers are all wet and slippery, time will be saved by holding the viscera, during invagination, with dry sterile gauze.

Again: During the stretching of the canal alluded to, the cæcum must be pressed between thumb and finger, near the appendicular attachment. Consequently, no fecal contents can jet out during the instant of stretching.

Of course, it is admitted that in a few instances the plan above advised is not feasible. For example, when the appendix is gangrenous from end to end, or has entirely sloughed away. More often, from softening of the cæcal walls, it seems wise to place two rows of the circular purse-string suture, the second lying a quarter of an inch outside the first.

When from inflammatory deposit the cæcal or appendical walls are almost as rigid as a pipe-stem, it is plain that invagination might not be feasible nor closure by a purse-string suture. However, a moderate degree of stiffness of the appendix makes the inversion even easier than otherwise, by keeping the lumen patulous.

The theoretical objection to this plan has been suggested to the writer, that one may have loss of time from bleeding of the divided end, which is not surrounded with the customary ligature. This objection is without basis in fact. The preliminary ligation and division of the mesentery of the appendix cuts off its main blood-supply. Should a vessel of the divided end spurt, I have found nothing to be easier than to control it instantly by torsion.

For the above-detailed technique I would claim that it applies to this region the rules of surgical procedure used elsewhere by all surgeons in wounds of the gut, namely, to invert the edges, and bring peritoneal surfaces in contact.

What would be thought of the surgeon who should treat a wound of the bowel by tying a string around it, leaving infected mucous surfaces tied together? And yet is not this just what many operators do to-day when they ligate the appendix at its base, and cut off? Practically, they have a round hole into a gut, with a string tied about it. And although by scraping and cautery or caustics they try to sterilize the stump beyond the ligature, yet the fact remains that the ligature is still holding two infected mucous surfaces in contact which will not and cannot be made to grow together. Fibrinous exudate over the stump in most cases hides and protects this botch, and being thick prevents a fistula. But there are occasional cases recorded in which, as it seems to the writer, a subsequent small

exit of fæces at the wound has plainly had this for a primal cause.

If, before tying the stump, the mucous membrane be burned away by inserting into the lumen a delicate cautery point—which is a favorite technique of some operators—then, to be sure, those infected mucous surfaces no longer exist; but that surgeon is now bringing two sloughs in contact. And sloughs cannot surely be expected to grow together, being dead tissue. We are depending again upon a providential deposit of thick fibrin over a bad job. Of course, Providence generally obliges us; but why use a bad principle when a good one, and an easier and safer, is at hand?

In criticism of the plan of ligating the stump (or its mucous tunic only), next disinfecting the end by any plan, and then bringing peritoneum over it, by suturing, either with or without first dissecting back a cuff or flaps: Here, whether a fistula results or not depends on whether the peritoneal stitches or the catgut ligature on the buried stump-end give way first. The conception is faulty, because again you have foul mucous surfaces tied together. If, too, there occur a rapid secretion of infective fluid in this hollow stump, that poison lies between what are practically two ligatures; and may burst outwardly, or force itself between the peritoneal stitches, before the catgut on the stump is absorbed.

Whereas, by the plan the writer advocates, drainage is perfect and unopposed into the cæcum, where it ought to go, and the long inverted stump is an added safety against outward leakage, by bringing so much more of peritoneum in contact.

This last point shows the objection to the plan of simply amputating close to the cæcum, and placing one or two rows of Lembert stitches to close the hole. It is surgical and correct in conception, and brings the peritoneal and not the mucous tunics together. But the writer contends that by invaginating a half-inch of the appendix-stump, when this can be done (which is almost always), there is just that distance more of peritoneal surface brought in contact as a safeguard against leakage. To throw this safeguard away deliberately, by cutting the stump short off seems to the writer unwise. Also, the necessity for two rows of Lembert sutures is obviated by the plan advised herein.

Regarding Dr. Edebohl's plan of inverting the entire and unopened appendix, the writer can see no sufficient advantage in doing this in healthy appendices, and in a long appendix it is extremely difficult. In the diseased organ it will generally be found impossible of accomplishment. Severing and stretching the canal for a moment by the plan advocated in this paper are essential, as a rule, in order to invert a stump of more than merely trivial length, because of the plastic and congestive strictures so often present.

VIII. Finally, the writer would say that he attributes the little patient's recovery, whose case has been to-night discussed, mainly to the thoroughness with which flushing of the bowels and peritoneal cavity was performed.

As a rule, wiping away pus or blood or fæces is doubtless much safer than irrigation, provided these fluids be localized. But if diffused, that alters the case. And if we must irrigate, it is certain that withdrawal of the bowels outside, so far as adhesions permit, greatly aids thorough cleansing, both of intestines and of the various peritoneal pouches and recesses.

In a paper published recently (see MEDICAL RECORD, March 30, 1895), Dr. McBurney reports a series of most interesting cases of this kind, treated by irrigation with salt solution and packing, just as this one was. But if Dr. McBurney withdrew the bowels in any of these instances, it was at least not mentioned.

Of course it is plain that there may be some added shock from the procedure, but as absolute thoroughness alone offers the least hope in these desperate cases, the withdrawal seems the lesser evil.

105 WEST SEVENTY-FOURTH STREET, June 25, 1895.

"UNITED STATES NAVAL HOSPITAL,
"PENSACOLA, FLA., April 24, 1895.

"MY DEAR DOCTOR: Your note of April 21st has just reached me and I hasten to reply.

"In regard to the technique as to the treatment of the stump after operation in cases of appendicitis, I have not only a distinct recollection of the plan you suggested, but I have notes made at the time of your demonstrations. It is four years since I first saw you demonstrate the plan, April, 1891, and less than six weeks since I saw you again demonstrate the same method. It strikes me that such a simple method as turning 'outside-in' the stump of the appendix, and tightening a previously arranged purse-string suture, would have occurred to one as a simple and radical method of treating the long stump. If the credit of having established this neat procedure is due to you—and to establish your claim you needs must show that you demonstrated it in 1890 and 1891—I cheerfully state that in April, 1891, I was a member of your Operative Surgery Class in the Polyclinic, and again in February and March, 1895; and in the presence of both classes you showed the method of inverting the long stump and the use of the purse-string suture in the cæcum about the base of the appendix. You ask me to describe the plan you showed in 1891, as I remember it. In my notes, I find that there were four steps in the procedure before tying: 1. A continuous suture of silk around the appendix (Lembert's suture) in the superficial layers of the cæcum; tie first part of surgeon's knot, but do not tighten. 2. Cut the appendix, leaving a stump at least one-half inch long. 3. Stretch calibre of the stump. 4. Seize and invert end of stump by using mouse-toothed forceps. Now tighten the purse-string suture while withdrawing the forceps.

"I trust that this may serve the purpose for which you wish it. I am sure that Dr. Arnold and Dr. Brewer can substantiate what I state. Dr. Arnold is now in China on the Petrel.

"With best wishes, I am
"Cordially yours,
"JAMES SHIRLEY HOPE,
Passed Assistant Surgeon, U. S. Navy.

"TO DR. H. M. DAWBARN."

"UNITED STATES STEAMSHIP PETREL,
ASIATIC STATION, May 24, 1895."

"I wish to be a witness that, in April, 1891, I took a course at the New York Polyclinic in Operative Surgery under Dr. Robert H. M. Dawbarn, the other members of this class being Assistant Surgeon James F. Keeney, U. S. N. (now deceased), Dr. J. S. Hope, at present also a member of the Navy Medical Corps, and Drs. M. M. Brewer, S. B. Jenkins, and J. N. Jackson; that during said course Dr. Dawbarn demonstrated, as the usual technique with him in treating cases of appendicitis, the operation detailed below; and I can be the more certain of the steps involved, because I performed the operation in question upon the cadaver under his directions and made up my notes of it from memory immediately afterward.

"*Steps of Procedure.*—1. After exposure and isolation of the appendix, a continuous Lembert's suture of silk is applied in the superficial layers of the cæcum, so as to surround the head of the appendix at a distance from its insertion of about one-fourth of an inch. Then the first turns of a surgeon's knot are made ready to be tightened. 2. The appendix is to be removed so as to leave a stump of a length of one-half an inch, if its condition will admit of this. 3. The lumen of this stump is stretched by the gentle separation of the blades of a pair of slender forceps inserted through it into the cæcum. 4. The stump, thus freed from plastic adhesions or other contractures, is then to be inverted into the

cæcum by passing the cut end of the appendix-stump into its lumen in the grasp of a pair of slender-jawed, fine-toothed forceps, upon which the purse-string suture is then gently drawn. 5. After the withdrawal of the forceps, this suture is drawn in until the peritoneal surfaces are closely opposed, when it is to be made fast.

"W. F. ARNOLD, M.D.,
"*Passed Assistant Surgeon, U. S. Navy.*"

REPORT OF INTUBATION CASES.[1]

BY FREDERIC M. WARNER, M.D.,

NEW YORK.

VISITING PHYSICIAN TO THE CITY HOSPITAL; CONSULTING PHYSICIAN TO THE FRENCH HOSPITAL, DEPARTMENT OF DISEASES OF CHILDREN.

THE increase in favor of the operation of intubation over tracheotomy in this country has been steady and constant. The latter, formidable at best to the lay mind, involving the abhorrent cutting of the tissues and the sight of blood, has in the majority of instances been performed under the greatest disadvantages; scarcely ever permitted until the patient has been beyond chance of recovery. Intubation, on the other hand, when properly explained to the child's guardians, never meets with any opposition, except from the densely ignorant, and it may be done as early in the disease as the operator deems necessary. In Europe, where they have been loath to believe that the genius and perseverance of O'Dwyer have succeeded where Bouchut failed after halting on the brink of discovery, the operation is handicapped by doubts and improperly made instruments. This series of cases that I am going to relate is numerically small, only twenty in number, but in detail full of interest to those to whom this subject appeals.

They were all desperate cases, in my opinion and in the judgment of those who saw them with me. They would have each and all terminated fatally without operation—even if the calomel sublimation treatment, which has modified the prognosis in croup to a considerable extent, had always been employed. Many cases have recovered under this treatment which formerly would have only survived by the aid of operative interference: but again, there are many cases which are not influenced favorably by the inhalation of vaporized calomel, no matter how early in the disease this agent is employed.

CASE I.—H. M——, five years of age, male. Membranous exudate on nasal and pharyngeal mucous surface and in larynx; albumin in urine; child had been sick ten days; the larynx had been involved about four days. There was marked supra- and infra-sternal depression, with extreme dyspnœa and lividity of surface. Upon introduction of the No. 3 to 4 tube a piece of false membrane about two inches in length was expelled, to the relief of all the distressing symptoms. The tube remained in the larynx four days, when it was coughed out, and the child made an uninterrupted recovery.

CASE II.—H. P——, aged twenty months, female. Extensive membranous deposit upon tonsils and in pharynx and in larynx; extreme dyspnœa. Child had been sick eight days, but the laryngitis had been present only about twenty-four hours. A No. 1 tube was introduced about 9 A.M. and the child did well, breathing easily until about 5 P.M. of the same day, when the temperature commenced to go up rapidly, coincident with the extension of membrane into the lung, and death occurred eighteen hours after introduction of the tube, which was removed post mortem, lumen clear.

CASE III.—S——, aged five years, male, had been sick eight days, with twenty-four hours of laryngeal complication. When I saw the child there was considerable membranous deposit in the pharynx, together with a great deal of œdema. A No. 3 to 4 tube which was introduced was coughed out at the end of twenty-four hours. The dyspnœa continuing, the same tube was reinserted and was again coughed out in about twelve hours. Ten hours later, the breathing becoming very difficult, I introduced a No. 5 tube, the next larger size. Three days afterward the child expelled this tube and went on to complete recovery.

CASE IV.—R——, aged three, male. The child had been sick about twenty-four hours. Large membranous deposits on tonsils and wall of pharynx, associated with extreme dyspnœa. A No. 2 tube was introduced and the patient did well for four days, when the membrane commenced to extend downward, and in twenty-four hours the child was dead. The tube was removed post mortem.

CASE V.—B——, aged four, female. False membrane on tonsils and pharynx. Child had been hoarse about two days. The case was very urgent, the dyspnœa being extreme. A No. 3 to 4 tube was introduced with immediate relief, and the case progressed favorably. At the end of six days the tube was coughed out, and although the child was suffering from the toxic effects of the disease the laryngitis had apparently disappeared. Four days afterward the patient again became croupy, and it was necessary to again insert the tube. Three days afterward, during a paroxysm of coughing, the tube was expelled, but I was obliged to reinsert it in about two hours to relieve the difficulty in breathing. The child died about twelve hours afterward of blood-poisoning.

This is one of the most interesting cases that I have seen, showing, as it does, that life was prolonged about fourteen days by the employment of the operation of intubation.

CASE VI.—T——, aged five, female. The child had been sick about three days, dyspnœa having been present twelve hours when I saw it. It was a desperate case; the throat was swollen and a mass of false membrane. The child was livid and apparently lifeless. As a forlorn hope, not that I expected any result, I introduced tube No. 5 and tried artificial respiration, with no effect. I then pulled out the tube by the attached thread, and a little membrane and mucopus came with it. The patient began then to respond to the efforts at artificial respiration. Some whiskey hypodermically helped restore the heart's action and the child coughed out more membrane and muco-pus, and then breathed freely. Ten hours afterward I found the patient cyanotic and almost pulseless. I introduced tube No. 5, through which the patient expelled considerable false membrane. Twelve hours afterward I saw the child breathing easily and in good condition, except that the heart's action was feeble. I cautioned the mother particularly to keep the child lying in bed and not allow it to be agitated or disturbed. One hour afterward the child suddenly sat up in bed, and fell back dead. I removed the tube post mortem and found the lumen clear.

CASE VII.—D——, aged two, male. The patient in this case had been suffering from dyspnœa for two days. There was no membrane to be seen in the throat. On introduction of tube No. 2 several large pieces of membrane were forcibly expelled, and the child was left in perfectly comfortable condition, but died sixteen hours afterward, presumably of extension downward of the false membrane.

CASE VIII.—M——, aged sixteen months, male. Six weeks previously this patient had an attack of measles, and since that time there had been more or less croupy breathing. Suddenly one morning he was seized with an attack of dyspnœa which became very rapidly more intense. A No. 1 tube was introduced four hours afterward with considerable relief, but the

[1] Read before Section on Pediatrics, New York Academy of Medicine, May 9, 1895.

child died sixteen hours later of extension downward of the membrane.

Case IX.—L. S——, aged five, female. This patient had been suffering from a croupy cough and voice about ten days. Upon insertion of a No. 3 to 4 tube considerable muco-pus and false membrane were expelled, and about fifteen minutes afterward, during an attack of coughing, the child became suddenly livid and gasped for air. I realized that the tube had become occluded with detached membrane, and as in those days I used to cut off the thread as soon as the tube was in place, I could not pull it out. My extractor was in the case on the other side of the room, and rapidity of action was imperative. The child was sitting on the lap of the nurse directly in front of me. With the fingers of my left hand I forced up the larynx externally, and I saw easily the tube ride up back of the epiglottis. I seized and extracted it by the tips of two fingers of the right hand. This was followed by the expulsion of false membrane and muco-pus. The child now breathed with freedom, and was perfectly comfortable. The following day the patient again became very cyanotic, and the tube was reintroduced. Almost immediately the same phenomena of occlusion of the tube occurred. The thread this time being still attached, the tube was rapidly withdrawn; the child expelled a quantity of false membrane, which had probably been loosened and dislodged by the introduction of the tube. It was not necessary to again intubate, and the child made a good recovery. In this case calomel vaporization was employed.

Case X.—L——, aged four, female. This was a very bad case, the dyspnœa had existed about twenty-four hours, with a great deal of false membrane in the pharynx and on tonsils, with considerable swelling of glands of the neck, as the child was extremely small for its age. A No. 2 tube was introduced, and with the expulsion of false membrane great relief was obtained, but the child died thirty-two hours afterward from extension downward. Calomel vaporization was employed in this case.

Case XI.—C——, aged five, female. Extreme dyspnœa. Disease had been present about one week; more or less croup during this period. Upon introduction of No. 3 to 4 tube the child coughed up a great deal of muco-pus, but no membrane, and became immediately relieved. Saw the child again thirteen hours afterward, sleeping quietly and breathing easily. Was summoned two hours later and found the patient moribund, dying at once. An autopsy was refused, the parents even forbidding me to remove the tube. Calomel vaporization was used in this case.

Case XII.—L——, aged three years and six months, female. Laryngeal symptoms had been present twenty-four hours. The child was suffering extremely when a No. 2 tube was introduced. Relief occurred at once, but death took place thirteen hours later from extension downward of the membrane. Calomel vaporization was employed in this case.

Case XIII. — H——, aged seven years and six months, female. This was a case of diphtheria following measles. A croupy cough had been present about twenty-four hours. After introduction of a No. 5 to 7 tube considerable muco-pus and a small amount of membrane were expelled. Child died three days afterward from extension downward. Calomel vaporization was employed in this case.

Case XIV.—S——, four years of age, female. Croup had persisted for twelve hours and the child was rapidly becoming cyanotic. Great relief was obtained upon introduction of No. 3 to 4 tube. The child was doing well, when it coughed up the tube sixteen hours afterward and died of suffocation before I could reach the house, though summoned at once.

Case XV. — G——, aged fifteen months, female. This was a very interesting case, but hopeless from the first on account of a capillary bronchitis complicating the croup, and the age of the patient. The patient had been sick at least a week when it was seen by me. A No. 2 tube was at once introduced, but did not give any appreciable relief, and the child died three hours later.

Case XVI.—B——, aged two years and six months, female. The child had been suffering from diphtheria with membranous deposits on tonsils and pharynx for six days. During the last two days croupy respiration was present. Great relief was obtained upon the introduction of tube No. 2. Forty hours afterward the patient died from extension of the membrane downward. Calomel sublimation was employed in this case faithfully, and for awhile with seeming benefit.

Case XVII.—G. G——, aged seven, male. This boy had been suffering from diphtheria ten days, the last five of which he had been croupy, which condition increased so rapidly on the tenth day that when I saw him he was suffering intensely from lack of air, and was old enough to appreciate the cause. Introduction of No. 5 to 7 tube was followed by instant relief. Fifteen hours afterward, during an attack of coughing, the father became frightened, thought the boy was choking, and pulled out the tube by means of the thread which was left attached. The patient breathed with ease for awhile, but twelve hours later it became necessary to reintroduce the tube. It remained in place about five minutes, when it was coughed out, and I introduced one of the next larger size; thereupon the child gagged and coughed, expelling the tube together with a complete membranous cast of the trachea and the bifurcation. After this the child's respirations were easy, and I left it without a tube. Three days later I was summoned hastily and found the child as before, cyanotic and greatly distressed for lack of air. I reintroduced the tube, and again it was expelled with another complete cast of the trachea. Then, as the patient seemed perfectly comfortable once more, we left him without reintroducing the tube. Calomel vaporization was begun at this time and the details carried out faithfully, and the child made a good recovery.

Case XVIII.—W——, aged five, male. This patient was seen on the fourth day of the disease. The membrane had already invaded the lung, and a No. 5 to 7 tube was introduced to see if it would make any difference in the respiration. There was but slight appreciable effect and the child died within an hour.

Case XIX.—D——, aged eighteen months, male. Child had been sick four or five days. There was membrane on the tonsils and pharynx, and the dyspnœa was extreme. Immediate relief was obtained upon introduction of a No. 1 tube, the child expelling a great deal of false membrane and muco-pus. Four hours afterward the child coughed out the tube, and it was not necessary to reintroduce it. The patient made a good recovery. In this case calomel sublimation was employed with considerable benefit.

Case No. XX.—B. W——, aged seven, male. This child had had influenza, followed by a slightly croupy cough lasting about two weeks, the last four days of which it grew steadily worse. The parents did not realize the gravity until the child's condition became critical, when I was called. Upon introduction of a No. 5 to 7 tube a small piece of membrane about one inch in length was expelled, together with considerable muco-pus. There was no membrane visible on the tonsils or in the pharynx; there was no elevation of temperature, and the child was apparently not sick except that there was the mechanical obstruction to respiration—which the tube removed. The patient wore the tube until the seventh day, when it was removed, encrusted with calcareous deposits—and the child was well.

In conclusion, of the twenty cases intubated six recovered—thirty per cent. Ten cases were treaterd with calomel sublimation in addition—of these three recov-

ered. The other treatment consisted in the administration of iron bichloride and stimulants, with the local application of peroxide of hydrogen.

56 West Fifty-sixth Street.

ADENOID GROWTHS OF THE NASO-PHARYNX.[1]

By T. C. EVANS, M.D.,

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In the animal economy we find a system or series of lymphoid or adenoid masses, situated in different locations along the alimentary canal and the respiratory tract, varying in number and location according to the habits and environments of the different species. These lymphoid masses appear to be modified or specialized lymphatic glands, or at least they are intimately connected with the lymphatic system. In man and other omnivorous mammals these masses of lymphoid tissue form a circle, or more properly speaking, two or more less complete circles, one surrounding the naso-pharyngeal portion of the respiratory tract, the other the oro-pharyngeal portion of the alimentary canal. These circles are often described as the lymphoid ring, and embrace the faucial tonsils, the pharyngeal tonsil, the glandular bodies at the base of the tongue, as well as many smaller masses. Besides the lymphoid ring, these masses are also found in the lower reaches of the alimentary canal, in the jejunum, and especially the ileum—here they are known as agminated glands, or "Peyer's patches." The exact function of these masses is still somewhat obscure, but it has been pretty clearly demonstrated that they possess a phagocytic action, the lymphocytes which make their way in and out these masses have the power of taking up the various forms of bacteria and destroying them. The process appears to be similar, or rather supplemental, to the general phagocytosis exhibited by the leucocytes of the general circulation. This phagocytic power is evidently intended to protect the animal against infection by ingested or inhaled bacteria. But in diseased conditions of these masses, instead of protecting against the introduction of bacteria, they become channels of invasion. The lymphocytes still possessing the power of migration, and of enveloping bacteria and carrying them from the surface, appear to have lost their bactericidal power; instead of doomed prisoners the bacteria become mutinous parasites, feeding and multiplying on the protoplasm of the cells, while they are being carried to a neighboring lymphatic gland.

In this paper I wish only to speak of the abnormal condition of those masses of lymphoid tissue situated in that part of the respiratory tract known and described as the naso-pharynx—the disease commonly known as adenoid growths of the naso-pharynx. Meyer, of Copenhagen, in 1868, was the first to fully describe this condition. Czrmak, in 1860, Volintini and Lowenberg, in 1865, all seem to have observed the phenomenon, but for some reason failed to appreciate its importance. So Meyer is considered, and justly so, the discoverer of lymphoid hypertrophies in the naso-pharynx.

The disease consists of an hypertrophy of the lymphoid tissue that encircles the naso-pharyngeal portion of the respiratory tract, blocking up the space and mechanically interfering with, or altogether inhibiting, nasal respiration. This hypertrophy usually involves, to a greater or less extent, the faucial tonsils and other contiguous lymphoid masses. Except that heredity seems to play some part in its production, and that it is essentially a disease of childhood, little can be said as to its etiology.

The diagnosis is easily made from the characteristic symptoms which have been so fully and frequently described. The open mouth, the elongated face, the expressionless countenance, the dead or nasal voice, the inability to articulate certain consonants, the viscid mucus, the disturbed sleep, with its sweats, snoring, and night-terrors, the chest deformity, deafness, and mental hebetude, all make a picture that can hardly be mistaken. But if these are not sufficient, positive evidence can be had by passing the index-finger into the naso-pharynx and making a thorough survey of its walls and contents. This procedure is easily accomplished; while causing considerable pain it cannot possibly do any harm. In older children some information can be obtained by the use of the rhinoscope. In addition to the impaired hearing, the deformities of nasal, buccal, and thoracic cavities, which are among the most distressing and persistent of the sequelæ, and have been recognized since the days of Meyer, I wish, also, to call your attention to another danger from diseased lymphoid tissue that has until quite recently been overlooked—that of a channel for tubercular infection. Though diseased lymphoid masses have long been recognized as fruitful source of infection in diphtheria and the exanthemata, attention was not called to the fact that they played an important rôle in tubercular infection until 1894, when Dr. Sims Woodhead delivered an address before the North London Medico-Chirurgical Society on "The Channels of Infection in Tuberculosis,"[1] in which he forcibly demonstrated the dangers from diseased lymphoid masses, especially the pharyngeal tonsils. In speaking of the part played by the "lymphoid ring" he said: "It is found when pigs are fed on tuberculous material held in solution, especially if the solution contains fatty or viscid material, that in a very large proportion of cases these animals become affected with tuberculosis of the gland associated with the tonsils." Further on he says: "So far as can be made out from a careful consideration of the results reported by observers who have collected statistics, and have performed feeding experiments, and from my own observation of a number of similar experiments, I am driven to the conclusion that this method of infection of the glands of the neck through the tonsils must be of comparatively frequent occurrence, especially in children living under unsanitary conditions, and subjected to various devitalizing influences."

After describing the process of invasion in the pig from the tonsil to the glands in the neck, and to the thorax by the mediastinal and post-sternal lymphatics, and by the intercostal lymphatics, until the glands at the root of the lungs become infected, he says: "Of course, in children it is not possible to demonstrate this line of invasion in the same way that one can in experimental animals, for the simple reason that in experimental animals the disease can be traced from the very earliest stages to the time at which marked external signs of tuberculous glands make their appearance; but sufficient can be made out by anyone who will classify the results of a large number of post-mortem examinations of children, when the conditions of the glands of the various parts of the body have been noted, to convince him that the process of invasion of the tonsil, or at any rate of the lymphoid tissue in this region, is of a comparatively frequent occurrence; much more frequent than even those who have examined a large number of cases of tubercle in children are at first inclined to suppose. The very cells, then, which in health have to do with the destruction of bacilli, and with protecting the organism against their invasion, are those which appear to be responsible for the conveyance of tubercle bacilli from the outer surface to the tissues beneath."

From the researches and experiments of Dr. Wood-

[1] Read at the Kentucky State Medical Society, Harrodsburg, Ky., June 16, 1895.

[1] Lancet, October 27, 1894.

head, it is evident that a considerable number of the cases of pulmonary tuberculosis, especially in early life, are secondary to tuberculosis of the bronchial glands at the root of the lungs, and that in many cases the channel of infection is through the pharyngeal or faucial tonsils. Besides the abnormal condition of the tissues themselves in hypertrophy of the pharyngeal tonsils, we have constantly present a surface of greater or less extent denuded of its epithelium, as is shown by the small quantities of blood which so often streaked the viscid secretion from the naso-pharynx.

I think it is reasonable to conclude that the enlarged cervical and bronchial glands which so constantly accompany lymphoid hypertrophies, are due to tubercular infection through this channel; that instead of being a part, a diathesis, or dyscrasia, which has generally been described as lymphatism or scrofula, they are most likely the result of tubercular infection through the diseased lymphoid masses, either of the pharyngeal ring or of the Peyer's patches.

To again quote from the article of Dr. Woodhead, he says: "I am sure that those of you who have made any considerable number of post-mortem examinations of the bodies of tuberculous patients, who have succumbed at various periods of life, will agree with me in this, that the affection of the lung often appears to (although the ultimate cause of death) be merely a secondary affection. I have seen case after case in children, and in animals fed on tuberculous material, the lung markedly affected, but in a large proportion of these cases it has been possible to trace the course of invasion back from a caseous or old calcareous mesenteric gland through the chain of retro-peritoneal glands, up through the diaphragm to the posterior mediastinal and bronchial glands, and so on to the lungs. I have not seen this in a few cases only, but in dozens of children, in a few adults, and in many animals. We also have an example of a secondary affection of the lungs following tubercle of the pharyngeal tonsillar structure, through the glands of the neck, then those in the thorax, and finally to the lung itself, in the examples that have already been given of infection of the pig by tuberculous milk."

In going into detail of dangers from tuberculous infection, somewhat to the exclusion of other symptoms and sequelæ of adenoid growths, I do not wish to be understood as underestimating their importance, but they have been so often given that a repetition is here unnecessary.

The treatment of adenoids of the naso-pharynx is either expectant or surgical. The probability of favorably affecting lymphoid hypertrophies by the use of drugs, either topically or constitutionally, is so remote as to scarcely entitle it to consideration. The expectant plan—the "outgrowing" process which the parents so confidently count on—has at least this advantage, that the hypertrophy usually diminishes with age, and sometimes entirely disappears with adolescence. The cavity of the naso-pharynx is proportionately larger, so that the respiratory obstruction, so far as the naso-pharynx is concerned, is diminished, or altogether disappears. On the other hand, the deformities due to years of mouth-breathing do not disappear with the "outgrowing" of the obstruction. The high-arched palate, the contracted nasal chambers, the deformed alæ, with their small, round nostrils, the listless facial expression, due in part to the deformity and in part to the impaired hearing, have by this time become so much a part of the physical make-up that neither time nor treatment can effectually efface them. The expectant plan is at best long, tedious, and uncertain, entailing years of suspense on the physician and parent, and subjecting the patient to dangers which, when once encountered, cannot be corrected.

In speaking of the removal or destruction of pharyngeal hypertrophies by surgical means, it will not be necessary to review the many operations that have been devised, and the almost endless list of instruments and appliances that have been invented for this purpose, most of which have for various reasons been abandoned. Most operators now confine themselves to one of the following methods, viz.: 1st, Removal by the post-nasal curette: the most efficient instrument is what is known as the improved Gottstein curette; with this it is possible to completely remove the hypertrophies from the dome and posterior wall of the pharynx without danger to the Eustachian tube or soft palate. It is the only instrument necessary for the operation, except occasionally, in intractable children, a mouth-gag will be of service. 2d, Removal by post-nasal cutting forceps; all the post-nasal are in fact modelled after the old post-nasal forceps of Lowenberg. I think the one in most common use at this time is what is known as Gradle's forceps, which consists of triangular fenestrated blades, the fenestræ being guarded by a shield to prevent the excised tissue from falling into the larynx. The only danger in the cutting forceps is to the soft palate, which can be held forward with the finger, or tied out of the way.

In this connection I wish to state that where, for any reason, it is necessary to hold the palate forward, it is best to at once pass a tape or soft catheter through the nose and tie the palate out of the way. None of the many palate retractors have in my hands been satisfactory. Instead of getting a view of the post-nasal space, I have usually gotten the contents of the stomach. Probably the chief question is whether or not general anæsthesia is required. The hemorrhage after the operation is quite profuse for a few minutes, making an annoying and troublesome complication in the use of anæsthetics. This danger can be lessened, but not entirely obviated, by the position of the patient during the operation, placing the head lower than the body so that the blood will gravitate away from the larynx. As a rule I operate without an anæsthetic. Patients who were old enough to talk intelligently have often told me that the curetting produces no more pain than the preliminary exploration with the index-finger. Cocaine seems to do little good in these cases, and is not well borne by children.

The dangers of the operation, other than those due to the administration of anæsthetics under adverse conditions, are almost nil. There is no shock, and the subsequent discomforts are rarely sufficient to confine the patient to bed. The galvano-cautery is only applicable in a small per cent. of the cases. It is indicated in the sessile or cushion-shaped growths. Such conditions are usually found during youth. In these sessile tumors the hypertrophy is of the connective tissue, rather than the stroma of the pharyngeal tonsil. Destruction by the cautery is generally regarded as the most conservative operation, but is the most difficult. The use of the galvano-cautery presupposes a tractable patient with a tolerant pharynx; an operator sufficiently skilled in the use of instruments to manipulate the rhinoscopic mirror with one hand, the electrode with the other, to locate and limit the point of cauterization by the image in the mirror. No one should be reckless enough to introduce a cautery electrode into the naso-pharynx without being able to watch and guard the process from start to finish. Electrodes are used both through the nose and behind the palate. The destruction of any considerable amount of tissue by the galvano-cautery is tedious, and will require many sittings.

Restoration of Joint Functions after Fracture.—Massage, soaking in hot water, frictions with liniments, electricity, passive motion, and attempts at voluntary movement continued for months, will often cause great improvement in the functional usefulness of joints supposed to be irretrievably damaged through fracture.—ROBERTS.

THE ABUSE OF MEDICAL CHARITIES.[1]

By FRANK VAN FLEET, M.D.,

NEW YORK.

OPHTHALMIC SURGEON TO RANDALL'S ISLAND SCHOOLS AND HOSPITALS; ASSISTANT SURGEON TO MANHATTAN EYE AND EAR HOSPITAL; INSTRUCTOR IN DISEASES OF THE EYE, AT THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.

It is one of the crying outrages of the times that the free dispensaries in our city, and, I presume, the same may be said of all cities, treat, gratuitously, many patients who are abundantly able to pay for services rendered, and it is a melancholy fact that the number so treated is getting larger every year.

In the fourteen years that it has been my fortune to be connected with the different hospitals and free clinics devoted to the treatment of diseases of the eye in New York City, I have seen this evil grow until now it has reached such proportions that it seems to me that it may form a theme worthy our discussion in this medical body, with the end in view that, in a multitude of counsel we may devise some scheme whereby its evil tendencies may not only be more fully appreciated, but its future growth curtailed.

This abuse is an evil which we cannot continue to observe with indifference, for not only does it take away from the members of the medical profession what should be a legitimate source of income, and deprive the worthy poor, for whom these free institutions are intended, of the time and attention necessary for their proper treatment, but it also begets in the unworthy and undeserving recipients habits which tend to degrade them, the influences of which may extend far into the future, affecting not only themselves but generations yet unborn.

This growing tendency to get something for nothing is widespread, and has a deeper hold on the community at large than we are willing to admit; indeed, I believe it would be difficult to convince the public mind of its extent unless brought face to face with the facts. It may influence the skeptic, and cause him to stop and ponder, when I say that in the Manhattan Eye and Ear Hospital, where I have the honor to serve, out of 16,893 patients registered in all departments for the year ending September 30, 1894, 771 were refused treatment because of their ability to pay. This number, which is over 4.5 per cent. of all who applied for treatment, may or may not fairly represent an average that would apply to all institutions of its kind in our city; but, while we are as careful as we can be to sift out the unworthy, yet it is patent to all observers that many slip in who could, with justice, be excluded.

While not desiring to enter into invidious comparisons, I know that in our institution we treat a better class of patients than are found in some other clinics, and by better class I mean that we have more native-born Americans in the classes at the Manhattan—in the year above quoted sixty-one per cent. of our patients were native born. Yet I know that in clinics where the applicants are largely of foreign birth, a very large number are able to pay for medical services.

The subject I bring for discussion is not a trivial one, but one involving many intricate problems for its proper solution; I ask you, therefore, to bear with me patiently while I array before you some of the thoughts that have occurred to me while turning this matter over and over again in my mind.

In the first place, it is not an easy question to decide who is, and who is not, able to pay for medical advice, nor, deciding this, is it possible to formulate at once a system whereby we can correct the evil. It has occurred to me that in order to arrive at a proper solution of the subject, it will be well to consider the matter under the following headings, namely,

First. Who is, and who is not, able to pay for medical advice?

Second. What is the effect of the abuse of charities, medical and otherwise, on the public mind?

Third. Who or what is to blame for this abuse?

Fourth. What remedy, or remedies, shall we suggest to correct it?

The clinic cards of most institutions contain the statement that none are treated except those who are too poor to pay for medical advice. Services of one kind or another are paid for in various ways; the legal-tender, known as money, being the equivalent generally employed in civilized communities. But money is not the only medium of interchange; the medium may be anything the contracting parties mutually agree upon. The physician giving a part of his time to free dispensaries and hospitals does so with the distinct desire and understanding that in return for this consideration he shall receive experience, and, going into an institution where many people are treated, and where he receives the advice and aid of able superiors, he acquires a knowledge and prestige that places him in a position he could attain in no other way. His superiors, who grow old and gray in the service, and who from long observation become familiar with all the clinical features of every part of their specialties, find, perhaps, their only reward in having at their command material for teaching medical students, and both they and their assistants are looked upon, because of their hospital and dispensary connections, as authorities in their special lines.

The clinic patient gets treatment, and in return gives himself as material for observation and medical teaching; that he is well paid for this offering to science is attested by the fact that he is saved from blindness, disease, or death, and no liberties are taken with him, no operations or experiments are performed upon him, without his consent and desire. The obligation is not, therefore, all on one side, but is mutual.

Physicians, however, much as they would like to give their time to interesting hospital work, much as they would like to devote themselves to relieving the sufferings of afflicted humanity, for much of the work done is neither instructive nor pleasing, are forced, at least most of them, to do something more than this. The growing demands of civilization and individual advancement necessitate a style of living that requires something more than experience in scientific matters. It requires the possession of that other medium of interchange, money; an article many medical men, especially the younger, do not possess in abundance.

Now, if all people afflicted with sickness or defects applied to dispensaries for treatment, it would necessitate that the attending physicians have independent means. The management of these institutions have accordingly found it necessary to say who they will, or who they will not, treat, and have decreed that only those too poor to pay for medical attendance shall receive treatment without monetary consideration. The question we naturally ask is, What constitutes being too poor to pay for medical attendance? At most institutions applicants will be interrogated something after this manner: What is your name? Where were you born? Are you married or single? What is your business? What is your income? If married, How many children have you? From the answers given the deductions are drawn, which cannot be carefully done when, in the space of two or three hours, the entry clerk sees and records from sixty to a hundred patients. The final question, which may, or may not, be asked, is: Can you not afford to pay a physician? Almost invariably the answer comes, No! We have frequently found that this denial is a deliberate falsehood; yet in many instances people who are more able to pay than the physician is to give free treatment, truly feel that they are not. Let us consider a few instances.

Mrs. M——, who calls on her physician regularly,

[1] Read at the eleventh annual meeting of the Fifth District Branch of the New York State Medical Association, held in Brooklyn, N.Y., May 28, 1895.

and at the end of the year settles the bill at the rate of five or ten dollars per office visit, has in her employ a maid who has headache, or something of the kind, requiring medical advice. The maid receives a monthly wage of twenty dollars, and, of course, could not be expected to pay for two or three consultations all she could earn in a month. Mrs. M—— contributes yearly to certain dispensaries, and at once concludes that her servant had better go to one of them for treatment. There are many just such cases. School teachers, clerks, and a long list of workers of every kind, earning good salaries, justly feel that they cannot afford to pay big fees for medical advice. But these medical men, these specialists, do not invariably get, or even charge, big fees. Although they may have a fee which is, say ten dollars, they are willing to make reductions, and their books will show, at the end of the year, that if it were not for the patients who paid small fees, say one or two dollars, the mighty specialist would have had to curtail expenses.

There are many people who would rather pay a small fee than have free treatment, if they knew where to go; but there are also those who feel that after living as they like to live, dressing as they like to dress, and humoring all their desires and vanities, they are unable to pay for, let us say, having their eyes examined, especially as they want to get gold-rimmed spectacles. Now these people are not worthy objects of charity, and they should be refused treatment. A man who possesses and wears a diamond scarf-pin has no right to present himself for charity treatment. If he were to pay a physician for treating him and then help himself to somebody's diamond pin because he had no money left to pay for one, he would be designated a thief. But because he pays for the diamond and steals the medical advice he is no less a thief, although he may not violate the written law.

The woman who works for her living and dresses in silk and wears a sealskin cloak has no right to come to a free dispensary for treatment. The girl or boy, sixteen or seventeen years of age, attending school or college, richly dressed and wearing gold ornaments about their persons, have no right to come for free treatment, even though their parents may be hard-working mechanics. The attending physician justly feels that these people are enjoying profits that should accrue to the doctor and his family. Consider a case like this. Two well-dressed elderly men present themselves, having come from out of town. They are brothers, and one has cataracts that are ready for operation. The attending physician asks if he cannot afford to pay? Well, if it is absolutely necessary he may be able to pay something. He is told that this institution is for people who are too poor to pay even a small fee, and he is referred to the superintendent, who will furnish him with a list of the doctors connected with that dispensary, any of whom will treat him at reduced rates if necessary. The men depart, and shortly after the superintendent comes in to say that this man is a veteran, living on a pension, and has saved a little money, but cannot afford to pay. The gentleman who accompanies him is his brother and he is a wealthy man. Now consider the inconsistency of this. Why should a rich man bring his poorer brother to a physician and ask charity? Why does he not bestow the charity instead of asking it of a stranger? Again, a physician sends a patient with a note asking attention. The appearance of the patient indicates a comfortable existence, but, in answer to the usual question, denies ability to pay. Naturally this question follows, "Do you pay your family physician?" and the surprised answer comes, "Certainly." And so we could go on indefinitely. It seems to me that if we could eliminate from our clinics those who are able to pay for medical advice, a very large number would be rejected.

The person who is able to dress elegantly ought not to be treated free. We frequently say to people, "Really your dress does not seem in keeping with your request for charity;" but the pat answer comes that a person may have sufficient pride to dress well and yet not have much money. But such an answer should not be accepted. A person who is able to dress well has no business to ask charity; they have no right to rob Peter to pay Paul; if they want medical advice they should be compelled to pay for it with some of the money they would spend on their dress, or go without it. It may be true that they cannot afford both, but the physician should not be expected to make up the deficiency; he experiences enough of that deficiency often in his own family. Nor should the physician in general practice be allowed to send a patient to the dispensary for free advice when he gets a fee for his treatment. If the patient can only afford one fee, that should at least be divided with the consultant. A common example is this:

Mrs. B——, from Greenpoint, Long Island, presents herself with iritis, for which Dr. F——, after treating her for three weeks, sends her to the hospital with an introduction written on his card. Mrs. B—— is married, and has two grown children, who are self-supporting. Mrs. B—— herself keeps a fancy store. When asked if she cannot afford to pay an oculist she says she cannot. When asked if she paid Dr. F—— for his treatment, she says she did, and adds further, that he sent her to us, and he has been very kind to her. It certainly requires less effort and generosity when you can dispense charity at some one else's expense.

I believe that an adult, unmarried, and in robust general health, should not be allowed charity, unless too old to work. There must, of course, be exceptions, they may have some ailment that incapacitates them. To our eye-clinics, however, people come who have some ocular trouble which may not incapacitate them, but is simply an inconvenience. They are able-bodied mechanics, policemen, firemen, clerks, typewriters, bookkeepers, etc., male and female, unmarried, with no one depending on them for a living, and earning from twelve to twenty-five dollars weekly, and upward; they should not be allowed free treatment; they take up the time that should be devoted to worthier people; they rob the doctor of his just fee, but, worse than all, they degrade themselves, and sow in themselves the seeds of pauperism. They kill that feeling of independence and honor which should be, and is, innate to the character of the native-born American, without which we cannot be good citizens, and they lay the foundation of a system of beggary that shall curse and degrade, instead of blessing and elevating, their descendants.

The man or woman whose happiness, comfort, and continued ability to earn a living depends on their eyes, should be willing to share that advantage with the oculist—who puts them in a condition to do their work, no matter how small that consideration may be. If the man or woman have, depending on them for support, families, aged parents, and others, who would be deprived of necessaries if fees had to be paid to doctors, that man or woman has a right to ask that charity, which we, as physicians, are willing and glad to be able to bestow. But if we are asked to bestow charity that robust and able people may have luxuries for themselves and their families, luxuries we may not be able to obtain for ourselves, then we feel that we have a right to protest.

The effect of this abuse of medical charities is, as I have said above, degrading to the public mind, and its tendency is toward the increase of pauperism. The cardinal principle of American institutions is independence; a feeling which makes a man spurn with scorn an insinuation that he should be an object of charity. This is the feeling which actuated our forefathers, and made them feel that they had no right to anything they did not gain by toil; to accept charity was, to them, humiliating indeed. Increasing population, with its

necessary increase in competition, has gradually brought about a feeling that one is justified in getting all he can with as small an outlay as possible, a feeling increased and strengthened year by year by the influx of paupers from Europe, who, after years of frantic struggle with poverty at home, have been forced to come to our fair land in the hope of better things. They bring with them their begging, grasping methods, so necessary in their own lands to insure them a living at all, which, coming in contact with the free and independent American spirit, contaminates it. These people and their children are the ones who frequent our clinics. It would be impossible perhaps to eradicate this feeling from the immigrants themselves, that they are justified in getting all they can for nothing, but it would be well for us, as a people, if we could keep it from taking root in their children, and from them being disseminated to our own.

The indiscriminate distribution of charity, therefore, tends to destroy the sense of honor in the recipients, makes them unmindful of the rights of others, and begets pauperism.

Where shall we place the blame? It is difficult to say who is able to pay for medical services, but the effect of too much charity on succeeding generations is easily predicted. When, however, we come to the question as to why these charities are abused, we are confronted by a subject of such magnitude that one is at a loss to know just where to begin.

No one person, no one class of people, can be said to be wholly and exclusively to blame. The people, meaning the public, are to blame in a measure, the institutions and their attending physicians and surgeons partly, and outside medical men, with the laity, contribute their share. The fact, then, is that we are all, in a measure, responsible. Many people go to dispensaries for special treatment, simply because they do not know where else to go; they have no idea or notion of getting advice or treatment for nothing, but they have never heard of any particular specialist; they ask for one at the dispensary and expect to pay. Others go because they think they have a perfect right to do so. They think the city pays the doctors and supports the institutions, and that these places are for their benefit. They put ten cents or a penny in the poor-box and feel that they are charitable indeed; when refused treatment, because they are not worthy objects of charity, they become indignant and threaten all sorts of vengeance, such as complaining to the mayor or some other high official.

Others, seeing the reckless extravagance of some of the so-called charitable millionaires, feel that they may as well get some of the plums going. This is one of the unfortunate results of civilization and progress; the money, centring in the hands of a few individuals, leaves them a surplus which creates a corresponding deficiency somewhere else. With this surplus the multimillionaire builds hospitals and institutions which are often of doubtful benefit to mankind. That they are monuments to the liberality of their donors is true, but that they benefit the race I am not so sure. We have now in course of erection in our city a hospital, the construction of which will necessitate the needless outlay of thousands and thousands of dollars that might be put to better uses. There are a number of institutions in the city of New York devoted to charity, where, counting the running expenses together with the interest on the money invested in costly buildings makes the per capita cost of caring for inmates more than it would cost to board them in the highest-priced hotels in town. Surely this is a perversion of charity.

There are far too many hospitals and dispensaries, which continue to grow in number, not because there is really any need for more, but because one or more medical men want personal advertisement, or one or more millionaires want monuments to their generosity.

This is sad but true, and its effect on the public mind is not good. Doctors themselves are to blame for some of the abuse of medical charities. A case came to my notice a short time ago where a patient was sent to the clinic for eye trouble by a prominent physician in town, who was at the same time treating the patient in his office and being paid for his services. People frequently apply for treatment, or for a diagnosis, so that the family physician can treat them, and state that they are sent by their physicians for that purpose. Now, of course, this is a condition, despicable in the extreme.

A physician in general practice ought to, at least, be willing to divide with his colleague, and yet the medical men who abuse these charities are frequently the ones who complain most bitterly about the dispensaries interfering with their practice.

There is a feeling, or an idea, very prevalent, that specialists invariably charge and get enormous fees. This is, of course, an erroneous idea; it is the patients paying small fees who make up the bulk of the specialist's *clientèle*. When specialists were few in number they may have received larger fees, but, as every town and city has one or more experts in special lines, and as competition becomes greater, the size of fee necessarily diminishes. I think myself that the day of large fees is past.

There was a time when a few men had a monopoly of intelligence and ability, but in these days of post-graduate instruction it would be impossible to pick out one man who stands above his fellows; true, some are superior in many ways to others, but the best have so many peers that a line cannot be drawn. One man, or a few men, who charge large fees, cannot compete with many men, of equal ability, who charge smaller fees. It is said of one man in our city, who, when patients present themselves who cannot afford to pay a fee of ten dollars, informs them that they are charity patients and refers them to his clinic. This, if true, stamps him as unjust, not only to his fellow-practitioners, but to his patients as well. There are many physicians who would gladly treat these people for smaller sums, and people, as a rule, would rather pay a small fee than go to free clinics. One thing is certain; the men who have the largest practices, and are accordingly the best known, are the men who charge moderate fees. There is really no reason why a specialist should get a larger fee than the general practitioner; he renders no greater service. It is true he does what the family doctor often cannot do; but, on the other hand, the family doctor does what the specialist cannot do.

We find, then, three classes of people who frequent hospitals and free clinics.

The first class, composed of those who come, either because they do not know where else to go, or else have a mistaken idea that specialists charge such enormous fees that it would be impossible for them to afford private treatment. These people cease to be applicants for charity when given the proper information.

The second class, constituting, by the way, a goodly sized proportion of all who come, is composed of people in comfortable circumstances who are abundantly able to pay for medical advice, but who are referred to the dispensary by their family physicians, over whose motives we will draw the veil. The third class is composed of those who are downright frauds; they would pick your pocket, if they had a good chance, even while you are bestowing charity. They are the people who own tenements, and who, when they have ailments, put on tattered and worn clothing, and present themselves for free treatment. They are a bad element in society.

There is a fourth class, which may constitute twenty-five per cent. of all who attend; I doubt if it is much more. They are the deserving poor, driven to ask charity because of misfortunes of one kind or another,

and for whom we are willing, nay, eager to do all we can. It is the gratitude of this class that makes charity sweet, and the ingratitude of the others that makes it bitter. We come, then, to the consideration of the fourth heading of my discourse, namely, what remedy or remedies shall we suggest to correct this evil?

I would say that the first step should be an effort to raise the moral tone of society. Teach the people, first, that it is more blessed to give than to receive; second, that to accept charity under a misrepresentation of facts does not differ, morally, from taking that which is the property of some other person; and third, that these thieving actions tend not only to belittle themselves, but beget habits in succeeding generations which will dull that spirit of independence that should be our natural heritage, and, leaving them degraded will contribute to the development of a nation of paupers.

These strides toward that millennium when people seeing the right will do it, must, of necessity be slow, and in the interval let us insist that patrons of charitable institutions, and charitably disposed individuals generally, shall refer to free clinics for free treatment only people who are too poor to pay even the smallest fee; that physicians coming in contact with people who need the attention of specialists shall use the utmost discrimination, and not consider as fit subjects for charity patients who pay them fees, realizing that if patients can pay their family physicians they ought also to pay consulting physicians. Attendants, medical and otherwise, in free clinics should be taught that to treat people for nothing who are apparently able to pay for medical services is a perversion of charity and should, under no circumstance, be countenanced.

We have in our city a body, called the Charity Organization Society, that will investigate privately, through its agents, any person whose name is given and will report whether they are fit subjects for charity. This Society, which does a noble work, will report and investigate for anyone, whether a member or not; but as the yearly membership fee is small, it seems to me that it would be a good thing if every institution devoted to the distribution of charity would become a member, and thereby give financial as well as moral support to a good cause. Failing in this, I would suggest that every free dispensary and hospital employ an agent themselves, whose business it shall be to investigate doubtful cases. In this way a large proportion, if not all, unworthy applicants could be weeded out, to the end that not only would the noble cause of charity be elevated, but justice would be done to the worthy poor, and also to that large number of struggling physicians our medical colleges delight in turning out year after year.

Corneal Ulcer.—Dr. A. Llewellyn Hall, of Fair Haven, N. Y., writes: Cases of intractable corneal ulceration which have long resisted the usual methods of treatment quickly improve under the use of glycerite of tannin and carbolic acid prepared according to the following formula:

℞. Acidi carbolici..... grs. xv.
Acidi tannici..... grs. xxx.
Glycerini..... ʒj.
M.

Carefully cleanse the eye with warm sterilized water strongly impregnated with boric acid, introduce a few drops of weak cocaine solution to annul pain, and after a wait of five minutes freely touch the ulcer with the glycerite by means of a fine camel's-hair pencil. Repeat twice or thrice daily for the first few days and then gradually discontinue as healing progresses. In conjunction with this treatment it is well to maintain the usual instillation of atropin. Unpleasant reaction never occurs.

PRIMARY CARCINOMA OF THE HEAD OF THE PANCREAS, WITH HOUR-GLASS CONTRACTION OF THE STOMACH, SIMULATING DURING LIFE PYLORIC STENOSIS.[1]

By D. J. MILTON MILLER, M.D.,

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The patient, a single woman, a domestic, aged fifty-three, first came under observation in the wards of the Episcopal Hospital, in February, 1894. At that time she gave a history of three months' illness, the principal symptoms of which were epigastric pain and occasional vomiting; the latter usually affording relief, and consisting of mucus and undigested food, and once of bright-red blood. The outlines of the stomach were apparently normal, and deep pressure in the epigastrium elicited pain, but there was no tumor. Günzburg's test revealed the presence of free HCl, but not in excessive amount, *i.e.*, the reaction, though well defined, was not intensely so. She had always been an excessive eater and a large drinker of tea, but never of alcohol. There was no family history of note. Under rest and a diet of peptonized milk she rapidly improved, and within three months was discharged, a diagnosis of chronic catarrhal gastritis having been made.

On November 3, 1894, she was readmitted into the Episcopal Hospital. It was then noted that she had lost considerable flesh and was quite anæmic. She reported marked increase in, and almost constant, pain and frequent vomiting—on several occasions of pure blood, or the so-called "coffee grounds" material. There was no tumor discernible. The outlines of the stomach, as defined by auscultatory percussion, appeared to be normal, and remained so throughout the whole history of the case. Examination of the gastric contents after Ewald's test-meal gave a faint reaction with Günzburg's solution. The contents had a strongly acid odor, reacting promptly to blue litmus paper. By the latter part of December a small, immovable, ill-defined, and very tender tumor could be felt in the epigastrium, two inches below the ensiform cartilage. Shortly after admission peptonized milk in small quantities was ordered, and daily lavage was practised. To effect this, a large amount of water was used, and it was noticed that, although the washings were done in the morning, they contained quantities of food given the day before. This occurred even when no food or milk had been taken for twelve or fourteen hours. About the 20th of January, 1895, a light jaundice was noted. This grew more intense, and was accompanied by an increase in the hepatic dimensions, and by the development of an oval, elastic, and semi-fluctuating tumor at the tip of the ninth right rib; this was thought to be the gall-bladder.

Several examinations during the course of the disease failed to give constant evidence of the presence of free HCl. This was probably due, as the sequel will show, to the failure to thoroughly wash out the stomach on the night previous to the administration of the test-breakfast—a precaution that should never be omitted, if we desire correct results in chemical examination of the gastric contents. The salol-test for the motor function of the stomach was also employed, but with unsatisfactory results.

During the latter third of the patient's life the stools were frequently, but unsuccessfully, examined for evidences of fat. A microscopic examination, however, was not made. The urine, though tested on several occasions, contained neither sugar nor albumin.

By February 25th the epigastric tumor was more defined, and still very painful and immovable. Otherwise the patient's condition continued about the same. Sometimes vomiting daily for a period, and then a week or ten days elapsing with entire freedom from this

[1] Read before the Philadelphia Pathological Society, May 8, 1895.

symptom. Pure blood was never vomited while under observation, though the so-called "coffee grounds" matter was ejected on several occasions. At this time Dr. D. D. Stewart kindly saw the case, and consented to undertake an examination of the gastric contents with the view of determining the absence or presence of lactic acid. In order to eliminate all sources of error, the organ, at Dr. Stewart's suggestion, was thoroughly cleansed prior to the administration of Boas's flour soup. In doing this forty-eight quarts of water were used. In the withdrawn contents, Dr. Stewart found a total acidity of 88; .05 of free HCl; sharp reaction with Günzburg's test; and no lactic acid. In the light of this examination a probable diagnosis of cicatricial stenosis from old ulcers was made.

From the 25th to the 28th of February the patient was fed exclusively on meat broths, milk being entirely withheld; on the latter date the stomach was again thoroughly washed out with a solution of soda (sod. bicarb., ℥ ss.; water, Oij.). It took but eight quarts on this occasion to cleanse the organ. The flour soup was then introduced through, and before removing, the tube, allowed to remain in the stomach over night, and withdrawn the next morning by aspiration.[1] Dr. Stewart's examination of this was as follows: Contents received, 360 c.c.; strong odor of salol (given six days previously); total acidity, 70; sharp Günzburg; free HCl, 0.175; combined and free HCl (Leo's method), 0.02225; no lactic acid; egg disk completely dissolved in three and a half hours.

On the 7th of March tympanites developed, and there were signs of commencing cardiac failure. Various measures were employed to relieve the abdominal distention, but with indifferent success. The patient gradually grew weaker and died March 13th. It should be added that no enlargement of the supraclavicular and inguinal glands was at any time present, and that the temperature ranged between 98° and 99.5° F., occasionally reaching 100° F.

Autopsy.—Body emaciated. Skin and mucous membranes deeply tinged with bile. Pleuræ adherent at various points. Lungs pale, except at posterior bases, where there is hypostatic congestion. Slight amount of fluid in pericardium. Heart small, muscle pale, valves normal. Stomach and intestines strongly distended with gas. Stomach occupies an almost vertical position, the whole of the organ lying to the left of the median line, the lowest extremity on a level with the umbilicus. The pylorus is at a point midway between the ensiform cartilage and the umbilicus. On a line with the pylorus, and involving the whole circumference of the stomach, is a constricting band, which divides the organ into two parts: the lower, consisting of about one-third of the stomach, is thus separated from the body of the viscus by a rather narrow opening. The diameter of the stomach is lessened about one-half at this point. The portion above the constriction is of about normal capacity, while that below seems dilated. (Owing to rupture of the walls before the removal of the stomach, the exact capacity could not be tested, but the constricted portion evidently held about sixteen fluid ounces, the rest of the organ about two pints.) The mucous membrane is softened (post mortem) and in a state of catarrhal gastritis; but there is no evidence of cicatrization at the site of the constriction or elsewhere. The pyloric orifice is little, if at all, narrowed, as it admits the forefinger with ease. The head of the pancreas is the seat of a hard tumor, about the size of a hen's egg, which completely surrounds and occludes the pancreatic and common bile-ducts. As a result the body of the pancreas is enlarged and softened, its duct dilated and filled with retained secretion. Behind the obstructed portion, the common duct is dilated and filled with dark bile. The cystic and hepatic ducts are also dilated, while the gall-bladder is enlarged and distended with fluid bile. The liver is enlarged, bile-tinged, the ramification of the hepatic duct filled with dark-greenish fluid. There are no secondary growths. The condition of the other organs is unnoteworthy. Dr. McFarland, pathologist to the Episcopal Hospital, examined the pancreatic growth, and reported it to be carcinoma.

This case presents many points of interest. In the first place, it emphasizes the value and the necessity of the modern methods of research in the diagnosis of obscure affections of the stomach and pyloric zone. The clinical history above narrated certainly warranted the diagnosis of malignant stenosis of the pylorus, with secondary involvement of the liver, or, at least, of the glands in the hepatic fissure; but the constant presence of free HCl (although by our imperfect methods this was often absent), and above all the absence of lactic acid, enabled us to exclude gastric cancer, and led us to attribute the symptoms to a cicatricial stenosis of the pylorus, hypertrophic in character, occluding the common duct, with possibly a concomitant carcinoma of the pancreatic head. The autopsy showed the latter surmise to be true. There was no stenosis, but a remarkable constriction of the whole circumference of the stomach, forming the diverticulum above mentioned, and accounting for the signs of dilatation during life, and the difficulty in washing out the organ, the food collecting in the constricted portion. It explained, also, why auscultatory percussion failed to reveal the true dimensions of the organ, the stomach note being lost as soon as the space separating the two portions came under the percussing finger. This contraction was evidently congenital, as there was not the slightest evidence at the autopsy of cicatrices at the site of the constriction. Contractions of the stomach seem to be rather rare anomalies, as the few works we have referred to make little or no mention of them. This seems to be an instance of exaggeration of the antrum pylori (the lower quarter lying in front of the pylorus), which Ewald[1] mentions as causing the stomach, without the action of cicatricial contraction, to assume the shape of an hour-glass. Another interesting feature is the confirmatory evidence which our case gives of Boas's and D. D. Stewart's[2] work on the value of the presence of lactic acid as a sign of carcinoma of the stomach. The gastric catarrh was evidently sympathetic in character, and the weakening and dilatation of the constricted portion sequential to this. Until the onset of the pancreatic disease the diverticulum must have been able to empty itself, as there were no symptoms before that time. With the appearance of the carcinoma, however, and the consequent gastritis, the motor power of the stomach was impaired, and signs of dilatation became evident.

As to the pancreas, a comparatively uncommon condition is presented in the limitation of the malignant growth to the gland alone. In only 12 out of 127 cases of pancreatic cancer collected by Segre,[3] was the disease confined to that organ. It is quite possible that the pancreatic disease might have been detected with more certainty during life, had closer attention been paid to the presence of fat in the stools and glycosuria; but owing to the prominence and interesting features of the gastric symptoms, the stools were not examined microscopically, and the urine was tested but a few times.

[1] These manipulations were carried on under Dr. Stewart's directions.

Buboes.—Treatment for this consists in, first, thorough antiseptic cleansing of operative region, followed by puncture and complete evacuation of the pus. Ten per cent. iodoform vaseline mixture, liquefied by heat, is then injected and a bichloride dressing applied.—FONTAN.

[1] Diseases of Stomach, English Translation, p. 111. New York, 1892.
[2] Medical News, February 16, 1895.
[3] Osler: Practice of Medicine, p. 461. New York, 18

GLIOMA—OPERATION, CAUTERY, RECOVERY.[1]

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THIS disease, variously styled gliosarcoma, fungous hæmatodes, small-celled sarcoma of the retina, by different pathologists, was first described by Mr. Wardrop during the early part of the present century, and although the light of science has since then permeated every tissue-element of the body, from 1836 to the present time authors have not differed greatly as to the prognosis and treatment of this affection. In 1846 Dr. Little said: "This disease is a constitutional and fatal one, from which even the knife of the surgeon affords scarcely a probability of escape, the malady having, with few exceptions, reappeared after extirpation, though the operation was performed in the incipient stage and under circumstances the best calculated to insure success." Etiologically and histologically the earlier authors of America did not attempt to describe it; but more latterly the affection has been by some considered as arising from the "optic nerve," "the retina and optic nerve," or "the retina" alone, the latter being that now generally accepted. Dr. J. R. Wolfe, of Glasgow, Scotland, in his text-book of 1882, seems to localize the disease as first commencing in the optic nerve. Schmidt Rimpler, of Marburg, Prussia, revised by Roosa in his text-book of 1889, does not offer any original investigations or opinions as to the genesis or histology of the affection, but after quoting Virchow as the first to describe it as glioma of the retina says: "It unquestionably originates in the internal granular layer of the latter." Professor Soelberg Wells, in the last edition of his great work, revised by Dr. Charles Steadman Bull, of New York, ascribed its origin to the interstitial connective tissue of the retina, and Dr. Ernest Fuchs, of Vienna, brooking no reasonable doubts on this question, classifies the condition as glioma of the retina, and depending also on the researches of Virchow, says "it develops mainly from the inner granular layer of the latter." But as it is a connective-tissue growth, Iwanoff logically concludes "that it may originate from the connective-tissue elements of all or any of the layers of the retina." The tumor is an aggregation of roundish, granular, nucleated cells, with little intercellular substance.

Histologically, authors have agreed that it is identical with the small round-celled sarcoma, and that microscopically there was no difference between the two. But very lately Dr. Ernest Fuchs claims "that a microscopic difference does exist in that the cell of the glioma is never pigmented." Clinically all authors and ophthalmologists generally agree upon the usual rapid development of the growth, its tendency to invade adjacent structures, to the "metastatic development of tumors in distant organs, on its usually fatal termination despite operative measures and all that can be done." In a busy ophthalmological practice of seventeen years, I have had personally but four of these cases. All of them were little boys, three or four years of age; clinically they were all mainly similar; exenteration of the orbit was done in each case; three died and one recovered; two of the cases had reached the fourth stage, and two, including the one recovery I have now to report, were in the third.

Few cases of the disease have been reported where recovery followed, although Professor Panizza, in 1846, referred to a case in the person of "a man" whom, he averred, he had known to get well. Dr. Fuchs says "while the disease is still confined to the eyeball we may hope for permanent recovery, but when it has perforated the eyeball, rapid recurrences both in loco and in the neighboring lymphatic glands seldom fail to occur." Professor Soelberg Wells asserts, "the prognosis is always extremely grave and we have no guarantee at any time that the nerve is not already implicated although the tumor may be still very small." Professor Schmidt Rimpler agrees mainly with Wells, but alleges that "recoveries may be had from early operation."

The disease seems to be unquestionably one of childhood, despite some questionable cases reported in adults, and from its early manifestations in many cases it is not unreasonable to suppose that it may have its origin in early fœtal life and in traumatisms inflicted in the progress of labor. The symptoms as a rule are as follows: In early appearance the eyeball, as a whole, is quite healthy and normal; there is neither pain, congestion, nor inflammation; the pupil is slightly dilated, and on closer inspection a yellow-whitish reflection is seen from its centre, due to the growth of the disease and the detachment of the retina which it pushes forward. As the growth increases, the tension of the eyeball is vastly augmented, its size is exaggerated, the lens becomes opaque, and the lens and iris are pushed forward against the inner surface of the distended and overgrown cornea. At this stage for the first time the patient experiences pain. When the fungous-appearing tumor has filled the cavity of the eyeball, and the latter is more hideous and larger than the eye of an ox, perforation generally takes place. At this stage the tumor sprouts forth from its environments in red cauliflower form, and being unconfined, its growth is exceedingly rapid. A sanious liquid exudes from its surface, the eyelids are greatly swollen, the tumor bleeds on the least touch, and by way of metastasis the disease invades the neighboring lymphatic glands, the internal organs, generally the liver, and patients die in from a few months to several years, either by exhaustion or an extension of the dreadful disease to the brain. Notwithstanding the clinical history just given of this disease and the universally unfavorable prognoses quoted, I have one recovery to report from my only four cases.

B. T——, aged three and one-half years, was brought to me from Centralia, Kan., in January, 1893, for investigation as to the condition of one of his eyes, which had been noticed from birth to possess "some peculiarity." He was of the blond type, reasonably well nourished, but his general development showed a frail constitution. The mother, possessed of all the keen intuitions of intelligent womanhood, complained "that from inattention by a physician at birth or during delivery the child's eye had sustained injury, and during the first hour of life they noticed there was something wrong with it." There was no knowledge of scrofula or cancer in the families of either the father or mother, nor of any injury that could have been inflicted at play at any time. These parents had another child, a boy, then six years old, with good eyes and average health and strength.

This peculiarity had been noticed many times from birth by the mother, who frequently wondered at the shining of the ball like a cat's eye in a darkened room. When the case came to me for examination there was no inflammatory symptoms and the history given by the parents showed there had been none; but toward the last the part had become irritable and the child complained of pain. The first and second stages of the disease having passed when the case was presented, the third stage being in its meridian of advancement, the diagnosis was easy. The pronounced enlargement of the eyeball to three times its normal dimensions, being the size of a common egg; the presence of the rectinal excrescence, and the yellow characteristic reflex in the distended pupil of the hypertrophied eye; the high tension; the exaggerated size, projecting from the orbit, and disturbed relations of all the parts of the eyeball; the presence of commencing ulceration at the sclero-corneal junction where the overstretched

[1] Read before the Kansas City Medico Chirurgical Society of the College of Physicians and Surgeons, January 15, 1895.

tunics had begun retrograde metamorphosis, showed a most typical case of glioma retina of the third stage.

We could find no symptom that indicated the extension of the disease to adjacent parts (the fourth stage), and from the seeming freedom of the brain, liver, and lymphatics from metastatic implication, we gave the parents a ray of hope that a thorough, complete removal of the contents of the orbit might save the patient's life; the slow development of the growth, three and one-half years, lending courage to our assertions. The usual fatal termination of glioma, the steps of the operation, the necessity of chloroform, the liability to regrowth of the mass, having been explained, the parents readily consented to complete amputation of the contents of the orbit. This was done, as stated above, about the middle of January, 1893. There was no particular effort made at simple enucleation, but after dissecting the conjunctiva, transversely separating and holding it aside for future use, the entire contents of the orbit were exenterated or dissected away, the optic nerve divided by pointed scissors at the apex of the orbital cone; then the same thoroughly cauterized by an applicator carried to white heat with a spirit-lamp. The orbit was packed with absorbent cotton saturated with hydrg. bichl., 1 to 2,000 grains. It was dressed antiseptically in the same manner for two weeks, when the child and its parents returned to their home. At the present writing, January 15, 1895, almost two years from the time of the removal of the mass, the mother writes me as follows:

"Dear Doctor: After your operation in January, 1893, we dressed our son's eye with a syringe every other day until the following May; every day during the summer until October. Since that time we have dressed it only with the idea of cleanliness, and have not had any trouble with it. The remaining eye seems strong, and he is enjoying very good health."

Since Professors Fuchs, Wells, Wolfe, Virchow, Graefe, etc., concede "the children generally die either from exhaustion, or extension of the disease to vital organs, especially the brain," it seems reasonable that, from the absolute restoration to health of the little child above, we have here a result that would have been unusual in the experience of these great authorities, and one that deserves to be classed with the very few recoveries from this disease sparsely referred to by the great masters of ophthalmology of the world.

Progress of Medical Science.

Appendicitis.—Dr. Murphy believes that there has been no controversy in the history of medical science in which the struggle has been so intense between the surgeon and the physician as that concerning appendicitis. Differences of opinion in regard to the clinical course and propriety of operative and non-operative methods have been almost entirely due to erroneous notions of the pathological conditions. It is now settled that all, except two per cent., of the inflammatory lesions about the caput coli are due to primary lesions of the appendix. Observation shows that in the acute stage the pus is found outside the appendix in ninety-four per cent. of the cases, and that this does not necessarily indicate a perforation of that organ. Invasion of the peritoneum and formation of a peri-appendicular abscess may occur with an internal ulceration of the appendix without perforation. Finally, the points still in dispute are the pathological changes produced by perforation into the peritoneal cavity; the likelihood of that perforation, and also perforation of the circumscribed abscess about it into the peritoneal cavity; the immediate and remote symptomatic and physical manifestations of the latter, and the ultimate result of such rupture. The pathological changes produced depend on the character of the material admitted into the peritoneal cavity, whether it is pus or bacilli in which the staphylococcus predominates, whether the bacillus coli communis exists in its virulent or inert condition, and whether the parts, in which any or all of these may have existed, have become innocuous. It also depends on the quantity of material admitted at one time into the peritoneal cavity, on the condition of the peritoneum at the time of formation of the pus. Only two per cent. of the cases of appendicitis are found to contain foreign bodies, and fecal concretions are found in thirty-eight per cent. The other cases are: 1. Simple pus infection, producing the catarrhal variety. 2. Excessive infection by the bacillus coli communis, or by pyogenic microbes, producing gangrene of a greater or lesser portion of the appendix. 3. Pressure atrophy, with infection of the appendix (*a*) by fecal concrement, and (*b*) by foreign bodies. 4. Retention accumulations (*a*) from cicatricial contractions, stenosis, and obliteration, and (*b*) from occlusion by enteroliths or foreign bodies. Perforation was found in seventy per cent. of the reports of autopsy collected, and in his own cases it occurred in eighty-seven per cent. We have no sign, symptom, or combination of signs or symptoms, that indicates with any degree of certainty suppurative peritonitis in the early stage. The rule first, last, and always, should be, operate in every case of appendicitis, promising or unpromising, at the earliest possible moment.—*Philadelphia Medical News.*

Heart Disease and Menstruation.—Dr. Gow recently read a paper before the Obstetrical Society of London, with a record of 50 cases of this kind. In 28 the flow was unaltered; in 17 the flow was absent or scantier than before; in 5 the flow was either more profuse or recurred more frequently than before; in no case was there good evidence that heart disease gave rise to severe menorrhagia. It would seem that either amenorrhœa or scanty menstruation was a far more common accompaniment of heart disease than menorrhagia. A further analysis of these cases seemed to point to the fact that heart disease led to relative sterility, and also that it greatly increased the tendency to premature expulsion of the ovum. In conclusion, it was pointed out that a large number of women suffering from valvular disease of the heart pass safely through the period of pregnancy and labor. The cases were further analyzed as follows: 1. Mitral stenosis (22 cases). In 9 cases menstruation was regular and the amount lost unaltered, in 5 cases menstruation was regular but more scanty, in 4 cases there was amenorrhœa, and in 4 cases menstruation was either more frequent or more profuse. 2. Mitral incompetence (15 cases). In 10 cases menstruation was unaltered, in 4 cases menstruation was more scanty, and in 1 case there was amenorrhœa. 3. Mitral stenosis and incompetence (7 cases). In 4 cases menstruation was unaltered, in 1 case menstruation was more scanty, in 1 case there was amenorrhœa, and in 1 case there was slightly increased menstrual loss. 4. Aortic incompetence and obstruction (2 cases). In both cases menstruation was unaltered. 5. Aortic and mitral incompetence (3 cases). In all cases menstruation was unaltered. 6. Aortic incompetence and obstruction and mitral incompetence (1 case). Menstrual loss was more scanty than before.—*The Lancet.*

Inversion of the Vermiform Appendix.—1. Inversion of the stump of the appendix should be substituted for ligation in all cases of acute appendicitis in which it can be applied. 2. In chronic appendicitis either the entire appendix or its stump should be inverted, preference being given to inversion of the uncut appendix whenever practicable. 3. In all cœliotomies undertaken for the relief of conditions other than appendicitis, the normal appendix, if readily and safely accessible, should be inverted entire.—Edebohls.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

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THE PHYSIOLOGICAL ACTION OF THE EXTRACT OF THE SUPRA-RENAL CAPSULE.

SEVERAL papers on this subject have been published in the *Journal of Physiology*. Dr. G. Oliver and Professor Schäfer report the results of their experiments with the extracts injected into the cow, sheep, and dog. They found that when the substance was introduced into the vein of an animal, it produced a rapid contraction of the arteries, a rise in blood-pressure, and a stimulation of the vagus nerve which was very pronounced Respiration was but slightly affected. They found that the extract acted about the same, whether taken from the calf, sheep, dog, cat, guinea-pig, or man. Further investigations along the same lines show that the introduction of these extracts into the system, while producing very striking effects, never led to a fatal result. It was also found that the active part of the capsule was the medulla, while solutions of the cortex seemed to have very little effect. They found also that the extract made from the glands taken from cases of Addison's disease had no activity. The authors were led to the conclusion that the extract was not influenced by hepatic digestion and could be taken by the stomach. On the whole, the results of their experiments were to show that the active substance in this gland has an extremely powerful influence upon the nerves controlling the heart and circulatory apparatus, and they further concluded that the gland is not destructive in its function, but rather secretory, that is to say, that it does not select effete matter from the blood, but pours some substance into the blood which is of great importance to the economy.

Dr. Moore, of the University College, has contributed an elaborate paper on the chemical nature of the active substance occurring in the supra-renal gland. He finds that its active principle is soluble in water and in dilute alcohol; that it is not affected by acids, nor injured by boiling for some minutes, but is destroyed by alkalies and oxydizing agents; it does not reduce Fehling's solution, and it is not volatile; it dialyzes freely through parchment paper, and the substance so obtained is free from proteids.

M. V. Nabarro also contributes an article on the chemical properties of the supra-renal extract, but the descriptions are too technical to be of interest to the general reader.

It seems to be pretty well established that the gland does contain a powerfully active poison, which has certain definite chemical properties, and which is, perhaps, one of the nucleo-albumins.

COUNTER PRESCRIBING.

SOME criticism has been excited by the action of the County Medical Society in bringing suit against a druggist of this city for violation of the medical practice law. The *Financial Review* states that the druggist in question was a man in good standing and experienced in his profession. He was arrested through the instigation of the County Medical Society and brought before the Tombs Police Court. The presiding magistrate expressed the opinion that the druggist had the right to do what he had done, and added that if he had known the circumstances in the first place, he would not have issued the warrant for the arrest. The *Review* states that the charge against him was absurd, and was "evidently the result of that professional bitterness which so many physicians feel toward druggists in consequence of what they designate as 'counter prescribing.'" The fact, adds the *Review*, that the child for whom the medicine was prescribed by the druggist, died, proved nothing, since patients of physicians sometimes die also.

We are not, we confess, familiar with all the facts on each side of this question, but we do know that the general attitude of the County Medical Society toward "counter prescribing" has been a very conservative one. When one compares the enormous amount of counter prescribing by druggists of this city with the very few prosecutions, it would be apparent to everyone that there is no "professional bitterness" of any moment, in this city, at least. The habit of druggists of prescribing simple remedies for simple complaints is well enough, and is, no doubt, of service to the poor. It is only the systematic abuse of it which is dangerous to the public health and individual lives, and it is upon this ground, as well as upon the ground that it interferes with the work of the physician, that the medical profession protests against it.

TRAUMATIC PSYCHOSIS IN A HORSE.

DR. CHARLES FÉRÉ gives an account of a horse with a curious nervous disturbance, which seems to resemble in many respects a form of confusional or stuporous insanity in man. The condition, he says, is one not unknown to veterinarians and is described by them as "immobilité."

The animal in question was six years old, vigorous, and without any morbid heredity, and perforce of regular and temperate habits, being in active service on a truck. One day there was an accident and the horse and cart were thrown down a bank, a distance of about eighteen feet. The horse was apparently in no way injured and for several days continued his usual work. Then it was noticed that he began to get dull and apathetic, his eyes would become fixed, he paid no attention to his surroundings, and did not recognize or notice those who were accustomed to attend him, and

whom he had previously shown that he remembered. This apathy increased, and he would sometimes place his head on the edge of the manger and so remain for hours without moving or noticing his food. When this was pushed into his mouth he would often let it fall out. If one leg were taken and crossed in front of the the other, he would let it stay there. It was only by the greatest exertion that he could be hitched to his cart and forced to move. While going along the road the horse sometimes suddenly fell down, to the great disconcertment of his driver. At other times, after walking slowly and apathetically for a time, he would suddenly break into a furious and dangerous burst of speed. After such outbursts he would become more "immobile" than ever. His condition differed on different days, but on the whole he grew more lethargic, emaciated, and cataleptic. He never became maniacal, and did not kick or bite.

The outcome is not distinctly stated by Dr. Féré, but at the time of report the owner had decided to send him to a butcher, and perhaps the finale was sausages and steaks. We regret that no autopsy was made, but the reporter assures us that in other and similar cases there had sometimes been found a dropsical condition of the brain, while at other times no lesion couldbe discovered.

Bouley refers to this condition of the horse under the name of *immobilité*, and Chaslin describes it in man as "confusion mentale primitive."

Perhaps some of our readers have had personal experiences with "immobility" in the horse, though the condition known as *Langsamkeit* or *nature tardive* is more common in the domesticated specimens of this country.

NEW EDITIONS OF MEDICAL MEN.

Dr. William H. Thomson has recently suggested that it is the duty of the physician to get out a new edition of himself at certain stated periods. This is another way of putting the fact which the late Sir Andrew Clark used to call attention to: That a man was never old as long as he had not lost his receptivity, his capacity to learn and to adjust himself to the progress of the world. The figure of speech adopted by Dr. Thomson, however, is a very suggestive one, and we have no doubt that its current use would have a great deal of practical value. Dr. Thomson suggests that one reason why the country practitioner falls behind is that he gets into certain ruts and is too idle or too busy to get himself out of them. It is the country practitioner, he thinks, that especially needs a new edition of himself. Not that he is inherently less ambitious or more indolent than his city brother, but because the publishing offices and means of issuing "new editions" are mainly in the large centres. The establishment of graduate schools for the instruction of medical men has enabled practitioners to use the facilities that modern science brings out freshly every year, and we fancy in the course of time it will be the city doctor who will be behindhand in editing himself, for he is generally too thoroughly confident of his medical equipment to think it worth while to take a course of instruction from his fellowman.

News of the Week.

The Society of Medical Phonographers held its first annual meeting in London on July 30th. Addresses were made by the President and founder, Dr. W. R. Gowers, Sir Henry Howorth, Sir William Broadbent, and Mr. Thomson, and letters were read from General Sir Charles Wilson, the Bishop of Hereford, and Dr. Gladstone. The President said that Dr. Langdon, of Cincinnati, though forty-five years of age, had, in a fortnight, obtained the power of writing a shorthand letter which he (Dr. Gowers) was able to read as swiftly as he could speak, but he did not say how long it took Dr. Langdon to write the letter.

Cronica de Ciencias Medicas de Filipinas is the title of a new journal published in Manila under the editorial direction of Dr. A. Alfonso Maseras.

Anthrax in New York State.—The State Board of Health has found that anthrax prevails among cattle in many parts of New York. The Board has been conducting investigations looking to the discovery and extermination of bovine tuberculosis, and this led to the discovery of the rather wide prevalence of anthrax. The Board is empowered to deal summarily only with tuberculosis, and must look to the Legislature for power to destroy animals infected with anthrax.

The Intercolonial Medical Congress of Australasia will hold its opening session on February 3d next, instead of February 17th, as at first announced.

A Representative of the University Regents in New York City.—The Regents of the University of the State of New York, in response to urgent requests, have decided to open an office in this city for the accommodation of the immense amount of business which comes from here. The office will be at 10 East Forty-second Street, and will be open after September 10, 1895, during the school week, from 9 A.M. to 4 P.M., and 7 to 9 P.M. Business hours will be from 9 A.M. to 12 M., but the deputy, Mr. Aza O. Gallup, will see callers at other hours if they cannot come between 9 and 12. The representative of the Regents will have all publications, blanks, and necessary records for the accommodation of law, medical, dental, and veterinary students, and for all the professional, academic, and higher examinations conducted by the University.

The Weber-Parkes Prize.—This prize was founded by Dr. Hermann Weber in memory of the late Dr. E. A. Parkes. It is of the value of about $750, and will be awarded triennially to the author of the best essay upon some branch of the subject of tuberculosis, especially with reference to pulmonary consumption in man. The first award will be made in 1897, and the adjudicators have selected as the subject for the essay "The Means, Prophylactic or Curative, deemed by the Author to have Value in the Control of Tuberculosis, especial Regard being had to their Application to Human Tuberculosis." This subject was selected by Dr. J. E. Pollock, Dr. Thorne Thorne, and Professor W. S. Greenfield, who were nominated by the President of the Royal College of Physicians of London, and the

merits of the competing essays will be determined by the same men. The essay must be based on original work and observations (experimental or other) of the author, and must include a detailed exposition of the methods employed and their mode of application. The competition is open to members of the medical profession in all countries. The essays must be typewritten and in English; or if written in a foreign language must be accompanied by a translation into English. The essays must be delivered to the Registrar of the Royal College of Physicians on or before July 1, 1897. In addition to the money prize a bronze medal will be given to the holder of the prize, and a second medal to the essayist who comes next in order of merit. Further information for the guidance of competitors may be obtained by addressing the Registrar of the college, Dr. Edward Liveing, London, England.

The Hospitals of New York State.—According to a law passed last year all corporations established for the purpose of giving medical and surgical relief must have their certificates of incorporation approved by the State Board of Charities before they can obtain the desired powers to act. The necessity of making inquiries concerning various bodies suggested to the members of the Board the desirability of an investigation of the existing hospitals in the State, for the purpose of determining their present condition and efficiency, how far they have accomplished the purposes for which they were established, and what communities are not supplied with hospital facilities. Dr. Stephen Smith, chairman of the committee appointed to conduct this investigation, has visited most of the hospitals of the State west of Albany. As one result of this investigation it has been found that some of the best conducted and best constructed hospitals are in the smaller towns, and some of the worst are in the larger cities. One of the most common faults is that the hospital is built in order to secure handsome architectural effects without much regard for the prevailing winds, sunlight, etc. It is suggested that there be created in the office of the State Board of Charities a bureau of information on the construction and management of hospitals. If there were such a bureau, where the plans of all the latest and most approved hospitals of this and foreign countries could be readily consulted, the errors of the past would be avoided, and improved designs would be suggested for the future hospitals of this State.

Dr. Emil Yung has been appointed Professor of Anatomy at the University of Geneva, to succeed the late Professor Carl Vogt.

Cholera in Japan.—It is reported from Japan that the number of cases of cholera in that country since the beginning of the present epidemic has been about 25,000. The disease has been of more than average virulence if it is true, as stated, that the deaths exceed 16,000, or sixty-four per cent. of those attacked.

The British Medical Association will meet next year, it is believed, in Eastbourne, the medical men of which place, seconded by the mayor and corporation, having invited the Association to come there.

Dr. Schimmelbush, whose work on the "Aseptic Treatment of Wounds" was recently reviewed in these columns, died in Berlin on August 2d, aged thirty-five. He was assistant to Professor von Bergmann, in the Surgical Clinic of the University of Berlin, and was looked upon as one of the foremost of the younger generation of German surgeons.

The International Medico-Legal Congress will be held in the United States court-rooms, in the Post-office building, in this city, on September 4th, 5th, and 6th. The chairman of the Committee of Arrangements is the Hon. Rastus S. Ransom, and the secretary, Clark Bell, Esq. Dr. Forbes Winslow, of London, is expected to be present to act as chairman of the Section on Insanity and Mental Medicine.

Dr. W. W. Cable, of Pittsburg, died at his home in that city on August 27th, aged seventy-two.

The American Electro-therapeutic Association will hold its fifth annual meeting in the council-room of the College of Physicians and Surgeons of Ontario, Toronto, Canada, on September 3, 4, and 5, 1895. The president of the association is Dr. A. Lapthorne Smith, of Montreal; secretary, Dr. Emil Heuel, of New York.

Dr. Maragliano's Impressions of the British Medical Association.—The Rome correspondent of *The Lancet* quotes an interview with Professor Maragliano, of Genoa, by the London representative of *Il Secolo*, to whom he expressed his high admiration of the sanitary institutions, the hospitals, and the whole hygienic organizations of the British capital. He was surprised at the solidarity prevailing among the British medical men, at their well-disciplined meetings, at the practical sense which guides them, not only in the field of science, but in that of professional interests. The admirable organization of the meeting itself elicited his special commendation, its hospitality being beyond the hopes even of the exacting. The scientific discussions he found impressed with the gravity proper to the practical genius of the race, and while he missed the enthusiastic outburst of his southern compatriots he remarked the great attention in following the scientific discussions and communications.

Punishment for Selling Skim Milk.—Complaint was made not long ago that persons arrested for selling watered milk in this city were let off without adequate punishment. The complaint seems to have been heeded, for two milk-dealers received a few days ago sentences of a $50 fine and ten days' imprisonment, instead of the $25 fine usually imposed for selling watered and skimmed milk. A few such sentences as these will go far toward preventing the sale of adulterated milk in New York.

A Sociedade de Medicina e Cirurgia da Bahia is the name of a society founded recently in Bahia, Brazil. Dr. Pacheco Mendes is the president, and Drs. Braz do Amaral and Cerqueira Lima are the secretaries of the society. The organization publishes a monthly volume of transactions under the direction of Dr. Juliano Moreira.

The Index Medicus will probably be revived, at least it is hoped that the subscriptions will reach the requisite

two hundred before December 1st next. In addition to the subscriptions received by the publisher, Dr. Billings had received forty-eight up to August 23d. These subscriptions are conditional upon the obtaining of two hundred before December. It is hoped that when the physicians return from their summer vacation the desired number will quickly be obtained.

Eighty-two Physicians from the United States and nine from Canada were registered as guests and visitors at the recent meeting of the British Medical Association.

Miss McFee, of Montreal, has just obtained the degree of Doctor of Philosophy at Zürich. She is a graduate of McGill University, and studied Philosophy at Cornell and under Professor Wundt of Leipzig.

A New Explanation of the Bicycle Face.—A writer in the *Christian Intelligencer* says that the true explanation of the bicycle face has not yet been given by the doctors, who have themselves "fallen in with the unbelief and recklessness of the times and do not insist in their spoken and written words upon the need of one day of rest in every seven." This explanation is to be found in the habit of wheeling on Sunday. "Is it not possible," the *Intelligencer* asks, "that the law of the Decalogue is binding upon bicyclists as well as upon other people, and an habitual violation of the law of the Sabbath may result in the worn, weary, and exhausted face called the bicycle face? The bicyclists are doing much to destroy the Sabbath, and at the same time are injuring their own bodies and souls. The bicycle face, indicating extreme weariness and exhaustion, due to the severe strain of violent exercise on seven days of the week, will be followed, as surely as the Decalogue is the law of God, with moral weariness and exhaustion in the wheelmen and in those influenced by them." On the other hand, a French physician, who is himself a wheelman, maintains that the greatest benefit from this form of exercise can be obtained only by cycling every day regularly. Those who wheel every day can do so without causing excessive action of the heart, whereas those who ride only once or twice a week do so at their peril, the unwonted exercise causing a tumultuous and rapid action of the heart that may have very serious consequences.

Water-supply of Cleveland.—The Ohio State Board of Health has refused the petition of the City of Cleveland to be allowed to discharge sewage from a new district into Lake Erie near the intake of the city water-supply. Mr. Allen Hazen, of Boston, was employed by the Board as consulting engineer. Investigation showed that the water-supply is already polluted, and statistics revealed that the typhoid death-rate for the past seven years has been higher in Cleveland than in any other large city of the State. Plans for extending the intake into the lake are under consideration; but Secretary Probst is of opinion that, while this may afford a temporary remedy, all the lake cities will eventually be compelled to resort to filtration for the purification of their water-supplies. A better way would seem to be to prevent pollution by a proper disposal of sewage.—*Journal of the American Medical Association.*

Obituary.

WILLIAM C. JARVIS, M.D.,

NEW YORK.

Dr. William C. Jarvis died at Willet's Point, N. Y., July 3d. He was born in 1855 at Fortress Monroe, Va., where his father, the late Surgeon N. S. Jarvis, U. S. A., was stationed as post surgeon. After the death of his father in 1862, Baltimore became his home. He studied medicine at the University of Maryland, graduating at the age of twenty years. He then devoted a year to the study of chemistry and biology at the Johns Hopkins University.

In 1877, considering New York the most promising field for a young doctor, though almost an entire stranger here, he commenced practice in the eastern section of the city. After a year devoted to general medicine, he adopted laryngology as a specialty. Dr. Jarvis's success as a laryngologist was not surprising with his peculiar inventive powers. Of the numerous instruments contributed by him to nasal and throat surgery may be mentioned, *inter alia*, the Jarvis snare, in which the value of piano-wire for cutting purposes was first demonstrated, and by means of which morbid growths, whose removal by older methods necessitated painful and ghastly operations through the face, are eradicated easily and almost painlessly. The many modifications of this little instrument have in themselves proven how valuable was the principle. The laryngeal applicator, intended for the employment of fused crystals of chromic acid, in accordance with a plan conceived by himself, the ring speculum, and the operating nasal speculum are probably the best known of his additions to the armamentarium of the laryngologist.

By temperament and inheritance an indefatigable student, Dr. Jarvis was proficient in French and German, and he retained also his knowledge of the Latin and Greek classics. In his many contributions to medical literature Dr. Jarvis labored conscientiously to avoid a spirit of exaggeration and to submit only facts which he had proven by extensive personal experience of real value. Among his contributions to medical literature are several chapters on the throat and nose in well-known text-books. At the age of twenty-six he was invited to occupy the chair of laryngology at the University of New York. He was at that time barely acquainted with the members of the faculty of that institution and was told by the late Professor Loomis that he had been selected simply and only because he was considered the man qualified for the place. That Dr. Jarvis was a rare diagnostician, operator, and therapeutist it is needless to add.

Nor was his knowledge of medicine cramped by the selection of a specialty; he was a faithful student of general medicine, thoroughly aware of its value in the practice of a special branch.

At the time of his death Dr. Jarvis, by reason of ill health, had become Emeritus Professor of Laryngology at the University of New York, and consulting physician to the City Hospital. He was a member of the American Laryngological Association, a fellow of the Academy of Medicine, and a member of other medical societies.

The most interesting feature of the man, however, was his personal character. His was a type of the Christian, which all men, however sceptical, were compelled to admire. He was a true philanthropist; though fighting with all his energies unworthy appeals to the charitable, he gave liberally, and worked joyfully for the deserving poor and afflicted. Withal a modest, unpretentious man, a true friend, of a generous, open-hearted loving character, the medical profession and the community have sustained in his taking away a severe loss.

Clinical Department.

ANENCEPHALOUS MONSTERS.

By ALBERT C. BOWERMAN, M.B.,

PICTOU, ONT.

It may be inferred from recent reports in the MEDICAL RECORD that the "anencephalous monster" continues the invasion of the present race with a regularity heretofore unsuspected; but from the brevity of its individual existence, it may safely be conjectured that its advent is premature, being in the experimental stage of its evolution, for its short-lived appearance could scarcely be explained on the ground of atavism. Does the frequency of its repetition, under remote and dissimilar conditions of life, suggest the possibility of a design on the part of nature to meet impending necessities by anatomical reconstruction?

The absence of cerebral development, coupled with a good physical organization, might not unreasonably imply that, with the specialization of occupations, our race is fast becoming an aggregate of automata to whom, or to which, a cerebrum will be superfluous and possibly a source of inconvenience. Nature may be congratulated on having already achieved remarkable successes in this direction; and on the grounds of experimental research she may be excused for her prodigal waste of energy in the perpetuation of useless survivals. Viewed from the stand-point of the contemporaries of the cave-bear, the present race may not unreasonably be stigmatized as monstrous; while from our own point of view the evolving cyclist will represent a readjustment of anatomical parts too curious for conception; so that it is, at least, not generous to rashly criticise the subject of our pen-sketch without first being made acquainted with the peculiar sphere she was intended to fill. That there was a miscalculation in the time and an error in judgment in the selection of a place for her *début*, is conceivable from the rapidity with which her exit followed upon the heels of her unfortunate advent; but if we are to gain any information from the parental environment, we may presume that her sphere was at least semi-aquatic, as her birth occurred at a barren sand-lot on the borders of a marsh. However, be this as it may, on the evening of November 2d last, I was called to attend the wife of a laborer, said to be in the eighth month of her second pregnancy, and suffering for some hours with labor-pain. She was twenty-four years of age, and about two years before had given birth to a living child, normal in appearance, which, however, died at about ten months of some cerebral difficulty. For some weeks the patient had suffered from the weight and distention of what was not unreasonably suspected to be a multiple pregnancy, but which proved ultimately to be an excess of amniotic fluid. She was restless and sleepless, suffering from dyspnœa, and the common "nagging" pains of early labor. Examination revealed a slightly dilated os uteri. Nothing more unusual occurred until December 7th following, when I was again called. I found her much exhausted from hemorrhage, having been delivered some hours previously of a living "anencephalous" female child, which the nurse assured me had lived and breathed for nearly an hour. The body and limbs were fairly developed, though somewhat disproportioned, and the weight would be about three pounds. The limbs, especially the lower, were extremely long, giving the body a shortened and truncated appearance. It was, so to speak, curtailed at the head, and was entirely without even the suspicion of a neck, so that it was a reasonable subject for electrocution. The prominence of the chin occupied the sternal notch; and the ears, which were well developed, lay behind and rather below the shoulder-joints; the face, which was well formed, though not exactly interesting in the usual sense, was directed upward; and the eyes, exceedingly prominent from the lack of frontal bone, were disposed as a lookout in the rear. There is no doubt but that an eye at the back of the head would often gather unsuspected information, but when it is furnished at the expense of the usual position, the advantages and disadvantages are counterbalanced. Behind and between the ears was a fringe of dark hair on either side of the posterior median line corresponding to the occiput; but the cranium, if any, was open in the latter region, and continuous with the unclosed spinal canal as far down as the lower lumbar vertebra. Protruding from the upper end of this canal, and overlapped by the fringe of hair, were the congested lobes of the cerebellum, much enlarged and exposed across the dorsum almost to the base of the sacrum, and too large to be admitted into the limited room of the cranium. The length of back, from occiput to sacrum, could not have been more than three inches, so that the child had the appearance of a crescent with the hollow at the back.

By G. R. HINMAN, M.D.,

CHESANING, MICH.

In the MEDICAL RECORD for April 20th was the report of a case of anencephalous monster by Dr. R. H. Fillmore, of Cookshire, P. Q., Canada. And again another case quite similar reported by Dr. J. E. Tompkins, of Fredericksburg, Va. The following case, read in connection with those above mentioned, may possibly be of interest:

On the evening of March 2, 1895, at 8 o'clock, Mr. T—— called me to see his wife, whom I found suffering pains of no regularity and not of the true labor type. Her age was about twenty and she was a primipara. As she was only at the end of the seventh month of her pregnancy I endeavored to quiet the pains by viburnum, morphine having been given by another physician without effect.

I remained with the patient till midnight. When I left she had been sleeping about two hours and her pains were completely subdued. Examination had revealed a soft, patulous os, but there had been no hemorrhage.

At 6 A.M. I was again summoned and found the woman having pains quite regularly and of the true labor type. I therefore concluded that my attempts to forestall the issue were impossible, and assuming the expectant attitude, awaited results. Labor progressed slowly until the bag of waters ruptured. The membranes were extremely tough, and I delayed rupturing them, as my patient was very nervous and the bag was acting the part of a dilator. After the bag had ruptured the pains became more powerful, and my next examination revealed the presence of something unusual. I informed the father that we had something, but what it was I could not tell. The sensations felt by me on examination were like feeling of a substance hard as a stone and of irregular surface. Labor proceeded well and at about 6 P.M. on the same day a monstrosity came to light, dead. The mother said she had felt no motion for two or three days previous. The weight of the fœtus was about five pounds, skin tan color or brown, large bulging eyes, broad flat nose, mouth open, tongue protruding, os frontis flattened and receding; diameter of head, biparietal, two and one-half inches. On examining closely I found no sexual organs and no anus; but there was a black substance upon the right side of nates, upon removing which I found a small opening or orifice, evidently the bowel outlet. At the base of its skull was an opening large enough to admit the end of my little finger; from that a little blood was oozing.

The above case is entirely unique with me. The mother, so far as I know, is well and healthy, nothing that can be attributed to her in any way bearing upon the etiology of this monster. Her husband is choreic, has head-jerk, produced, it is said, as the result of a maternal impression, his mother, I am told, having been frightened by a snake.

By JOHN W. S. McCULLOUGH, M.D.,

ALLISTON, ONT.

Mrs. C——, aged thirty-two, II-para, was taken in labor at seven months. She is a very stout woman, five feet six inches in height and weighing 210 pounds. I saw her shortly after labor began and found the cervix dilated to the size of a quarter-dollar. The edges were sharp, hard, and inelastic. Gave three twenty-grain doses of chloral hydrate at intervals of fifteen minutes, and had the satisfaction of soon finding the cervix soften very materially. The presentation was difficult to make out, but I was convinced from the bimanual examination that I had an occipital presentation of some kind. The pains were very strong, but progress was slow. After the os was thoroughly well dilated I felt satisfied that I had a dead fœtus. I ruptured the membranes and delivery was soon complete. I immediately expressed the placenta. The hemorrhage was very trifling.

The fœtus measured fifteen inches. The nails were developed, as also were the eyelids; the eyes were open. There was a hare-lip. The fœtus was a male, the testicles had not descended; the limbs and body of the child were perfect. The placenta was almost entirely in a state of fatty degeneration. I am of opinion that the condition of the placenta accounts for the non-development of the fœtus.

Cor. Victoria and Ontario Streets.

Surgical Suggestions.

Indications for Induction of Abortion.—*Absolute Indications:* 1. Uncontrollable vomiting of pregnancy. 2. Incarceration of the gravid uterus. 3. Obstruction of the pelvic outlet by tumors or exudates. 4. Progressive and pernicious anæmia. 5. Grave chorea.

Relative Indications: 1. Great contractions of the pelvis with the conjugata vera below 5 ctm. 2. Pulmonary emphysema with signs of degeneration of the heart. 3. Nephritis, especially with eclampsia. 4. Chronic heart disease. 5. Other general diseases of the mother which jeopardize her life at the time of delivery.

A conjugata vera of 6 ctm. and advanced pulmonary tuberculosis should not be regarded as indications for abortion. It is not just to sacrifice a future life for one that is "certainly lost." —Jeffe.

Fistula in Ano.—1. Never sever the sphincters at more than one place at the same operation, no matter what the complications may be, otherwise incontinence is sure to follow. 2. Unless all the channels are followed up and laid open, the operation will fail of its purpose. 3. Fistula resulting from tubercular abscess must not be operated upon if there is sufficient tissue-destruction of lung to produce hectic, fever, sweats, etc., unless the fistula is causing severe painful spasms of the sphincters; then it should be divided at any stage. 4. After laying the fistula tract open the wound must be made to heal from the bottom, and as the cutaneous or mucous side of the wound is better nourished it will throw out a more healthy granulation, that tends to bridge over and close the slower granular surface at the bottom, thus leaving a fistula remaining. 5. When the fistulous tract is not too complicated it should be dissected out entire, and the wound brought together, beginning at the bottom, with continuous catgut sutures and approximating the surfaces in successive layers until the whole wound is closed. —Bacon.

Diagnosis of Rupture of the Intestine After Contusion of the Abdomen.—1. The absence of liver-dulness (Moritz). 2. Frequent and uncontrollable vomiting. 3. The appearance of peritonitis, if lesions of the kidney, bladder, liver, and spleen can be excluded. 4. Spontaneous pain in the abdomen is not of itself of much diagnostic value.

Regarding the advisability of operating in these cases, the author says: 1. If there is unmistakable evidence of rupture of the intestine, immediate laparotomy is indicated. 2. Exploratory laparotomy after contusion of the abdomen is usually to be avoided; in uncertain cases, expectant treatment should be adopted (Moty). 3. If soon after the injury (twenty-four to thirty hours) there are signs of sepsis, operation is contra-indicated. A low temperature with marked constitutional symptoms is an especially unfavorable condition. 4. Rapidity and delicacy are essential in operating for rupture of the intestine, especially if peritonitis is present. Therefore, a long abdominal incision, rapid, systematic examination of the intestine, avoiding rough tearing or handling; if possible to avoid it, do not resect the intestine; employ simple Lembert sutures, or at most a wedge-shaped resection of the injured portion of intestine, and close with a simple running suture including the muscular and serous coats. Flushing the abdominal cavity with antiseptic liquids is to be avoided. —Berndt.

Gonorrhœal Immunity.—1. Gonorrhœa is a self-limited disease, recovery following after a varying length of time, without any treatment other than ptisanes, baths, and hygiene. 2. Abortive treatment does not succeed rapidly and fully until the period of acute inflammation has passed. 3. A patient, either male or female, apparently, though not really cured, is capable of transmitting a subacute gonorrhœa—that is, the colorless drop of secretion is capable of inoculation if it contains a few gonococci. The author consequently believes that the gonococcus during its evolution modifies its culture media, *i.e.*, the urethral mucous membrane. It continues to grow there but becomes more and more attenuated and latent, until it finally disappears. Unless this is true, a gonorrhœa, untreated, would last indefinitely, the cocci multiplying and re-inoculating themselves in the infected urethra continuously. It is at the time when the virulence begin to diminish that abortive treatment succeeds. If, on the other hand, this attenuated gonococcus comes in contact with a healthy mucous membrane in another individual it is immediately rejuvenated, prospers, and produces acute gonorrhœal symptoms, since it finds there a suitable culture medium, which is not exhausted with that from whence it came and where it was about to die. The objectors to this theory say: "If you admit that the *rôle* of the culture-medium is thus superior to that of the microbe, how can you explain acute attacks in men having gleet? How can their exhausted mucous membrane become re-inoculated?" Guiard believes this re-infection is impossible in cases where the gleety discharge contains cocci. He, however, reserves his opinion regarding this form of relative immunity until further facts are procured.—Jamin and Guiard.

Indications for Resection of Skull.—1.—We are called to make a resection in complicated fractures, when it is feared that infective matter has entered the wound, or when it is known that the cranial cavity has been penetrated by some dirty knife or instrument. 2. In fractures to which an unclean dressing has been applied. 3. When we suspect a fracture of the inner table or for depressed fractures. 4. For the removal

of foreign bodies, bullets, knife-blades, etc. 5. For cerebral hemorrhage, with signs of compression, and for the ligation of the middle meningeal artery. 6. For fractures which have subsequently become infected through carelessness on the part of the surgeon or attendant. 7. For tumors of the brain, abscess of the brain, epilepsy, and chorea, when due to trauma, syphilis, and tuberculosis.

Auto-inoculation of Chancre.—In the first case the seat of the chancre was inoculated in the right armpit; in the second, the chancre was on the inner side of the eyelid, which the patient had rubbed continually, a particle of iron shaving having lodged in the conjunctival cul-de-sac; in the third, it occurred in the folds of the prepuce.—NOLIN.

Therapeutic Hints.

Pityriasis Versicolor.—

℞. Cold cream..... ʒ j. ½
Unwashed precipitated sulphur..... ʒ j.
Iodide of sulphur..... ʒ ½
Red oxide of mercury..... gr. 15½

Rub in well three times daily, then dust with a powder made of talc and starch.

—*Mouvement Thér. et Méd.*

Cholera Infantum.—

℞. Naphthalini..... gr. xx.–lxx.
Ol. bergamii..... gt. i.–ij.

M. et ft. chart No. XII. Sig.: One powder every two or three hours.

—HOLT.

℞. Tr. opii deod..... gtt. xvi.
Spt. ammon. aromat..... f ʒ i.
Bismuth. subnit..... ʒ ij.
Syr. simp..... f ʒ iv.
Mist. cretæ..... f ʒ iss.

M. Sig.: Teaspoonful every two or three hours for a child of one year.

—J. LEWIS SMITH.

Hyperemesis.—

℞. Cocain. chlorohydrat..... gr. iss.
Antipyrine..... gr. xvi.
Aquæ destil..... ʒ iv.

M. Sig.: ʒ i. every half hour until relieved.

—LUTANT.

Dysentery.—

℞. Pulv. ipecac. co..... gr. vi.
Bismuth. subcarb..... ʒ i.
Pulv. aromat..... gr. vi.

M. et ft. chart No. XII. Sig.: One powder every three hours for children.

—STARR.

Croup.—

℞. Acid lactici..... ʒ iijss.
Aquæ destil..... ʒ x.

M. Sig.: Apply often by means of a spray-producer (to dissolve false membrane).

—MORELL MACKENZIE.

Alopecia after Acute Diseases.—

℞. Alcohol..... ʒ viss.
Veratrine..... gr. viss.
Tinct. benzoin..... gtt. xv.
Salicylic acid..... gr. viss.

M. Sig.—Apply locally.

—KAPOSI.

To Lubricate Catheters.—

℞. Bichloride mercury..... gr. i.
Glycerin,
Water..... āā ʒ ij
Powdered soap..... ʒ iv.

M.

This ointment is claimed to be unirritating to the urethra, and to possess greater lubricating power than either oil or glycerin.—GUYON.

Society Reports.

THE BRITISH MEDICAL ASSOCIATION.

Sixty-third Annual Meeting, held in London, July 30 and 31 and August 1 and 2, 1895.

(Specially Reported for the MEDICAL RECORD.)

SECTION OF OBSTETRIC MEDICINE AND GYNECOLOGY.

FIRST DAY, WEDNESDAY, JULY 31ST.

Address of the Chairman.—SIR WILLIAM PRIESTLY delivered a short inaugural address, in which he drew attention to the enormous advances which had been made in midwifery practice, especially those due to the application of antiseptics in midwifery. Whereas in a lying-in hospital with which he was connected the mortality was 34 per 1,000 before the introduction of antiseptics, since that epoch it had been only 2.5 per 1,000. And in addition to the saving of life there was a much lessened morbidity during the puerperal period. Although there was so great an improvement in lying-in institutions, yet the mortality in private practice had not diminished to the same extent, therefore the discussion which had been arranged for that morning.

Other improvements were those in forceps, and especially the introduction of the axis traction forceps, which allowed of delivery in cases in which it was previously impossible.

Modifications also in craniotomy instruments had rendered that operation easier and safer.

But the greatest advances had been in gynecology. He could recollect the time when tapping was the only remedy for ovarian tumors, and a promise of five years of life was the longest that could be given to a patient with such a tumor. A great surgeon of that day had said that he considered the man who attempted the complete removal of an ovarian tumor guilty of manslaughter. The speaker had lived long enough to see several different systems of treatment, enthusiastically advocated, have their day and then wane away. First there was the craze of ulceration of the os as a cause of most of the ailments of women, and the treatment of these ulcerations by caustic, etc.; then clitoridectomy loomed up as a treatment, but was soon discredited; after this displacements of the uterus held the field, and mechanical treatment ruled the day; again there was an epoch of enthusiasm for castration as a cure for many neuroses; ere long it was discovered that the operation was followed by worse nervous symptoms than those for the relief of which it was undertaken; then rents of the cervix were thought to be the cause of symptoms in so large a proportion of cases that one gynecologist discovered and operated on three hundred torn cervices out of nine hundred women examined by him; lastly, there had been an epidemic of the operation for the removal of the appendages. Many of these recommendations had come from across the Atlantic. No doubt each of them had some value, but the tendency now was to import too large a surgical element into the treatment, and to neglect the medical side of gynecology. We must consider the welfare of our patients first and the science of surgery second. The records of one thousand operations had no intrinsic value unless the operations can be shown to have been necessary, and he especially deprecated the efforts to make long lists of operations. He would entirely discountenance large operations for uterine fibroids which were not producing symptoms; also the operation of opening the abdomen for the treatment of displacements of the uterus; considered the views he had expressed were those of real as against spurious progress, and he was willing to receive any help from new ideas and operations, but

would always bear in mind the motto: *Primo non nocere* (at least do no harm).

Dr. Priestly deprecated the tendency of the obstetric physician to invade the domain of surgery and thought that sepsis was more likely to be acquired in the work of the surgeon, and he would advise obstetric physicians to keep to their own art. He would in general hospitals appoint a surgeon to act with the obstetric physician, and in special hospitals would have physicians to consult with the surgeons, but each man should take his own course.

Dr. Lusk, of New York, in proposing a vote of thanks, said that he thought the address would do good in America, and that he agreed with the President's views.

The vote of thanks was seconded by Dr. Martin, of Berlin, and carried with acclamation.

The Aseptic and Antiseptic Precautions Necessary for the Prevention of Puerperal Fever in Private Practice.—Dr. G. Ernest Herman, of London, opened the discussion on this question. In answer to the question, What is puerperal fever? he said that it is a fever caused by the inoculation of septic organisms. Septic organisms are not the same as saprophytes (which in our climate are everywhere present), but may in suitable soil be bred from saprophytes. They only thrive in special soil, and they can and ought to be destroyed. Sterilization, that is the destruction of *all* micro-organisms, is impracticable in midwifery practice. Puerperal fever may be prevented by keeping septic germs from the patient. This is to be done by asepsis, that is cleanliness, and antisepsis, that is the use of germicides. The germicide which is the most portable and most trustworthy, and therefore the best for midwifery practice, is corrosive sublimate. Carbolic acid is inconvenient, and no other antiseptic has been shown to be so good clinically as perchloride. The precautions to be used are of two kinds: 1, External, those applied to the surroundings of the patient; 2, internal, those applied to the patient.

The external antiseptic precautions comprise the purification of each attendant's hands by washing with soap and water, using a nail-brush and soaking in a corrosive sublimate solution 1 to 1,000, and of all instruments by boiling; scrupulous cleanliness in the dress of nurse and medical attendant; the use of clean absorbent material instead of napkins and sponges. The nurse's dress should be light color, with washable apron and sleeves to turn up, attached by buttons. There should be no rings on the fingers. The internal aseptic and antiseptic precautions comprise restriction of vaginal examinations to the fewest possible; washing of the genitals; the use of an antiseptic lubricant; vaginal antiseptic douches during labor, after delivery, and throughout the lying-in. The only one of these precautions that can possibly do harm to the patient is the use of antiseptic vaginal douches. Experience has shown that healthy women whose labors are normal do as well without vaginal douches as with them, though these are necessary in some abnormal cases.

In private as compared with hospital practice there is less danger; therefore vaginal antiseptic douches before delivery and during the lying-in may be omitted, except in cases in which the discharges are unhealthy. An antiseptic douche immediately after labor is over should be given by the medical man himself. The nurse receives less guidance; she is not guided by rules as she is in a hospital. But such guidance is necessary. The medical man should make it part of his duty to the patient to instruct her nurse. Some physicians do this by giving the nurse a printed paper of directions. This practice is recommended for general adoption. The nurse is under less discipline. She is often chosen by the patient. The patient's wish is her law, for her success depends upon her pleasing the patient. The doctor should insist that the nurse obey him, that she be dismissed if she neglect his rules, and he should decline to be responsible for the case unless the nurse is engaged with this understanding.

Dr. Stuart, of Brooklyn, said that he had prepared a paper, but would not read it, as Dr. Herman had covered the same ground. He would emphasize the following points: First, that the physician himself should be thoroughly imbued with the principles of asepsis, and secondly, that he should instruct the nurse and make certain that she understands his instructions. The patient should be talked to and instructed as to what her dangers are. The physician should have clean linen, and should dispense as much as possible with the vaginal examination, using the abdominal instead.

Dr. Lusk, of New York, would first wash hands in alcohol and then in corrosive solution. He would cut the pubic hair and sterilize the perineum and inner surfaces of the thighs. He would not use a vaginal douche after a simple labor, and would strongly discountenance douching before labor, as nature thoroughly cleansed the vagina, first by the liquor amnii, and then by the passage of the fœtal head. He dwelt on the great importance of clearing away all clots and tissue, which might decompose. He would place some antiseptic material over the perineum before applying the hand to guide the head as it was emerging to avoid soiling the hand with fecal matter. He thought it important to wait long enough for the placenta to be detached; complete separation would be shown by the cessation of pulsation in the cord. There was no necessity to twist the membranes into a cord as advised by some; it was sufficient to allow the weight of the placenta to draw away the membranes.

Dr. Smyly, of the Rotunda Hospital, Dublin, said that it was not always necessary on the first visit to make a vaginal examination. The nurse should never be allowed to make a vaginal examination; and he thought the douche in the hands of a nurse was dangerous. He formerly douched each patient twice a day after confinement, but had now given up that plan as dangerous.

Dr. Swayne, of Bristol, drew attention to the fact that among the poorer classes the patients may infect themselves with their finger-nails.

Dr. Playfair, of London, regretted that practitioners were not so imbued with antiseptic principles that such a discussion should have been considered unnecessary. He had found it impossible to get nurses to use 1 in 20 carbolic solution for the hands, on account of its unpleasant roughening effect on the skin; but perchloride had not this disadvantage to the same extent. He attached most importance to the thorough scrubbing of the hands. He considered that douching during lying-in gave so much comfort to the patient that he would not say it should not be used. For this purpose Condy's fluid acted well.

Dr. Byers, of Belfast, would minimize vaginal examination as much as possible, and thought it was a great step forward to substitute abdominal examination, by which he considered almost everything necessary could be ascertained. In making a vaginal examination particular care should be taken to avoid contamination from the rectum, and he thought that some so-called autogenetic cases could be attributed to this cause. For two years he used a douche after delivery in each case; last year he abandoned the practice and had found no difference in the results. After the birth of the child he follows the Rotunda practice of turning the woman on her back for the expression of the placenta, as by so doing the entrance of air was avoided.

Dr. More Madden, of Dublin, considered it important to get the woman into a good state of health by tonics, etc., before delivery.

Dr. Murdoch Cameron, of Glasgow, thought there were two forms of puerperal fever—sapræmia with fetid lochia and septicæmia with suppression of lochia.

For the first, one could do a great deal; for the second, nothing.

DR. HERMAN, in closing the discussion, said that he could not see the good of attempting to sterilize the perineum and thighs, since complete sterilization was impossible. Corrosive sublimate was the one germicide which had stood all tests. He would boil all instruments, including the vaginal tubes.

Electrotherapy as a Means of Diagnosis in Gynecology.—DR. G. APOSTOLI, of Paris, presented a communication with this title. After a long and thorough trial of this method he had come to the following general conclusions: 1. The faradic current of tension (generated by the coil of long and fine wire) applied to the uterine cavity, according to the rules established by the speaker in 1883, relieves, for a longer or shorter time, all ovarian pain of nervous or hysterical origin; but it is powerless or nearly so in cases of ovarian pain caused by inflammatory lesion of the peri-uterine tissue or of the appendages. 2. The same faradic current is therefore useful in diagnosis, inasmuch as it helps us to distinguish the nature of so-called ovarian pain and to determine rapidly the differential diagnosis between hysterical and inflammatory ovarian pain. Where the two kinds of pain exist in the same patient we are helped to understand their nature by the fact that the one is relieved and the other is not. 3. If, then, the curative effect of the faradic current clears up or rectifies a doubtful diagnosis, it protects us at the same time from undertaking a useless operation. On the other hand, if the same faradic current proves ineffective, the lesion being inflammatory, we are led to resort to a supplementary galvanic treatment or to a surgical operation sooner or later. 4. The constant galvanic current, applied to the uterine cavity in doses gradually increasing from 50 to 120 milliampères, according to the rules published by the speaker in 1884, and bearing in mind the individual susceptibility and tolerance, will be almost always supported without much pain during the *séance*, and without febrile reaction afterward, if the parts adjacent to the uterus are free from inflammation. Simple cystic, peri-uterine tumors which are neither inflamed nor suppurating (such as ovarian cysts and hydro-salpinx), may also show perfect tolerance of the galvanic current. The galvanic current is also sometimes perfectly supported by cases in which the uterus is surrounded by old inflammatory products or exudations no longer pathogenic. 5. There are three classes of cases which should be considered as exceptions to the preceding rule, for they bear the galvanic current more or less badly, though they do not necessarily produce much febrile reaction after the *séance*. They are: *a*. Certain forms of hysteria. *b*. Fibro-cystic tumors of the uterus. *c*. Enteritis with false membrane. It is generally easy to diagnose these cases of intolerance. 6. All acute peri-uterine inflammation (of the pelvic cellular tissues, of the peritoneum, and especially of the appendages) will cause the galvanic current to be badly borne when it passes 40 or 50 milliampères, and will cause intolerable pain and febrile reaction when carried beyond this intensity. 7. The intolerance for the galvanic current is generally proportionate to the extent and gravity of the lesions referred to and increases with the intensity of the current employed, especially when it passes 40 or 50 milliampères. 8. All inflammation of the appendages which is curable without radical operation will bear the galvanic current better and better, and there will be a corresponding improvement of the prominent symptoms, such as pain and hemorrhages. The intolerance noted at the beginning progressively disappears. 9. All grave inflammatory lesions of the appendages, and notably all suppurative processes which are incurable by conservative means, show the same intolerance from the beginning to the end of the treatment which was noticed at first, and which is apt to increase instead of diminish if the treatment is continued. 10. Thus the simple study of the tolerance or intolerance of the intra-uterine galvanic treatment, and especially of the post-operative pain and fever occurring on the evening of or the day following the treatment, enables us to make the diagnosis. It also, in four or five *séances*, given twice weekly, informs us of the condition of the appendages, of their possible inflammation and its degree, and in this way it lessens the number of laparotomies and exploratory incisions. 11. The same study of the so-called galvanic reactions also informs us, after a few trials, of the curability of these inflammatory lesions which the electric current has demonstrated, and in consequence of this it tells us in one case to abstain from operation while in another it shows an operation to be urgent. 12. Finally, gynecological electro-therapeutics, carefully, methodically, and patiently applied, instead of being opposed to the marvellous progress of surgery, comes to its aid. Independently, in fact, of the great therapeutic service which it renders every day, electricity assists us in diagnosis and thus directly serves the interests of surgery, in one case showing an operation to be useless and dangerous, in another that its necessity is urgent. Many laparotomies, so-called exploratory incisions and mutilations practised without due deliberation for the relief of rebellious ovarian pain or for lesions of the appendages of uncertain nature, should be delayed until all the resources of faradic sedation, on the one hand, and of the intra-uterine galvanic effect, on the other, have been tried. Experience has abundantly proved these currents to be innocuous if given with necessary aseptic precautions.

DR. FRANKLIN MARTIN, of Chicago, had worked for ten years at the Woman's Hospital, using both electricity and surgery, and so was not biassed either way. He found it a fact that pain was produced and electricity was not well borne when collections of pus were present. He did not believe, however, that it should be used as a diagnostic agent, and it was very dangerous, and should not be used when pyosalpynx was suspected.

Gonorrhœa in Women.—DR. MORE MADDEN, of Dublin, read a paper on gonorrhœal infection in some of its gynecological aspects. He thought that the importance of gonorrhœa was not yet fully recognized. Most cases in married women were due to a recrudescence of an old injection in the husband. He did not consider that the presence or absence of the gonococcus was an infallible test, as other cocci almost indistinguishable were found in the vaginal secretions, and he would treat all suspicious discharges at once by the free employment of germicides.

DR. PURSLOW, of Birmingham, thought that everyone engaged in hospital practice must agree as to the great importance of gonorrhœa as a cause of disease of the uterus and appendages, but it was not often possible to follow cases through from the onset of infection. He had had two cases under observation for two years. Each became infected with undoubted gonorrhœa when pregnant and afterward aborted. They were treated with injections of perchloride of mercury, and up to the present there was no disease of the appendages. He asked whether any of those present had tried the active treatment of gonorrhœa by thorough disinfection of the vagina under anæsthesia.

DR. W. JAPP SINCLAIR, of Manchester, said that he considered the gonococcus of no use as a diagnostic sign. He considered that inflammation of Bartholin's glands was the most important clinical sign of acute gonorrhœa.

DR. W. S. A. GRIFFITH, of London, thought there was an undoubted gonorrhœal vaginitis, and that the disease was not always confined, as some held, to the urethra. He had treated cases in the way Dr. Purslow had mentioned. He placed the patient in the lithotomy position, used a speculum, and swabbed out the vagina very thoroughly, then dried it and dusted with iodo-

form, and afterward kept the surfaces apart by a simple dressing, which latter he removed in twenty-four hours and followed up by simple douching.

Surgical Treatment of Puerperal Fever.—Dr. James Murphy, of Sunderland, read a paper on this subject. He narrated some cases in which he had curetted, and others in which he had performed abdominal section, and urged the application of each of these in suitable conditions.

Dr. Leith Napier, of London, would always use gentle curetting before doing an abdominal section. His experience of operating in suppurative peritonitis had not been so satisfactory as that of Dr. Murphy.

Mr. J. W. Taylor, of Birmingham, had found operation successful when there were limited collections of pus, but when there was general peritonitis it was no good.

Dr. Lusk, of New York, thought curetting of a parturient uterus was the most mischievous practice ever introduced into midwifery practice.

Dr. Griffith, of London, thought few cases were suitable for curetting, and that it was a proceeding which had been much overdone. It was a dangerous operation, and he had known very severe bleeding follow from the opening of the uteric sinuses by the curette. He thought that in some cases the finger would remove any retained matter better than the curette, and that then washing out was followed by good results. There were many cases of puerperal pyrexia in which no sepsis was present.

Second Day, Thursday, August 1st.

Anterior Colpotomy.—Dr. Martin, of Berlin, read a paper with this title. He first pointed out the disagreeable results which followed an abdominal section, especially those resulting from the presence of the scar. Of late years there had been a great advance in vaginal surgery, and the best entrance into the abdominal cavity from the vagina was through the anterior fornix; there were no organs and no vessels in the way. The bladder can be separated and pushed up without danger and the ureter can be pushed out of reach.

Description of the Operation.—Patient is placed in lithotomy position and the uterus fixed by a special pair of forceps which combines both a probe and a vulsellum. Another pair of vulsella is fixed into the vaginal wall over the urethra and the vaginal wall is raised and incised vertically. The upper portion and bladder is pushed up with the finger and carried out of the way behind the symphysis. The peritoneal fold between bladder and uterus is then seen and is opened. There is very small loss of blood during this part of the operation, no pressure forceps or ligature being required until the peritoneal cavity is opened. After the operation the uterus and adnexa are replaced and catgut sutures passed through vaginal wall, peritoneum, uterine tissue, and back through vaginal wall again.

This operation was suitable for myomatous tumors wherever situated, and large tumors might be removed in this way by morcellement.

Total extirpation of the uterus could be performed, retroflexed uteri could be fixed, and peritoneal adhesions could be broken down. In procidentia he excised part of the vaginal wall and fixed the uterus to the upper part. Cystic ovarian tumors could be brought down and the pedicle seen and ligatured. In diseases of the tubes the operation had special advantages, and he had done it in tubal pregnancy. In cases of distended tubes the tube could be opened and drained and the opening fixed to the edges of the wound. The speaker had performed anterior colpotomy in 109 cases; all had recovered. The minority had required the use of the catheter after operation; in four of these operations he had done total extirpation of the uterus. For myomata he would prefer abdominal section when the tumor was larger than the size of two fists.

Vaginal Cœliotomy.—Mr. J. W. Taylor, of Birmingham, read a paper advocating this operation. He drew attention to the advantages of the utero-vesical pouch for the operation. The uterus may be anteverted and both it and the appendages inspected. Vaginal fixation of the uterus in this operation places it in a more satisfactory position than that by any other method. In doing vaginal hysterectomy the uterus was anteverted and brought out and forceps applied to the broad ligament from above downward. Doyen originated this method. He (Taylor) made a transverse incision in anterior fornix, passed a provisional silk suture through uterus as high as he could reach; if vaginal fixation only was required, he passed silkworm gut sutures through uterus and vaginal wall. Apart from vaginal hysterectomy he had done this operation seven times and he was satisfied with its value, especially for retroflexion incurable by other methods. He removed the sutures which he used for fixation in six weeks and left no buried ones. The operation was more difficult than abdominal section, but the advantage to the patient was decided, and recovery was more sure; then there was no visible scar resulting and no risk of hernia. He differed from Martin in making a transverse instead of a longitudinal incision.

Dr. Donald, of Manchester, read a paper on a case of vaginal cœliotomy for tubal pregnancy. He opened the peritoneal cavity through anterior fornix.

In the discussion which followed on these three papers, Dr. Cushing, of Boston, said that in these operations a process of evolution was always going on. He did not use a single long forceps, as he was afraid that the upper part of the broad ligament might not be secured, and he preferred to put on two or three smaller ones on each side. He had known a blade of the long clamp snap twelve hours after operation. In bringing down the uterus, if he were not going to remove it, he would avoid as much as possible the provisional ligature and the vulsellum. He preferred a vertical to a transverse vaginal incision because there was, 1, less hemorrhage; 2, more room. There was a danger of including ureters in the sutures when they were put in transversely and too freely; he thought that the separation of adhesions was easier than when abdominal section was done, and no drainage-tube was required.

Dr. Smyly, of Dublin, had done the operation about twenty times, and he considered that for fixation of the uterus it had great advantages over abdominal section, or Alexander's operation; at first he did fixation without opening the peritoneum, but he found the displacement recur; he now opens the peritoneal cavity; the most satisfactory results he had had from the operation had been in cases of prolapse.

Dr. Walten, of Manchester, had operated on two patients, who had previously been operated on by abdominal section, and the patients expressed appreciation of the vaginal method as compared with section. During the operation, an assistant should introduce a finger into the rectum and push up the uterus.

Dr. Alfred Smith, of Dublin, asked, How would a wound of intestine caused by separating adhesions be treated when the operation was performed in this way?

Dr. Martin, in closing the discussion, said he had never met a wound of the intestine in all his cases, though he had had to deal with severe adhesions, but his custom was to pull the organs out gradually and see the adhesions before dealing with them. If the uterus were adherent to the sacrum, he would not do cœliotomy. He would open the anterior in preference to the posterior fornix, because the tubes were nearer and the uterus could be more easily dealt with in the former incision. He had found cases in which both tubes needed removal were a minority of the total cases he had operated on, and he would preserve one

tube and the uterus whenever possible. Hydrosalpynx did not need removal, he would prefer salpyngostomy. He preferred the vertical to the transverse incision, because the latter was liable to be extended by tearing, and the ureters might be injured. He used catgut for nearly all his work now, and seldom used silk or silkworm-gut.

The Management of Girls at the Period of Puberty.—Dr. Playfair, of London, read a paper entitled, "Remarks on the Education and Training of Girls at and about the Period of Puberty." Up to puberty there was no necessity to treat boys and girls differently. At puberty well-defined changes occur in the girl, and there was an especial development of the nervous and emotional system. With limitations essential to sex, he considered that the advent of the higher education of women was an advantage. The fault of nearly all who managed high schools was that they ignored the sexual functions of the girls, and that they contend that there was no real difference between the adolescent male and female. If that were so, how is it that we see so many cases of anæmia in the adolescent girl, and the disease is almost unknown in boys? One reason is that in boys' schools physical sports are compulsory, while that is not so in girls' schools, and the tendency is for them not to take nearly sufficient exercise. Exercise should be compulsory in girls' schools, and another regulation he would like to see would be one to interdict corsets. He would insist on the importance of at once stopping all school work when symptoms of illness begin to show themselves.

Dr. Scharlieb, of London, would also make physical exercise compulsory. He thought that too many school-mistresses were absolutely blind to physical symptoms.

Dr. Gray thought that among no class of girls was the evil of overwork and insufficient exercise more pronounced than in pupil teachers.

Puerperal Eclampsia.—Dr. Swayne, of Bristol, read a paper on the "Treatment of Eclampsia Occurring during Pregnancy before the Commencement of Labor," in which he said that he placed most faith in venesection as a remedial agent.

Dr. Scharlieb had seen many cases in India, and there bleeding was not advisable, as many were anæmic. Had found chloroform give best results, putting the patient under it for each examination, and keeping her under it if the fits were frequent.

Dr. Smyly, of the Rotunda Hospital, Dublin, would not induce labor in these cases. Though chloroform stopped convulsions, he thought it increased death-rate. He would trust to morphia given hypodermically. He had observed no benefit from potassium bromide and thought pilocarpine dangerous.

Dr. W. S. A. Griffith, of London, would induce labor with the proviso that it were done safely and aseptically.

Dr. Barbour, of Edinburgh, had made frozen sections with a view to determine whether pressure of the uterus had any importance as a cause of the albuminuria which precedes the convulsions, and had come to the conclusion that, whatever the cause, it was not mechanical. Advised induction of labor.

Third Day, Friday, August 2d.

The Early Diagnosis of Malignant Disease of the Uterus, and the Treatment by Partial or Total Excision.—Dr. J. Knowsley Thornton opened the discussion on this subject, saying that he would give his own practical experience and views, not a summary of that of others. He appealed to those in general practice to take more note of trivial discharges, and departures from menstrual health, and above all in such cases to insist on an internal examination; it is in their hands, and not in those of the consultants, that advance in early diagnosis lies—if there is only suspicion have it at once either confirmed or dispelled by consultation with some specialist of experience. He detailed briefly the most reliable symptoms of cancer, but deprecated the removal of small portions for microscopical examinations, as he believed that interference of this sort often favored the growth of the neoplasm. He advocated supra-vaginal amputation of the cervix for adenoma and epithelial cancer of the vaginal portion; to remove the uterine body is useless in most of these cases. The speaker gave a brief description of the method of performing supra-vaginal amputation of the cervix and vaginal hysterectomy. He agreed with Williams that certain so-called recurrences were really fresh outbreaks, in a specially susceptible organ, and their bearing on the relative value of the two operations. As regarded the selection of cases he would deprecate operation in hopeless cases, and insisted on the application here of the sound surgical rule, that operations for malignant disease should only be performed when the whole disease can be efficiently and entirely removed. He defined cancer as a growth of epithelial cells with a tendency to invade tissue, and to break down and die. As to the after-treatment, he preferred light plugging with iodoform gauze, leaving the plug in for a week unless the temperature rises or discharge becomes offensive. After recovery, he advised careful examination every three weeks. Complete removal of the uterus may be effected by either vaginal or combined vaginal and abdominal operation.

The speaker would only do the latter when the vagina is too small or the uterus too large for the former operation to be possible.

In cases of vaginal extirpation he opened the peritoneum at front and back by pushing up a pair of Lister sinus forceps, and then enlarged the opening. He divided the broad ligament bit by bit, tying the vessels as they appear with silk, and he thought that in this way there was less danger of injury to the ureters than when the clamp was used. He did not use sutures for the peritoneal edges, and plugged lightly with gauze and removed it and used free douching on first appearance of any fetor or rise of temperature. He would not operate at all when mobility of the uterus was in any way impaired, nor when the vaginal wall was involved.

Dr. Martin, of Berlin, could not depend altogether on symptoms, and would only place absolute reliance on microscopic examination. He had found that even in some cases in which the growth was diagnosed at an early stage, and removed freely, it recurred, and did not think that the question of the advisability of operation on every case, even when discovered early, was yet settled. He did not believe in partial excision; no one would propose partial operation in cancer of the breast. In his own practice he had found that in all cases in which he had done supra-vaginal amputation of the cervix disease recurred, and he now always practised total extirpation. He did not operate when cancer had invaded the broad ligaments or glands, but he did not consider invasion of the vaginal wall a bar to operation, as that could be removed. He did not approve of some operations done lately, in which the sacrum was resected and the glands as well as the uterus were removed. A day or two before operation he removed any sloughing growth with the hot iron. The primary result of total extirpation was assured, with a mortality of four to ten per cent., but the secondary results were doubtful.

Dr. Pozzi, of Paris, said that total extirpation was the best operation, and was the one always practised in France. He thought that high amputation of the cervix was a bad operation, for in doing it hæmostosis was difficult, and in women not past the climacteric there was a possibility of stenosis of the cervix followed by hæmometra occurring, and he had seen three such cases. In France they used forceps. When the uterus could be easily drawn down the operation was a good

one, but when it could not it was a difficult and bad one. In cases unsuitable for radical operation, curetting, followed by the free use of the hot iron, not the Paquelin cautery, prolongs life.

Dr. Lusk, of New York, did not trust microscopical diagnosis, as different laboratories gave different reports on same specimen. In the treatment of incurable cases he found good results from scraping and packing with chloride of zinc, 3 v. to ℥ j.

Dr. W. Japp Sinclair, of Manchester, thought that the greatest difficulty in differential diagnosis of early cancer was from hyperplasia of cervix associated with laceration and erosion of retention cysts. He did not believe in microscopical examination, and thought that the most important clinical test was that cancerous tissue was friable and would break down under a sharp spoon, while the other would not. He did not consider supra-vaginal amputation a suitable operation in women who had not passed the menopause. He used the ligature and did not pack wound, but put in drainage-tube.

Dr. Playfair, of London, placed no reliance on microscopical examination, and did not approve of partial extirpation.

Mr. Taylor, of Birmingham, had faith in the microscope. He thought, as a clinical sign, blood on the examining finger was one which should most excite suspicion. He advocated total extirpation.

Dr. Smyly, of Dublin, advocated the ligature. He always destroyed the cancer with the cautery before resorting to operation.

Dr. Spencer, of London, advocated amputation of the cervix. He believed some cases in which cancer of the body of the uterus had been said to exist were really not cancer. He considered cancer of the body an exceedingly rare disease. He had known pregnancy to occur in a case in which almost complete stenosis of the os followed amputation of the cervix. Cæsarean section had to be performed in that case.

Dr. Thornton, in closing the discussion, pointed out that the analogy with the breast does not hold, as the cervix and body of the uterus are different in structure; furthermore, cancer of the cervix seldom tends to invade the body. The life-history of cases of partial extirpation gave the best ultimate results.

Position of the Fœtus in Utero.—Dr. Murdoch Cameron, of Glasgow, read a paper entitled, "A New Theory as to the Position of Fœtus in Utero." This was based on observations made in the course of the operation of Cæsarean section, on the relative position of the dorsum of the fœtus and the placenta; these showed that the placenta and dorsum of the fœtus were on opposite sides of the uterus, thus in the first cranial position the placenta would be on the right side of the uterus posteriorly. Dr. Cameron's theory was that if the fœtus should be so placed as to bring its dorsum and the placenta in apposition, then the pressure to which the placenta was subjected caused partial asphyxia in the fœtus, and the latter changed its position so as to bring it into the relation described.

The Changes in the Uterus during the Third Stage of Labor.—Dr. Freeland Barbour, of Edinburgh, read a paper on this subject, his observations being based on the study of frozen sections. They showed that the placenta did not separate during the diminution in the size of the uterus which followed the birth of the child, and that there was no evidence of separation even when the uterus contained nothing else but the placenta. He had found no evidence of retro-placental hemorrhage. Frozen sections at the end of the second stage showed no separation of the placenta, contrary to the usual view. At the commencement of the third stage, the placenta was unseparated, even though the area of its site had been reduced to one-fourth. The clinical bearing of this was that patients never bleed until the second stage is over. The arrest of hemorrhage is caused by a complete rearrangement of muscular fibres; besides shortening, the planes of muscular fibres glide on one another, so as to make the path of the blood-vessel tortuous. Shrinking of the site is not the chief factor in producing separation of the placenta. One factor, no doubt, is the forcing out of the placenta by uterine contraction in the same way as the fœtus was forced out.

The Section was then adjourned.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, April 24, 1895.

George P. Biggs, M.D., President, in the Chair.

Gall-bladder Containing a Large Calculus.—Dr. Donald M. Barstow presented a specimen that had been taken from a very obese woman, forty-eight years of age, who had been admitted to the New York Hospital on May 7th. She had given no history of biliary colic. She was anæmic and feeble, and suffered considerably from dyspnœa. She died on May 31st. At the autopsy the valves of the heart were found to be competent. There was slight stenosis of the mitral valve. The heart muscle showed considerable fatty infiltration. The pericardium contained about one ounce of serous fluid. The peritoneum contained a considerable quantity of the same kind of fluid. The kidneys were somewhat enlarged and congested. The liver was the ordinary "nutmeg liver." The gall-bladder contained a calculus which filled up the entire fundus. The wall of the bladder was somewhat thickened, and the mucous membrane eroded. There was a cicatrix at the point of contact with the calculus.

Calcareous Deposit in the Pleura.—Dr. Barstow also presented a specimen taken from a man, fifty years of age, who had died of intense acute infectious process, the exact nature of which had not been determined. The plate had been found in two pieces, situated in the right pleural cavity, about opposite the sixth rib. On palpation, before its removal, it had felt not unlike an old fracture of a rib. The two layers of the pleura were everywhere adherent. On section the mass had been found to be composed of calcareous matter, held together by connective tissue. Those masses occurred most commonly after empyema, the fluid portions being absorbed, and the remainder undergoing calcification. The fact that these masses were more commonly found situated at a lower level would suggest the possibility of this one having been formed in connection with an encapsulated empyema.

Dr. James Ewing said that he had quite recently seen a case of empyema that had been operated upon, and in which death had occurred shortly afterward from other causes. At the autopsy a calcareous plate had been found in the pleural cavity, which had reminded him of the specimen just presented. It was about the size of a half-dollar, calcified in the centre, and cartilaginous at its periphery.

Colloid Carcinoma of the Rectum.—Dr. Charles E. Bruce presented for Dr. McAlpin a specimen which had been removed from a woman in St. Vincent's Hospital. She had given a history of chronic constipation and a gradually developing cachexia. The autopsy showed adhesions to the bladder above the rectum, and perforation through the adhesions into the bladder.

A Tubercular Lung.—Dr. Bruce presented a lung removed from a case of tuberculosis. In the right apex was an old cavity surrounded by fibrous tissue. The lung was filled with tubercles and areas of lobar pneumonia. The point of interest was a nodule in the central portion of the lung, the nature of which had not yet been determined, as the autopsy had been made only a few hours before. The report on the

nature of this growth would be presented at some future meeting.

Multiple Abscesses of the Liver and Extensive Tuberculosis.—Dr. Bruce also presented specimens from another case of tuberculosis. The patient, V. L——, twenty-six years of age, a German, had had good health up to April, 1894, at which time a severe diarrhœa developed. He went to the German Hospital, and was discharged "cured" from there on June 6, 1894. While working in a restaurant, and drinking very freely of ice-water during the midsummer, he was seized with severe cramps over the region of the liver, and extending up into the back. The first attack lasted two hours, and after this he usually had one attack in the twenty-four hours. During these attacks he experienced a feeling of swelling and hardness in the right side, and he had a rapid pulse and shortness of breath. When admitted, on August 30, 1894, examination showed the breathing to be very feeble over the lower part of the right lung, with prolonged and high-pitched expiration. The liver dulness was much increased, and there was very great tenderness. There was also severe pain in the lower border of the ribs, one inch inside of the right mammary line. The heart action was regular, but rapid. The lung signs were not prominent. The case at this time had been supposed to be one of hepatic colic. Aspiration of the liver, done at the suggestion of Dr. George P. Biggs, had shown no pus. Numerous tubercle bacilli had been found in the sputum. The man died on January 30, 1895. At the autopsy there was found a marked abdominal ascites. The right lung was compressed and the pleural cavity was filled with fluid. Both lungs showed nodules, cavities, and areas of consolidation. The heart was normal. The spleen was firm and contained tubercular nodules. The liver was very large, and was filled with tubercular nodules, some of which had undergone degeneration and were filled with creamy pus. The intestines were filled with ulcers and small tubercular nodules. The mesenteric glands were enlarged and cheesy. The right kidney contained a large tubercular nodule. There were gall-stones in the common duct. Cultures from the liver pus showed a mixed variety, but no tubercle bacilli.

The President said that, from the repeated attacks of severe diarrhœa with pain in the region of the liver, he had been led to consider the case one of hepatic abscess, and he had therefore suggested aspiration of the liver. Two aspirations had been made, but as they had failed to reveal the presence of pus, he had begun to doubt the correctness of his first diagnosis. The abscesses found in the liver must have been of the ordinary infective kind—at any rate, he had never seen any such tubercular lesion in the liver.

New Mounting Medium.—Dr. Henry S. Stearns presented two slides to illustrate the effect of Dr. Piffard's new mounting medium. These two slides had been taken from the same block of tissue, and stained, washed, dehydrated, and clarified at the same time, and for the same length of time, in each solution. The only difference was that one had been mounted in the ordinary mixture of Canada balsam and xylol, and the other mounted in the new material perfected by Dr. Piffard. It seemed to him that these slides very clearly demonstrated the great value of this new medium. Owing to its very refractive index, minute details of structure could be easily detected with a narrow-angle objective, which could only be discerned with difficulty under a wide-angle objective if the object had been mounted in balsam. This new medium was the ordinary "sweet-gum" of the South, extracted with xylol, and the xylol afterward driven off by heat. Two parts of this sticky gum are to be dissolved in one part of the monobromide of naphthalin, and used exactly in the same way as the ordinary Canada balsam. The ordinary storax had been experimented with, and had given a mounting medium with a refractive index of about one hundred and fifty-eight.

The speaker said that he had found this new medium so superior to the Canada balsam that he did not intend to use the latter hereafter in the college. The section under the microscope was from a glioma of the brain. He had not been able to demonstrate the branching cells in it until he had mounted the specimen in this new medium.

Retro-pharyngeal Abscess.—Dr. George P. Biggs presented specimens from this case. The patient, a child, eighteen months of age, had been a coroner's case in which the diagnosis had been made of diphtheria. At the autopsy, however, nothing had been found except slight parenchymatous change in the organs, until the larynx had been reached. On removing this organ, considerable pus had escaped from the retro-pharyngeal region, and examination then had shown the cavity of a retro-pharyngeal abscess, about three centimetres in diameter. There had been no rupture of the abscess during life. The mucous membrane of the pharynx, tonsils, and larynx was normal, and there was no evidence of diphtheria. Death had been apparently due to the projection forward of the pharyngeal abscess and the consequent occlusion of the rima glottidis.

Perforating Duodenal Ulcer.—Dr. George P. Biggs then presented specimens from a case of perforating duodenal ulcer. The patient, a man thirty-five years of age, had been admitted to the Hudson Street Hospital on April 20th, at 2 P.M., complaining of severe abdominal pain and diarrhœa which had lasted for two or three days. After admission, the bowels were constipated, and he vomited some bloody-looking fluid. The pain was most marked in the lower part of the right side of the abdomen. The abdomen was moderately distended, and there was great tenderness over the whole right side, but especially in the right iliac region. His temperature was 100° F. On the day after admission the abdominal pain was more diffused, and the abdomen was not much swollen, but was quite rigid. The bowels moved freely after an enema. On the next day the pain was less intense, but on the day after this his condition was poor; the abdomen was distended; there was fluid in the right side of the abdomen, and the pulse was rapid, thready, and weak. An exploratory incision was made for the purpose of drainage, as it was supposed that there was an appendicitis and peritonitis. The appendix was found perfectly normal. Five or six ounces of turbid serum were removed from the abdominal cavity, and considerable lymph found over the intestines. The patient died about one hour later. The autopsy showed the small intestine greatly distended and congested, and the peritonitis seemed to be most intense in the pelvis. There were some large hæmorrhoids with superficial ulceration of the mucous membrane. It was at first thought that the inflammation might have extended from here to the peritoneum, but further examination showed this not to be the case. The first portion of the duodenum was adherent to the under-surface of the right lobe of the liver, near the gall-bladder. There were many recent adhesions, and on separating these carefully, a perforation about three millimetres in diameter was found just beyond the pyloric ring, in the base of an old ovoid ulceration. This ulcer was ¾ ctm. in length, and ½ ctm. in diameter, and its long diameter corresponded with the long axis of the intestine. It was in the superior wall of the duodenum. Just enough adhesions had formed around it to prevent the escape of gas. Another old ulceration was found in the posterior wall of the duodenum. The speaker remarked that this had been the third case of perforating duodenal ulcer at that hospital, within a few months, which had been diagnosticated as appendicitis. In all, the symptoms had been localized to the appendix region. All three cases had been operated

upon after there had been unmistakable evidence of peritonitis, but in no instance had there been any relief of the symptoms.

Stated Meeting, May 8, 1895.

GEORGE P. BIGGS, M.D., PRESIDENT, IN THE CHAIR.

A Recurrent Carcinoma of the Breast.—DR. H. J. BOLDT presented several specimens. The first one was obtained from a woman, fifty years of age. The operation had been done by taking away the entire pectoral structures down to the bone. In this instance, he had been obliged to remove a part of the pectoral muscles from the other half of the breast, and dissect out all the glandular structures about the vessels, removing all in one piece. This method of operating would have been adopted at first had it not been that the family had been opposed to such an extensive operation at that time.

Pelvic Abscesses; Vaginal Operation.—The second specimen had been taken from one of a series of thirteen recent cases in which he had resorted to the radical vaginal operation for suppurative disease of the pelvic organs. In this particular case there were five abscesses. The specimen showed a fairly large tumor which had involved the pelvic cavity and had extended half-way up to the umbilicus on the right side. Pus had been removed from below by aspiration and irrigation; then the uterus had been taken out, and the abscess sacs removed piecemeal. The operation was indicated in all those cases of diffuse pelvic suppuration in which the abdominal operations were not appropriate, and in which the pelvic contents were bound down, and there were probably many intestinal adhesions.

Tubal Abortion, with Embryo.—The next specimen was one of tubal abortion, with embryo. The only symptoms of pregnancy that the patient had presented had been that she had not menstruated for ten weeks. There had been no dark discharge from the uterus. The speaker said he had seen her last night in consultation, with the object of determining whether or not she was really pregnant. She had become quite rapidly anæmic in the last few days, but there had been no pain. Examination had shown the uterus to be decidedly enlarged, and a small nodule was situated behind the organ. Bimanual examination had revealed a characteristic crackling feel, indicating to him free fluid in the peritoneal cavity. The uterus had been freely movable. He had made a diagnosis of tubal gestation with rupture. The patient had requested that the operation be postponed until this morning, and on his arrival at the hospital at that time he had found that there had been a fresh hemorrhage and the patient was in a state of collapse. He opened the cul-de-sac of Douglas, and finding the bleeding still active the abdomen was opened. The quantity of blood found in the peritoneal cavity was estimated to be between 2,500 and 3,000 gm. An infusion of saline solution into the cellular tissue was started immediately after the anæsthesia had been begun, and she had received five pints of this solution. She had also received one dose of $\frac{1}{120}$ of a grain of strychnine hypodermatically. It was too early yet to say what would be the outcome of the case.

Ruptured Tubal Pregnancy with Placenta within the Tube.—Dr. Boldt then presented this specimen. It had been taken from a patient, about thirty years of age, who had had children previously. In this case there had been the usual signs of pregnancy, and there had been a progressive intra-peritoneal hemorrhage. He had operated per vaginam, removing the tube, and leaving the clamp in as drainage, in addition to the gauze.

Malignant Deciduoma (?).—The next specimen was from a case of malignant disease complicated with pelvic abscess. The patient being an Italian who was unable to speak English, no history had been obtained. From its general appearance he thought the tumor to be one of malignant deciduoma. If so, it was a rare specimen, and on this account he asked that it be referred to the Committee on Microscopy for examination and report. This was done.

DR. WILLIAM VISSMAN remarked that the locality of this tumor would be very unusual for a carcinoma, and a very probable one for a malignant deciduoma.

DR. BOLDT then presented the following specimens: Cancer in the interior of the cervical canal; cancer of the vaginal portion; two fibromata of the uterus, removed per vaginam; four or five specimens of hysterectomy for chronic inflammatory disease without suppuration, and three dermoid cysts. He said that he felt disposed to strongly advocate the vaginal operation because the patients made a very rapid convalescence, there was no danger of ventral hernia, and the troublesome neuralgic pains sometimes felt in the abdominal scar were avoided. He did not close the peritoneal cavity, and consequently was not afraid of infecting that cavity, the pus draining out from below.

A Method of Preserving the Epithelia of the Gastro-intestinal Tract.—DR. HENRY POWER made a preliminary report on this subject. His idea had been to introduce the preservative into the body, instead of removing portions from the body and placing them in the preservative. His first experiments had been directed toward introducing the preservative into the stomach by puncture, but this method had presented so many difficulties in practice that he had abandoned it. Two rabbits were then killed, and immediately injected by the rectum with Müller's fluid, using 1,500 c.c. of the fluid and a pressure of about four feet. This pressure was continued for twenty-four hours. Examination with the microscope showed that this extreme pressure had injured the tissues, and had caused them to become infiltrated with the fluid. The next experiment was with a two per-cent solution of formalin, and a pressure of from eight to twelve inches, only about one litre of fluid being introduced. This produced very little subcutaneous œdema, and the connective-tissue cells were remarkably well preserved. In another experiment, a dog was killed with chloroform and about one and a half litre of a two per-cent. formalin solution injected into the peritoneal cavity. By this method the large intestine was well preserved. Then a trial was made with a five per-cent. solution of formalin injected into the rectum under a pressure of eight inches, and also with an injection into the peritoneal cavity under a pressure of two feet. In the latter experiment on a large dog the intestine received about two litres and the peritoneal cavity about one litre. After twenty-four hours the tissues were hardened in graduated alcohol, and on microscopical examination it was found that they had been very satisfactorily preserved and without distortion. The method is very simple, and involves practically no marring of the body. Only a minute needle puncture is left in the abdomen. Two rubber douche-bags, a cannula for the rectum, and a large hollow needle for the peritoneal cavity constitute the requisite apparatus. The speaker said that by this method the preservation was more perfect than he had ever seen before.

DR. VISSMAN said that two or three years ago experiments had been made on both the lower animals and on human beings, with a view to determining the best method of irrigating the intestine in cholera. It had been found that the whole gut could be irrigated with a pressure of about four feet. It had not been found necessary in these experiments to tie in the cannula, the use of a large flange answering the same purpose.

Cholethiasis.—The indications for surgical intervention in these cases are to be measured by the danger resulting from frequent attacks of colic and prolonged existence of jaundice.—GERSUNY.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

NOTES ON THE MEETING OF THE BRITISH MEDICAL ASSOCIATION IN LONDON—THE PROCEEDINGS—ENTERTAINMENTS—MUSEUM—PUFFERY, ETC.

LONDON, August 9, 1895.

THE British Medical Association has been and gone. The members have returned to their homes or set out on their annual holidays. London has assumed its usual appearance at this season—that is, it is deserted by many of our leaders, who will turn up again late in September, though the dearth of doctors is by no means lamented by those who remain behind.

The meeting was pronounced a successful one, and our guests were generally gratified by their reception. Hospitality was displayed in great variety, and some of the entertainments were exceedingly successful, but London is so vast a place that not a few took the opportunity of examining and enjoying some of its ordinary features, and others who knew it well took some of the more distant excursions. Besides those I have recorded, there was Dr. Down's garden party at Hampton, another at the Children's Hospital, and a third at St. Thomas's Hospital, on the same day, thus dividing the mass of visitors. Then, in the evening a ladies' party in Regent Street Gallery, a reception at Hyde Park, a smoking conversazione at the Clinical Museum, and another by the Masonic Brotherhood at Portman Rooms. The same evening (Thursday), the annual dinner was celebrated in the usual way, when foreign guests were numerous, and complaints about the dinner general. Saturday was the chief excursion day. One party went to Claybury and Epping Forest, and had luncheon as guests of the County Council in their asylum; another were entertained, at Hazlemere, by Mr. Hutchinson; another by Mr. Smith, M.P., at Marlow. Excursions were also arranged to Oxford, Reading, Silchester, Windsor Castle, and Hampton Court. Other contingents went to Hastings and Eastbourne, and it is reported that the last town is desirous that the Association should meet there next year. It would be a popular place. Some places have felt diffident about coming immediately after the great metropolis, and perhaps it would only be fair to select a rather more distant place, and one which would not pretend to vie with the great city, but would give us a a pleasant country outing. But much must depend on the invitations that may be given.

Those of us who accepted Dr. Tuke's invitation (on Wednesday) had a very enjoyable afternoon in the grounds surrounding the beautiful Florentine villa, built by the first Earl of Burlington, and owned now by the Duke of Devonshire. The splendid old cedars of Lebanon forming the avenue, and other beautiful trees, the old-fashioned Italian garden, with its busts and pedestals, and the charming vistas among the trees, make the space of about forty acres perhaps the most beautiful in the neighborhood of London. Nor must I omit the yew hedges of great size and age which one visitor called *yew nique*, and I did not pinch him for his pun! The weather was lovely and the genial hostess and host could not but be gratified with the delight of the brilliant company that had assembled on their invitation.

The Gynecological Society gave a dinner, and the Brussels graduates met to discuss their grievance over the dinner-table. The museum served as a rendezvous, and many pleasant greetings might be there overheard or taken part in. Naturally the venders of all the wares that doctors need were in full force. The manufacturers could not omit so excellent a chance of advertising their productions. The journals, under the guise of reports, give amazing testimonials to these traders. I do not propose to follow the example, but merely say that as a whole the museum was a pleasant lounge, and gave the opportunity of seeing a number of useful articles—both new and old—and comparing them. Further information is to be found in the catalogue and the journal, and will be forwarded by most of the dealers on application. I have always felt an attraction toward the annual museum. I wonder whether it is from a desire to examine and compare the articles on show, or whether it is because the exhibition itself is a sort of microcosm of "this great Association," as the clique continually mouth it. On the one hand, the articles exhibited proclaim their uses and advertise their producers. On the other, the living, breathing, talking members are on show, and together form one gigantic advertisement. And all the year round the official organ of the Association declaims from week to week on the iniquity of puffing, and is itself a standing example of that same wickedness, and its editor about as inconsistent as the medical defender of vaccination, who lowered his flag to the faddists when appealing to them as a candidate.

THE ETHICS OF CRANIOTOMY.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: I have been somewhat interested in the discussion, "The Catholic Church and Obstetric Science," which has been going forward in the pages of the MEDICAL RECORD for some time past. I must say, however, that a good deal of the interest that would otherwise attach to a consideration of the general question of the lawfulness of homicide has been detracted from by the fact that the discussion referred to has been confined merely to whether or not the Catholic Church allows the practice of craniotomy.

To an overwhelming majority of your readers the Catholic Church does not, nor does any church for that matter, speak with authority. I cannot, therefore, think it otherwise than fruitless, not to say irrelevant, that the discussion should be continued within the hitherto narrow limits, especially since such an eminent authority as Father Sabetti has said the last word in behalf of the church.

Human life has always been held in the most sacred estimation among civilized nations, hence the reason for the absorbing interest always manifested by thinking people in all questions relating to the justification of homicide.

True as this observation is, it is no less strange that the members of the medical profession, of all persons the most concerned, and who on occasion are called on to exercise the power of life and death, have always displayed a disposition to shirk the ethics of this subject altogether, or when compelled to notice it, to do so in a lame and hesitating manner.

Truly may it be said that the position of the physician is a strangely unique one, unique in a manner that applies to no other class or calling. No nobler avocation indeed is there than his, and yet none so paradoxical.

On the one hand, it is of the function of his glorious calling to bestow the blessings of health, ay, to restore, in a sense, the very life to poor suffering human beings; while, on the other hand, he is expected, even commanded under pain of reprobation, deliberately to destroy that which it is his greatest privilege and prerogative to save.

The hangman and headsman, it would seem, belong to a rational order of things, for they are but agents of the State, which has legitimate power over life and death. They are free of responsibilty in the premises, and their victims are criminals who justly deserve

death; while the physician combines in himself the offices of judge, jury, and executioner in the case of the innocent and defenceless. Here, indeed, we have the very hyperbole of paradox.

Deprecating as I do the treatment of this question from the point of view of any particular creed, since no creed admittedly speaks with authority to the medical profession, it is with considerable satisfaction that I welcome the article of Dr. William A. Galloway, "Craniotomy and the Law," which appeared in your issue of July 27th.

What commends his article specially to me is that it aims to treat this grave question in a secular, as distinguished from a sectarian, manner. There ought, therefore, to be no place for the introduction of such digressing issues as the odium *anti-theologicum*, or of special pleading, in the interest of any particular religious system.

Dr. Galloway bases his argument for the lawfulness of craniotomy in the teachings of common law, contending, at least implicitly, that it is unnecessary to seek farther the desired justification. However, the basis of common law, though broad, is certainly not broad enough for the consideration of such a question as the present one. His coolness rises to sublime heights, in thus assuming infallibility for common law, ignoring the very important fact that behind it there is another and higher law, whose imperative, to everyone with a conscience, is ultimate. It evidently never occurs to him that some time could be profitably spent in research, with the view to discovering how often common-law maxims seen to be at variance with the principles of morality, have been abrogated by statutory enactment.

Now, the maxims of common law relating to craniotomy, the statutes in conformity therewith, as well as Dr. Galloway's arguments (some of them at least), rest on a basis of pure unmitigated expediency, and this is certainly in direct contravention of the teachings of all schools of moral science, even the utilitarian.

To show this, I quote some passages from his article: "It" (the Ohio statute) "provides that craniotomy may be done to save the life of the mother; hence when the question is between an unborn infant's life and that of the mother, the mother's is to be preferred." Why the mother's is to be preferred, he tells us further on, where he says: "The duty he" (the physician) "owes to society at large in saving the *mature* and *useful* life of the mother as against the life of the child, which in its *useful* relations to the social body is yet *immature*" (the italics are mine), "is above and beyond adverse legislation."

In order to strengthen his position by showing that the case of the fœtus in utero, in this emergency, does not stand alone, but is one among many in the different contingencies of life, he introduces what he thinks is an analogous case. He says: "Upon the authority of Lord Bacon it has always been held in law and fact, when two shipwrecked persons get on the same plank, and one of them finding it unable to save them, thrusts the other from it, whereby he is drowned, it is justifiable homicide." That the governing principle here is not utility, and that the analogy is a false one, will be shown further on.

But why, some may ask, is not utility a sufficient justification? That it is not only not sufficient, but in no sense a justification at all, can best be shown by stating a case of mother and fœtus, essentially like the above, but with the normal attribute of the two reversed. Let us suppose the case of a mother who, instead of a blessing, has been a scourge to society, and that an individual, it might be the father, and he a great and good ruler without an heir, stands pledged to insure the future usefulness of the child to society. Will any one outside a lunatic asylum justify in this case the deliberate and direct killing of the mother to save the child? And yet if utility be a just reason, why should it not be done? Why should the mother receive any consideration whatever?

With regard to the precept against taking human life in its general meaning, there is no difference of opinion between Dr. Galloway and myself.

What I object to, however, is that the tone of his language in describing the exceptions to it bears the implication that not to moral, but to human, law are to be traced the ultimate sanctions for conduct in the circumstances under consideration. The exceptions he cites are reasonable and just, and in strict accord with sound morality. He gives five of these, four of which in their last analysis are reducible to one—self-defence. The fourth, which he calls superior duty, is not relevant here and need not therefore be considered.

Here Dr. Galloway, in addition to utility, puts forward self-defence as a justification, and in this I am at one with him. He falls into grave error, however, in his application of this principle when he considers the fœtus the aggressor. That the mother and not the fœtus is the aggressor, I think can be plainly shown.

Let us see. The child's presence in utero is due to no act of its own, but to the conscious and deliberate act of the father and mother. Again, the assault begins, continues, and ends in the tissues of the mother. There is no controverting the fact that the acts of the mother, from the first of copulation, which is voluntary, to the last of parturition, which is consequentially so, are positive and active, while those of the child are merely passive. This being so, how, by any distortion of thought or language, can the child be considered in that condition of activity connoted by the word aggressor? The fœtus has a right to its life as against the mother, not on any mere grounds of shifting expediency, but according to right, reason, and morals, and deliberately and directly to deprive it of that life is an unjustifiable act in no way distinguishable from a like act in the case of an adult and called by a name that "hath not a pleasant sound i' the ear."

At this point I will make good the assertion that the analogy between the obstetric case and that of the shipwrecked persons is a false one. Before doing so, however, I will state that even if the analogy were true it is by no means on the principle of utility that he who kills the other is warranted in doing so. His right is based on the law older than the churches and than all human enactments, yes, even older than Moses and the Decalogue, that is, the law of self-preservation. For it is evident that if utility is here the determining element the same practice should hold as in the obstetric case.

Suppose, for instance, that of the two persons on the plank, one was known to be a highly useful member of society and the other a degraded criminal, why should not the latter be held culpable if he succeed in killing the former? It is only necessary to state the case to lay bare its absurdity.

The attempt to establish an analogy between this case and the obstetric one is unfortunate in this, that in the latter there is an unjust aggressor—the mother—while in the former there exists the strange but nevertheless real condition of two persons, each of whom is both an aggressor (though not an unjust one) and an aggressed, and justification is with him that succeeds.

I stated above that even the utilitarian school of moral science would not justify the taking of human life for merely expedient reasons, and this assertion perhaps needs some explanation and amplification. According to this school utility is only made use of to furnish reasonable sanctions for ultimate moral laws, and is in no way to be applied in particular and concrete cases. The case of the shipwrecked illustrates this most admirably. The teachings of this school would never countenance the rule that the less must give way to more worthy. If, on the other hand, he turn to that other great school of ethics, known as the traditional or intentive, the advocate of craniotomy will find less consolation and encouragement.

Thus I affirm, it is plainly seen that there is no system of moral science whose teachings can be appealed to in support of Dr. Galloway's contentions. There is nothing, then, for him to do but either to accept the behests of the moral law as we now understand them or to found a new school. To do this latter, however, he must discover some principle or principles of ethics that have hitherto eluded the profound thinkers of the past, for most surely the principles he advances, if pushed to their legitimate logical consequences, will lead to moral chaos.

THOMAS J. KEARNEY, M.D.

NEW YORK, August 6, 1895.

BLOOD CHANGES IN NEURASTHENIA.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In the issue of July 27th you refer disparagingly to my remarks, made several months ago before the St. Louis Medical Society, about certain blood changes which I discovered in typical cases of neurasthenia. You have no very exalted opinion of blood examinations in general, and consider them unreliable. Permit me to say, that I fully concur with you so far as the distrust of new discoveries or alleged discoveries about the physiology and anatomy of the blood is concerned. There is no field in the medical sciences that is less cultivated than hæmatology. The superstitions which have from time immemorial supplanted exact knowledge about the morphologic constituents of the blood, still flourish with unabated vigor. The anomalous appearances of the red blood-corpuscles and their deviation from the typical cells, the want of information about the character and prevenience of the uncolored corpuscular elements of the blood—all these defects of our knowledge, and many more, too numerous to mention—have given rise to a flood of hypotheses and fantastic theories, which, by the majority of the medical profession, are believed as if they were proven facts. Thus the prevailing teachings concerning coagulation and thrombus-formation are predicated at all the medical schools as solid facts. In reality they are fundamentally erroneous, as I shall try to demonstrate in a future publication. On this occasion I shall also show what undreamt of morphologic characters of the blood-elements may be brought out by improved staining methods. Permit me to cite as one of the results of these methods, already published by me, the infallible anilin color-reaction of diabetic blood. By this method it is possible to pick out a diabetic with absolute certainty from any number of healthy persons, or such as suffer from diseases other than diabetes or glycosuria.

An extensive article entitled "On the Blood Changes in Neurasthenia, together with some remarks on the Anatomy of the Blood," will soon appear in the *American Journal of the Medical Sciences*. I think that the illustrations accompanying this article will throw some light on a hitherto unexplored and dark subject.

Finally, permit me to state that I consider the belief which, with most medical men, amounts almost to an axiom, that the bromides act as destroyers of the red blood-corpuscles, is one of the superstitions previously referred to. The deleterious action of these drugs on the blood has never been demonstrated by experiment. That excessive or long-continued dosing with bromides will produce cachexia and anæmia (so-called) is a well-known fact. But this is also true of other drugs, when continued too long or administered in excessive doses. Thus, phosphorus, arsenic, and even iron will have this effect if improperly given. Besides, I have not said that the bromides were *the* remedy for neurasthenia; in the course of my cursory remarks before the Society I only incidentally mentioned the fact that the platelets, which previously to the administration of sleep- and rest-producing doses of bromides had been very numerous, were reduced in number to physiologic quantities. I consider the bromides as *one* of the remedies in *some* of the cases of neurasthenia. This can be proven by the examination of the blood made before and after the administration of the drug. I positively know, that the platelets in these cases diminish in numbers, *i.e.*, that the excessive decay of the red blood-corpuscles is arrested.

Respectfully,
LUDWIG BREMER, M.D.

ST. LOUIS, MO.

STERILIZED MILK AND FREE LUNCH.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: This is the microbian era, in which most of our fleshly ills are causatively referred to specific bacteria, and consequently our faculties are more than ever observant of septic possibilities, not only within the clinical domain, but also in the ordinary careless habits of humanity. The presence of two physicians as public and unthinking participators in the unsanitary practices of the rabble, is the inspiring motive for the succeeding remarks. One of our guild held his position one sweltering day, in a line of drinkers leading to a sterilized milk station, and the other doctor regaled himself at the free-lunch counter of a public house.

The disgusting certainties imparted to this brand of milk by reason of slovenly handling in the outfits generously provided by Mr. Strauss, of New York City, will claim the first word, after which will be noted the potency for evil presiding over the free-lunch board, so temptingly displayed to the patron of the saloon.

With the philanthropic intention of lessening the death-rate among the children of the poor, due to the use of polluted milk, and with the further purpose of furnishing a healthy thirst assuager to the public, Mr. Strauss is maintaining booths or depots for the distribution of sterilized milk, at or below cost, to all comers. While there is no denying the good thereby done to the metropolitan infants when the sterilized article is conveyed home in clean, closed vessels, there is, on the other hand, not a particle of extra safety in the identical commodity sold by the glass at the same stations.

People of every condition apply at these depots, from well-attired, cleanly folk, down through every degree of descent to unwashed vagrants, all enjoyably disposing of the supposed hygienic beverage, while the fastidious spectator dubiously observes the untidy method of dispensing. As each customer drinks his allowance, the attendant receives the emptied drinking-vessel, dips it into a tub of water, agitates it therein a few times, and places it upon the shelf to drain, there to await the salute of after-coming lips. The first glass of milk might be regarded as sterile, but such a claim could not be conceded to those following. Each succeeding glass that is immersed in the rinsing fluid, adds its portion of milk dregs together with whatever contamination has been bequeathed by the hand and mouth of the consumer. It requires but a momentary consideration to demonstrate upon what a frail reed of safety those thirsty throngs rely as they eagerly jostle for the coveted draught, befouled with vileness from the unbrushed teeth of the negligent, the filthy mustache of the rhinitic, and the lip of the syphilitic. The refined nature of a cleanly person revolts at the menu of human dirtiness thus partaken by an uncritical contingent of his fellows, beguiled into a sense of comfortable security by the claim of sterility, a pretension that would be fairly incontestable if running-water cleansing were provided.

To those whose tastes seek gratification in the saloon, there is an equally great risk resident in the gratuitous provender awaiting the attention of every visitor. The alluring picture of snowy table-cloth, gleaming glass-

ware, rich china, and varied viands, which assails the senses and magnetically draws its ever-present group of nibblers, is, despite its charming setting, a veritable "whited sepulchre." Cheese of every age, tint, odor, and grade of viability handled by every guest; pickled oysters speared with a fork that finds its way into the mouth of every user, or, often more primitively fished out by unspeakable fingers; dishes of salt into which the pungent radish is dipped between the bites that precede its final mastication; platters of meat wherein the slices are sorted over by the uncertain hands of *bon vivants;* salads in every variety of conglomeration, appropriated in all the conceivable methods naturally befitting the breeding of the luncher; the dangling towel bearing the imprint of soiled fingers, and serving as a universal napkin; and every other ingredient of the publican's bill of fare receives its quota of infection from the touch of unkempt, tipsy, and diseased patrons. Culture have been made from material derived from the sterilized milk depot and the free-lunch counter, and an inspection of the abounding malignant organisms thus generated would considerably surprise the uninitiated, as he recognized the familiar bacteria of the graver forms of disease.

In office, workshop, bedside, public conveyance, and in every attitude of life, all are exposed in manifold ways, and the danger, though appreciated or not, is in the nature of things unavoidable, unless we isolate ourselves from social, business, and charitable relationship with mankind. In the case of those ills which might be escaped, the physician should ever remember that "example is better than precept" in the estimation of the world, which is not slow to discern a disregard for professional proprieties.

SAMUEL J. JOHNSON, M.D.

MOUNT VERNON, N. Y.

A SHORTER SCALE FOR THE THERMOMETER.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Much thought and scheming has been expended upon the method of arranging thermometers in cases for the convenience of carrying and handling, and the avoidance of loss and breakage. Various changes, also, have been made in the shape of the column to lessen the difficulty of rapidly reading the scale; an opaque background has been put to a clear cylinder, and possibly the most noticeable improvement is the magnifying thermometer.

But why is the thermometer encumbered by so large a range of degrees? The thermometer now in my possession, purchased recently and one of the standard makes, is marked from 95° to 115° F. Some of the thermometers register only to 110° F.; the latter gives a range of 15°, and the former 20° F. Is the downward reading to 95° F. ever needed? and how very rarely has a physician occasion to use the scale above 107° F. It is likely that the majority of general practitioners never are brought to the trying ordeal of watching or combating a temperature rising above 107° F.

Supposing this to be the case, start the scale at 98° F., and stop at 107° F., and there are only nine degrees to be recorded on the thermometer, commencing at nearly a degree below normal, and including the point of high degree, rarely exceeded. Such a scale, then, would satisfy the demands of all ordinary cases of the busy practitioner; would permit of the degree spaces being much larger than now made; would materially simplify the reading of the temperature, which needs often to be done hurriedly, and in the sick-room, where the light is insufficient for easily seeing the small markings; and would especially allow of the divisions of the degrees to be made more distinct and thereby facilitate the correct reading of the fractional parts of the degrees, and afford the opportunity of a far more accurate record of the variations of the temperature.

Further, if the scale included only 9° F., and the degree spaces were of the same size as now ordinarily made, it would permit of a shorter thermometer that might be desirable to many. It might be short enough to be worn as a charm on a watch chain, or carried in the vest pocket as a penknife.

The thermometer, with the degrees thus limited and enlarged, would serve the doctor or the nurse in almost all cases, and with an easier reading. If deemed necessary, a thermometer indicating from 95° to 110° F., could be kept for the rare cases requiring such a range.

A leading manufacturer informs me that such a thermometer, with the degree spaces of any size desired, can be made with accuracy, and be much more easily read, as well as give more definiteness to the fractional parts of the degrees

ELMAR C. FAHRNEY, M.D.

HARRISBURG, PA.

THE CAUSE OF FLATULENCE.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In the MEDICAL RECORD of August 10th, considerable editorial space is devoted to an article on Flatulence, by Dr. Stephen McKenzie. It is stated that the gist of Dr. McKenzie's paper, as regards the etiology of flatulence, is, that "the walls of the stomach being weak and flabby and lacking in tone, suddenly dilate, and the volume of gas, which was before somewhat compressed, expands and fills out the enlarged viscus. Dr. McKenzie states that the gas does not increase in quantity in the stomach, but only in volume."

The above statement seems to be incompatible with certain well-known physical laws, as well as with known vital principles:

First, his theory supposes a certain considerable amount of gas constantly present in the stomach; granting this, what must be the condition of this gas as regards its elastic tension? Either the gas must be compressed during all the period of time when flatulence is absent, and this compression must be maintained by a tonic contraction of the stomach walls, or else the gas must be subject to the normal or existing atmospheric pressure, in which latter event relaxation of the muscular walls could not affect its volume. To make our meaning plain, suppose a rubber bag of a capacity of one gallon, have two quarts of gas put into it and then be closed; the bag would be perfectly relaxed, and yet the volume of gas would remain two quarts unless the temperature were changed or the outside pressure altered. If the bag were placed under the receiver of an air-pump and the air exhausted, then the elastic tension of the enclosed gas would come into play and the bag might be filled or distended. Now, what must be the conditions surrounding the stomach? must not its walls be constantly subject to the surrounding atmospheric pressure from without? Suppose there be a change in the contents of the abdominal cavity, would not this be instantly compensated for by the atmospheric pressure from without? Can we conceive of a partial vacuum in the cavity when it is enclosed by soft parts in contact with the air? or can we conceive of a gaseous distention of the stomach, except the gas be generated within and finding no escape, distends the organ, and with it also the abdominal walls?

Under the assumption of Dr. McKenzie, the volume of gas constantly in the stomach must, as we have shown, be materially compressed, otherwise it could not expand. This compression must be maintained by the active contraction of the stomach walls. Is it conceivable that a weak and flabby stomach could resist any material pressure for hours at a time? is not such an assumption at variance with all known laws of muscu-

lar contractility, and must not Dr. McKenzie seek for some other explanation than an expansion of volume? Would it not be more rational to assume that a weak and dilated stomach, being unable to completely expel its contents, has constantly in it a residuum of fermentative material, twenty-four to forty-eight hours old if need be, and which, under favorable conditions, suddenly splits up, evolving rapidly large amounts of gas?

LOUIS H. JONES, M.D.,
Professor of Chemistry, Atlanta Medical College.

New Instruments.

AN EASY AND READY METHOD OF CIRCUMCISION.

BY JOHN W. ROSS, SURGEON, U. S. NAVY (RETIRED),
PROFESSOR OF OBSTETRICS AND CLINICAL SURGERY, SEWANEE MEDICAL COLLEGE.

RETRACT the foreskin; insert the glans penis up to the corona into the open mouth of a glass tube; draw the foreskin well forward over the end of the tube; tie a strong, small silk cord very tightly around the foreskin immediately in front of the flange of the tube; amputate the foreskin one-eighth of an inch in front of the constricting cord by a circular sweep of the knife; unite the mucous and cutaneous edges of the stump of the prepuce by eight or ten fine interrupted sutures; cut the constricting cord; remove the tube; cover the cut edges well with powdered iodoform; encircle the anterior half of the penis with a roller bandage of iodoform gauze, allowing the meatus to project slightly for facility of urination without soiling or removal of the dressing; and keep the patient in bed, with the penis elevated, for from twenty-four to forty-eight hours.

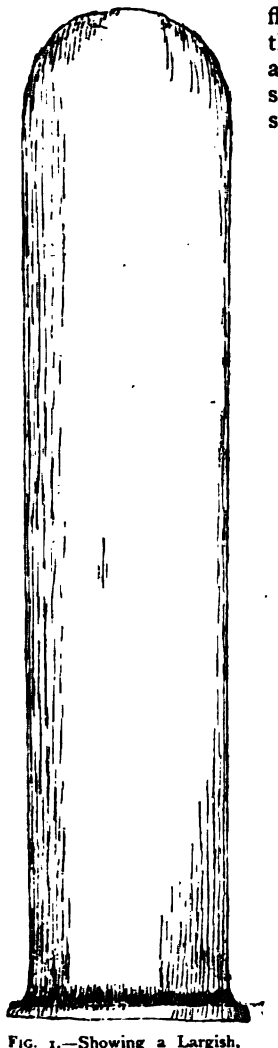

FIG. 1.—Showing a Largish, Strong Test-tube with which several adult circumcisions have been done.

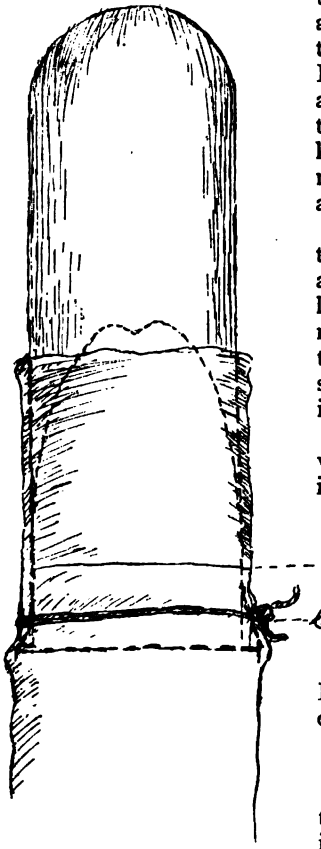

FIG. 2.—Showing Semi-diagrammatically the Tube *in situ* between the Superjacent Prepuce and the Subjacent Glans Penis, and demonstrating the more Distinctive Features of the Operation.

In cases of phimosis the prepuce should be divided dorsally sufficiently to allow its easy retraction over the corona. The fact that the longitudinal cut edges will not coapt along the tube is of little or no importance. The slit foreskin should be spread around the tube as accurately as practicable, and the operation proceeded with as usual. If deemed advisable, the little notch in the prepuce just above the cord may be closed with a suture or two, involving only the integument.

I have generally used test-tubes, as they are almost invariably at hand, of sizes suitable for infants or adults. But pretty much anything of the kind will do, such as urinometer-tubes, slender, large-mouthed bottles (neckless ones preferably), which are to be found in all drug-stores. For adults, the tube should be strong enough not to be easily crushed, and its mouth should be surmounted by a rather abrupt rim, free from cutting edges. Should the flange not be high enough, or rounded enough, it may easily be made so by winding a strong wax thread tightly around and around, behind and against it. I have made an excellent apparatus by thus wrapping with a thread the open end of a flangeless urinometer-tube until a suitable ridge was built up. The lumen should correspond with the diameter of the glans about one-eighth of an inch anterior to the corona. It has been found better not to remove more of the foreskin than can be with moderate force drawn in front of the flange at that point.

The constricting cord should be about the size of the ordinary silver probe of the pocket cases. In adults it should be drawn very tightly indeed around the prepuce, compressing this strongly against the tube. I draw it almost as tightly as I can with the fingers, and have never known it to do the slightest harm to the tissues. When this has been done, I have never known the skin to slip from under the cord, and have never been troubled with hemorrhage, either during or after the operation.

It is generally better to give ether to children, and to inject cocaine in front of the constricting cord in adults. The advantages of this method are its bloodlessness, its simplicity of technique, and the fact that no special instrument or apparatus is required, everything necessary for its performance upon the largest or smallest penis being found in the physician's house or in the average drug-store.

The above-described method of circumcision is virtually the same in principle as that detailed by me in the MEDICAL RECORD of September 26, 1885, a ring of hard rubber being used in that operation instead of the tube. It proved difficult to keep the ring in position under the foreskin. The tube, however, projecting as it does beyond the foreskin, is under complete control.

The earlier operation and "Ross's Circumcision Ring" are described and figured in the second edition of Stephen Smith's "Operative Surgery," page 712.

Intestinal Anastomosis.—There are three chief points to be considered in effecting an astomosis, or in suturing a wound of intestine: 1. That adequately broad and sufficiently wide surfaces of healthy intestine should be in contact. 2. That though it is advisable to exclude the mucous membrane from the stitches, the fibres of the submucous coat must always be included. 3. That the operation should be performed as rapidly as possible.—BIDWELL.

Erysipelas.—

℞. Ammon. sulpho-ichthyol,
Spt. æther.. ..... ss 1 part
Collodi. elastici ..... 2 parts.
M.

—ZELEWSKY.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending August 24, 1895.

	Cases.	Deaths.
Tuberculosis	161	118
Typhoid fever	28	14
Scarlet fever	28	4
Cerebro-spinal meningitis	0	2
Measles	123	16
Diphtheria	127	27

Duplex Personality.—Dr. R. Osgood Mason, in a recent paper on "Duplex Personality. Its Relations to Hypnotism and also to Lucidity," makes the following points: First, that there are now on record many well-authenticated cases where, from a condition of syncope brought about by pain, weakness, or long-continued illness, from epileptiform attacks, loss of consciousness from shock or other physical causes, patients have emerged into an entirely new and unusual condition. In this new condition the individual thinks, speaks, and acts in a manner entirely different from the usual or primary personality. Even physical conditions are changed. In one case, from a condition of wretched bodily health accompanied by epileptiform attacks, indolence, and melancholia, the patient emerged into a state of excellent health accompanied by industry and cheerfulness, and without a trace of epilepsy, hysteria, or melancholia; in fact it was an entirely new and different consciousness and personality. During this second condition the primary consciousness is entirely blotted out, and the time so occupied is a blank. The second consciousness or personality, on the other hand, knows of the primary self, but only as another and distinct person, having no special relations to itself, and with whom it does not wish to be confounded. It has opinions, sentiments, memories, a personal history, in fact a character altogether independent and often entirely different from the primary self, but sane, consistent with itself, and in harmony with its surroundings. This second personality may continue for a few minutes or hours, and may alternate frequently with the primary self, or it may remain months and even years at a time, and so become the dominant personality, alternating only seldom with the primary self. In either case all the occasions when this second self is present are linked together in one distinct chain of memories, forming a personality just as consciously distinct as the primary self. On close examination and comparison it is found that this second personality presents very marked analogies to the condition of somnambulism in ordinary sleep. Again, it is found to be identical with the condition of somnambulism which occurs in the hypnotic state, and in some instances, as that of Ansel Bourn, the second personality has repeatedly been brought into activity by hypnotism.

Here, then, are three distinct conditions in which a second consciousness or personality is brought to the surface and becomes the ruling personality to the exclusion of the primary self, namely, loss of consciousness from disease, shock, or other physical causes, ordinary sleep, and the hypnotic trance. Examining closely the personalities apparent in these conditions, and especially in the condition of ordinary somnambulism and that of the hypnotic trance, we find certain supra-normal faculties present in these new or second personalities not present in the normal or primary personality, especially the faculty of supra-normal vision. This alleged fact is not generally accepted, because from the stand-point of the ordinary laws of optics acting upon physical organs, such vision is of course impossible. But within the past ten years the subject has been systematically studied as never before, and the evidence of such vision is simply overwhelming. But it is the subliminal self, and not the primary self, which possesses this power. This supra-normal vision is also sometimes exercised in dreams and in reverie.

The following conclusions are drawn: 1. That there does exist in some persons, probably in all, a subliminal self or second personality, whose action is not strictly limited by the physical body, and which possesses perceptive powers far exceeding those of the primary self. 2. That lucidity or clairvoyance is an attribute of the subliminal self, and in that view is perfectly reasonable and is a proper subject of investigation by scientific methods. 3. That hypnotism is a means of experimentally bringing this subliminal self with its added perceptive powers into action.

Intestinal Resection.—The cicatrix does not contract. In intestinal obstruction, resection with end-to-end union gives better results than lateral approximation, and should always be performed when practicable. The same operation should always be done in gangrenous hernia. In fecal fistula the bowel should be resected and united end to end. Patients should receive liquid nourishment as soon as the effect of the anæsthetic passes off. The bowels should be made to move as soon as possible after the operation, and frequent evacuations kept up. If the button does not pass in three or four weeks, the rectum should be examined, as it may rest just inside the sphincter. There has been one case reported of occlusion of the button by fecal impaction in the cylinder. This can be easily avoided by cathartics immediately after the operation. When returning to the abdomen, the intestines should be placed in parallel lines, especially at the seat of approximation, to prevent sharp curves and obstructions. There is no danger of obstruction from the button, as not a single case has been reported. There is no danger of extension of pressure atrophy beyond the line of pressure. Primary adhesions may be hastened in malignant cases by abrading the peritoneum with a needle. In ordinary cases this is unnecessary. A supporting suture is never necessary to secure union, and should only be used to relieve tension when the viscera approximated are forced out of position. The mucous membrane should be pushed down in the cup of the button before closing it; if redundant, it should be trimmed off with scissors. It should never be allowed to protrude between the edges of the button when the button is closed.—Murphy.

Lacerated Cervix.—1. That suturing the lacerated cervix properly, immediately after the labor, will result in primary union of the same and prevent many of the evils that follow in the wake of a union by second intention. 2. That the fear of septicæmia attending the manipulation of the cervix, and the introduction of poisons, which will induce septicæmia at the same time, is an unfounded one, and would be dissipated by giving such work a proper test. 3. That it is a method of procedure more justifiable than an immediate repair of the perineum, which the profession of to-day universally advocates. 4. That the securing of primary restoration of the laceration hastens involution, prevents subinvolution, and the various forms of displacement which are induced by it in such an overweighted organ. 5. That catgut is the proper suture, and perfectly safe and reliable when carefully prepared.—Dudley.

Hypertrophied Tonsil.—The action of the tensor and levator palati muscles, which largely control the air supply of the middle ear, is interfered with by the pressure of hypertrophied tonsils, thus causing impairment of hearing.

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Original Articles.

PRACTICAL URETHROSCOPY.

By H. R. WOSSIDLO, M.D.,

BERLIN, GERMANY.

THE diagnosis of urethral diseases, strangely enough, still maintains a peculiar and distinct position in medical science. While in all the other specialties inspection of the organs is carried as far as possible, there are even now genito-urinary specialists who consider urethroscopy unnecessary. Those who do not confess it openly prove it by not using the urethroscope.

Would it not be most grave dereliction to neglect the laryngoscope in a throat affection, or to attempt to treat an aural disease without the otoscope?

It is an equally self-evident proposition that we cannot diagnose urethral affections without ocular exploration. Naturally this is inhibited in acute urethritis, for the irritation which the endoscope would then produce would violate one of the most fundamental surgical principles.

The diagnosis of chronic gonorrhœa is generally based upon the following symptoms: Occasional or constant appearance of a small quantity of mucopurulent or mucous discharge, especially in the morning; filaments in the urine, and principally on the presence of gonococci in the secretion or in the filaments.

Microscopical examination of the discharge for gonococci, leucocytes, etc., is, beyond cavil, an effective means of diagnosis, and is requisite in every case of chronic gonorrhœa. The discovery of gonococci in the discharge or in the filaments is conclusive for the existence of gonorrhœa and for its infectious nature. But it is generally acknowledged that the presence of gonococci in the secretion is not constant. The filaments or the discharge may be examined for weeks or months without finding gonococci. If the patient be then dismissed as cured, a most painful surprise may follow by a gynecologist finding gonorrhœal infection of the patient's wife, who had been in perfect health until her husband was permitted to resume sexual relations with her.

The appearance of filaments in the urine warrants the conclusion that desquamation and inflammatory exudation is still taking place; but their presence does not prove that the discharge is still infectious. Neisser, of Breslau, to confirm the diagnosis, recommended artificial irritation of the urethra by injecting a solution of nitrate of silver. Very often gonococci will again be found in the muco-purulent secretion reawakened by these injections. But in many instances no gonococci will be found, despite frequently repeated irritating injections. And even then the patient may not be cured.

Men oftentimes will consult physicians on the propriety of marriage. Such a case may have had gonorrhœa some years before, and wishes to know if he may consider himself perfectly cured. On examination neither secretion nor filaments nor gonococci may be found, and still the man may not be cured, as is shown by a case narrated by Oberlaender, of Dresden.[1]

[1] Ueber die praktische Bedeutung des Gonococcus, von Dr. F. M. Oberlaender. Berliner Klinik, 1888, Heft 5.

A physician, who had his last attack of gonorrhœa six years previously, called on Oberlaender on account of a bladder weakness. He had recovered quickly and apparently entirely from his previous gonorrhœa. He had had no discharge or any other symptoms for five years. About four years before he had an attack of rheumatism, followed by almost annual recurrences. He was married about three years ago. His wife aborted in the fifth month of pregnancy; this was followed by gonorrhœal endometritis. Then the patient began to experience vesical weakness. The urethroscope revealed indisputable chronic urethritis. Appropriate treatment caused the urethritis to subside; the rheumatic attacks ceased and the bladder symptoms disappeared.

I may add here a case of my own. One of my patients consulted me not long ago regarding a peculiar twisting of the urinal stream, which he attributed to a possible stricture. Nine years before he had gonorrhœa, of which he considered himself perfectly cured, as he never had any symptoms thereof since. At the time of the consultation the possibility of a fresh infection was out of question.

Superficial examination showed no discharge, few filaments only, no gonococci; a large-sized sound passed the urethra easily. The urethroscope showed some infiltration of the urethra and several diseased glands. I succeeded in removing a little secretion from one of these glands. To our great surprise it revealed gonococci.

Such cases will occasionally occur. In view of such facts alone, even entirely by themselves, ay, without resorting to analogies of any kind, must a specialist, and especially the urologist, not be required to employ all available diagnostic means? What would be thought of a physician if he limited his examination of a case of tuberculosis to what bacteriology of the sputum revealed, without inquiring into the pathological changes of the lungs by percussion and auscultation?

If we further remember the fearful havoc gonorrhœa exerts in women as well as in men, can it be permissible to neglect even one means of confirming the diagnosis? These points alone demonstrate beyond all and any peradventure that urethroscopy is necessary for the diagnosis of chronic gonorrhœa. It is most sadly surprising that this proposition is not universally accepted, at least not in deed.

The disregard for urethroscopy may be due to defective methods for illuminating the urethral canal which have been used until now. A brief historical sketch will illustrate this:

The first attempt to inspect the urethral canal was made by Bozzini, of Frankfort, at the beginning of this century. He constructed an apparatus for examination of the "canals and cavities of the human body," a part of which was designed for urethral inspection. His invention fell into oblivion, and nothing further is recorded of attempts at urethroscopy until Segalas, in 1826, constructed a new instrument, which he called "speculum urethro-cystique." About the same time a similar apparatus was invented by an American, John Fisher, and, 1840, by an English physician, Avery. Ratier (1843) and Cazenave (1848) constructed diaphanoscopic instruments.

None of these instruments, however, came into general use, and even were soon forgotten. It was left to

Désormeaux to raise endoscopy to a scientific basis, so that he may justly be called the father of endoscopy. In 1853 he demonstrated his instrument at the Académie de Médecine de Paris; in 1865 he published his work "De l'Endoscope et ses applications au diagnostic et au traitement des affections de l'urèthre et de la vessie." Désormeaux's instrument was modified by Fürstenheim, Tarnowsky, and others. All these endoscopes proved too complicated and cumbersome, the urethral tube and the lamp being affixed in one piece. The necessity was felt to separate the light from the tube and to throw the light into the urethral canal by means of a reflector.

Grünfeld, of Vienna, was the first to make endoscopy popular with the medical profession. His book on endoscopy of the urethra and bladder is the first standard work published on this subject. He first used a petroleum lamp as the source of his light, which he threw into the urethra with the usual laryngoscopical reflector. He devised several endoscopic tubes, of various lengths, some of them open, others fenestrated in front or at the end.

Grünfeld's simple instrument underwent several modifications, of which that of Klotz, of New York, merits special mention.

The introduction of electric light for diagnostic purposes into medical practice gave birth to a number of new inventions. At present most specialists use the electric light for examining the urethra.

We may divide the various endoscopes now in use into two classes: 1, Those which throw electric light into the urethra by means of reflectors or prisms; and 2, those which directly illuminate the urethra by directly putting the light into it. Of the former, Leiter's, Lang's, Otis's, Casper's, and Antal's urethroscopes are the best known. These electro-endoscopes consist of a short tube to whose ocular end the illuminating apparatus is attached. The latter is a mignon-lamp, whose light is reflected by a mirror or prism into the urethral canal.

Direct illumination of the urethra was invented by Nitze, in 1877. It was left to Oberlaender, of Dresden, aided by this urethroscope, to teach the differentiation of anatomical changes in chronic gonorrhœa, and to make a new departure in its treatment.

Besides several articles, he published in 1888 his book, "Beiträge zur Pathologie und Therapie des chronischen Trippers," and in 1893 his "Lehrbuch der Urethroskopie," which is a standard work on this subject.

At present the value of the two methods is the subject of a controversy which has been made needlessly acrimonious, based perhaps principally upon the value of each instrument in its inventor's hands. But the conviction must remain that from discussion, however conducted, truth must eventually prevail. This is neither the time nor the place to enter into the merits of the dispute. A few simple facts, however, will be mentioned in connection with the instrument I use and intend to describe in these pages. It is the Nitze-Oberlaender urethroscope.

The endoscopic tubes are made of silver, which produces the least disturbing reflexes, is most durable and useful. The tubes we use have a calibre of 23, 25, 27, 29, 31 Fil. Charrière. Oberlaender, and Kollmann, of Leipzig, have shown the advisability of employing large-sized urethral tubes. Their use quickly convinces one that they rest quite loosely in the urethra.

The only difficulty in introducing large tubes may be experienced at the external orifice or at the valve of Guérin, which, when present, is situated at the end of the fossa navicularis. In the cavernous portion and at the bulb the urethral canal is naturally wide, and can in relatively many cases easily be passed by tubes of calibre 31 Charrière. The lining membrane of the urethra being longitudinally folded, it is desirable that these folds be smoothed out during examination. And this requires large-sized tubes. The extra-urethral rim of the tube has a spur to which the light-carrier can be affixed.

The light-carrier consists of two wires which conduct the electric current to platinum wire, the one being insulated, the other not. They rest upon a tunnelled bar, through which cold water circulates. The slender and

FIG. 1.—The Original Nitze Urethroscope.

FIG. 2.—The Nitze Leiter Urethroscope.

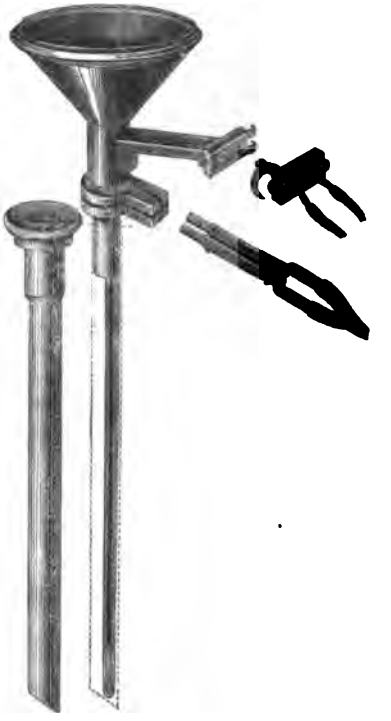

FIG. 3.—Oberlaender's Modification.

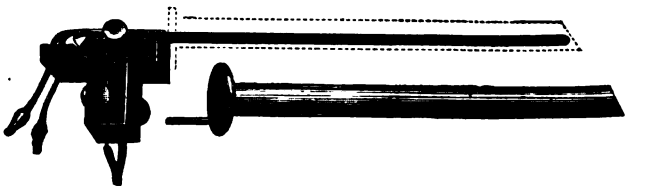

FIG. 4.—The Nitze-Oberlaender Urethroscope, modified by C. G. Heynemann.

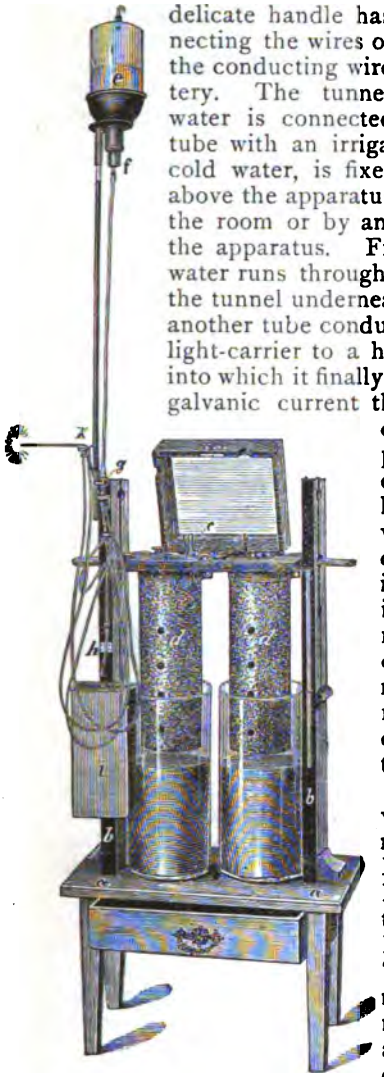

FIG. 5.—Oberlaender's Electro-urethroscopic Apparatus, Chromic Acid Battery, Cooling Device, and Urethroscope.

delicate handle has two screws for connecting the wires of the light-carrier with the conducting wires of the galvanic battery. The tunnel for the circulating water is connected by an india-rubber tube with an irrigator, which, filled with cold water, is fixed at about three feet above the apparatus, either to the wall of the room or by an iron bar rising from the apparatus. From this irrigator the water runs through the rubber tube into the tunnel underneath the platinum wire; another tube conducts the water from the light-carrier to a hard-rubber or tin box into which it finally drips. On closing the galvanic current the platinum wire becomes incandescent, producing a strong electric light. The heat of this glowing wire is cooled by the cold water circulating in the tunnels beneath it. The light-producer may either be an accumulator or a chromic-acid battery. A rheostat enables us to control the strength of the current.

Under the supervision of Dr. Kollmann, of Leipzig, Heynemann modified Nitze's original urethroscope, as shown by Figs. 1, 2, 3, 4, 5, 6, 7. These alterations have made the urethroscope more easily manageable and allow an easier employment of other instruments through it, such as probes, urethrotomes, etc.

For the easy introduction of the urethral tube it is armed with an obturator. The obturators for the anterior urethra are straight, those for the posterior urethra have a joint by which they can be made to assume the shape of the Mercier catheter (Figs. 8 and 9).

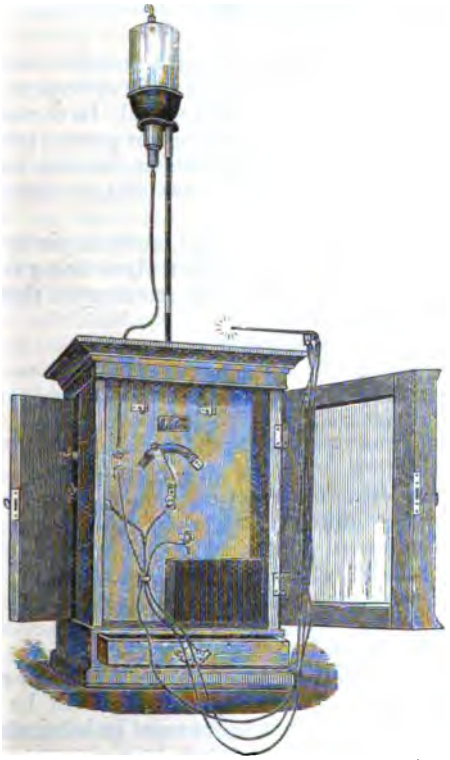

FIG. 6.—Electro-urethroscopic Apparatus with Accumulator.

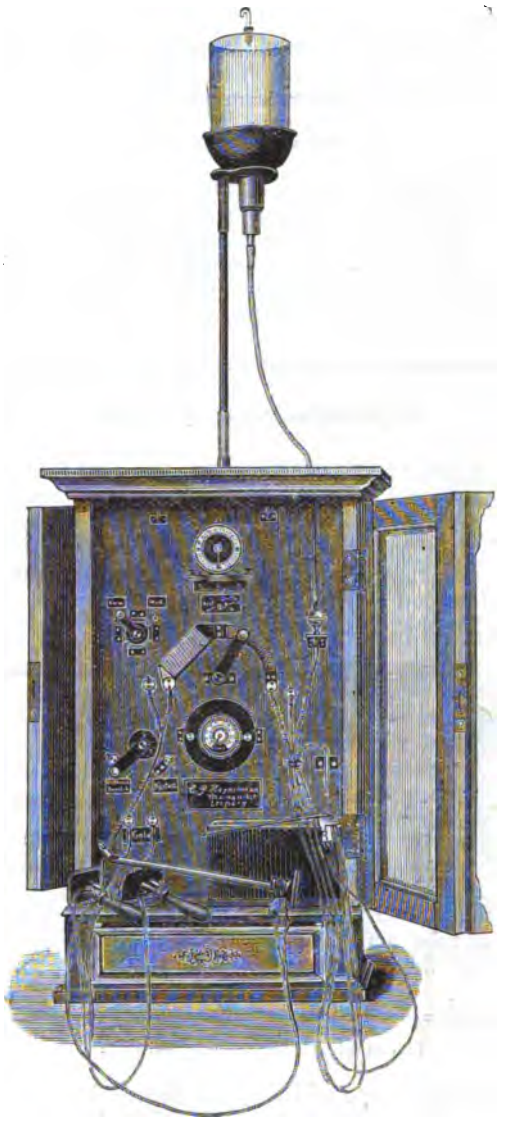

FIG. 7.—Combination Apparatus for Urethroscopy, Cystoscopy, Constant Current, and Electrolysis, constructed by C. G. Heynemann, Leipzig. One of these is in use in the Genito-urinary Department, West Side German Dispensary, New York.

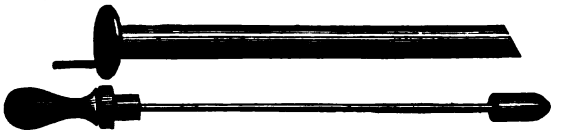

FIG. 8.—Urethral Tube and Obturator.

Oberlaender also designed a dilating tube with two blades (Fig. 10). For the purpose of probing the urethral glands an endoscopic sound is used (Fig. 11). Another instrument is a capillary aspirator for remov-

FIG. 9.—Jointed Obturator for Posterior Urethroscopy.

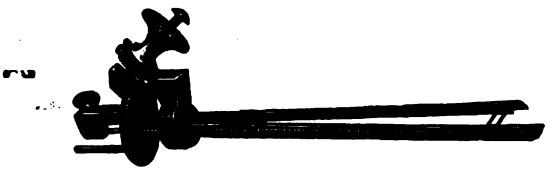

FIG. 10.—Dilating-tube with two Blades.

ing such thin liquid as may be found in the urethral canal (Fig. 12). For the purpose of removing mucus or pus from the glands a spatula has been constructed (Fig. 13).

Of the instruments used for endoscopic treatment

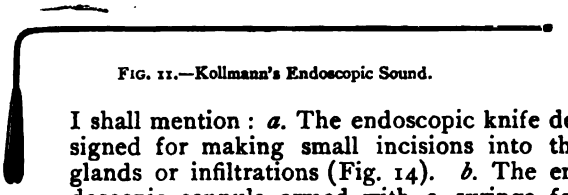

Fig. 11.—Kollmann's Endoscopic Sound.

I shall mention: *a.* The endoscopic knife designed for making small incisions into the glands or infiltrations (Fig. 14). *b.* The endoscopic cannula armed with a syringe for injections into the urethral glands or other orifices (Fig. 15). *c.* An urethral forceps for the removal of

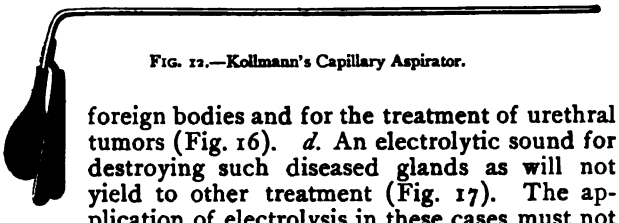

Fig. 12.—Kollmann's Capillary Aspirator.

foreign bodies and for the treatment of urethral tumors (Fig. 16). *d.* An electrolytic sound for destroying such diseased glands as will not yield to other treatment (Fig. 17). The application of electrolysis in these cases must not be confounded with the operations of Foot, of Paris, Robert Newmann, of New York, or Lang, of Vienna, for

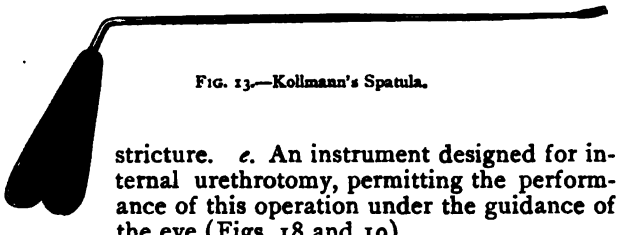

Fig. 13.—Kollmann's Spatula.

stricture. *e.* An instrument designed for internal urethrotomy, permitting the performance of this operation under the guidance of the eye (Figs. 18 and 19).

All these instruments can be used through the endoscopic tube, while the electric light enables us to supervise the field of operation.

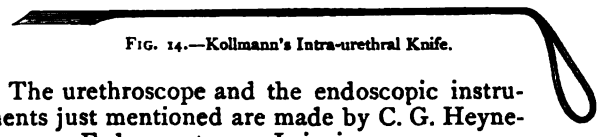

Fig. 14.—Kollmann's Intra-urethral Knife.

The urethroscope and the endoscopic instruments just mentioned are made by C. G. Heynemann, 3 Erdmannstrasse, Leipzig.

While urethroscopy is simple enough, its technique merits somewhat detailed attention. Before introduc-

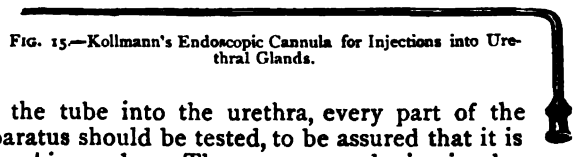

Fig. 15.—Kollmann's Endoscopic Cannula for Injections into Urethral Glands.

ing the tube into the urethra, every part of the apparatus should be tested, to be assured that it is in working order. The water must be in circulation through the soft-rubber tubes and through the light-carrier. This being the case, the rheostat must be turned on until the platinum wire becomes sufficiently incandescent to give a good white light and no further, lest the wire be burned through. Should this happen to the novice the rheostat must be turned back to reduce the galvanic current. Then pressing the two ends of the platinum wire together with a pair of forceps, they will be reunited by turning on the rheostat sufficiently, only until the platinum wire becomes of a red heat.

Thorough examination of the urethra naturally depends upon the neat adjustment of all parts of the apparatus. Of these the platinum wire, whose incandescence furnishes the light, requires that its ends, which are inserted into the light-carrier, be not loose, but rest firmly in their sockets. Should carelessness allow such a condition to prevail, the light will flicker and go out. The same disturbance can be produced by any defect in the battery or the conducting wires,

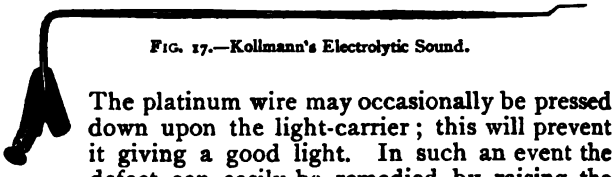

Fig. 17.—Kollmann's Electrolytic Sound.

The platinum wire may occasionally be pressed down upon the light-carrier; this will prevent it giving a good light. In such an event the defect can easily be remedied by raising the wire from contact with a bit of stiff paper drawn beneath the wire and the plate.

The whole apparatus being in perfect order and the water turned on, the patient is ordered to empty his bladder. Any urethral discharge that may be present having been washed away with a syringe, the patient is then placed on the examination chair. If the patient be very sensitive it will be advisable, before introducing

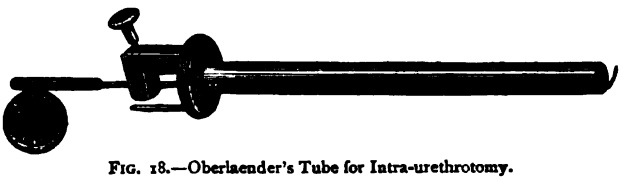

Fig. 18.—Oberlaender's Tube for Intra-urethrotomy.

the urethral tube, to inject 1 or 2 grammes of a three per cent. or five per cent. solution of cocaine. By closing the external orifice the patient retains the injected cocaine in the urethra, and by gentle rubbing spreads it over the whole urethra.

When it is intended to examine the posterior urethra it will be well to use stronger solutions of cocaine with an injector for this part, such as an Ultzmann syringe.

Although the application of cocaine to the urethra is generally borne well, it still requires care. I generally

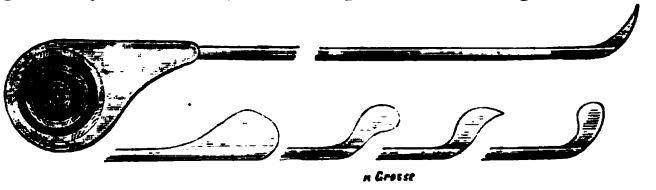

Fig. 19.—Knives for Oberlaender's Intra-urethrotomy.

use a three per cent. or five per cent. solution, and inject as little as possible. Kollmann's little syringe made for this purpose will be found very useful. In the majority of cases cocaine is not needed, but in private practice it will be better to use it, as patients appreciate the physician's skill more if an otherwise disagreeable examination be made painless.

After the urethra is cocainized, endoscopic tube No. 23 may be introduced, the larger sizes being reserved for later use. I lay particular stress upon this point,

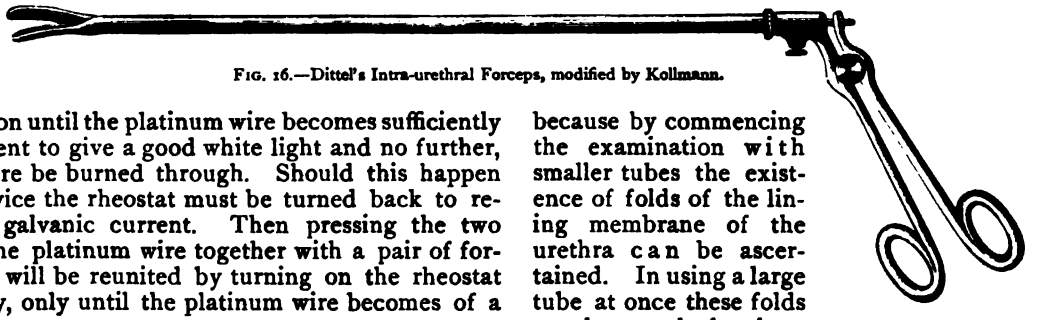

Fig. 16.—Dittel's Intra-urethral Forceps, modified by Kollmann.

because by commencing the examination with smaller tubes the existence of folds of the lining membrane of the urethra can be ascertained. In using a large tube at once these folds may be stretched and appear obliterated during the examination. An error in diagnosis may be the consequence, as will be shown later on. The endoscopic tubes must be lubricated with ten per cent. or twenty per cent. boro-glycerine before

passing them into the urethra. In case a stricture prevents the introduction of the tube, it is better to withdraw the instrument instead of forcing it through the stricture. After dilating the stricture the completion of the examination will be easy. If the meatus is too narrow for the passage or the tube, the defect may be easily corrected by some dilatation or by meatotomy, if there be reason at all to make an endoscopy.

After the endoscopic tube is introduced to the bulb, the obturator is withdrawn. All superfluous glycerine, or mucus, or blood has to be removed with cotton wool twisted round a probe or similar instrument. If this be omitted the electric light will be disturbed by steam, or the mucus or blood will obscure the view. The urethra being dried, the light-carrier is put into the tube and fixed on the spur by the screw provided for that purpose. When the mucous membrane which presents at the end of the tube has been carefully examined, the tube, with the light fixed as above described, must be slowly drawn out of the urethra, care being taken that it be kept in the urethral axis, unless a special part requires particular examination.

While at a cursory first glance the Nitze-Oberlaender apparatus may appear cumbersome and complicated, a few moments' impartial examination will show it to be exceedingly simple. The expense may, too, seem an objection, but when it is considered that 200 marks (£10—$50) will cover an outfit applicable to all purposes, and that spare-parts are very cheap and rarely required, this feature is minimized. But, beyond all, even were the apparatus and its management difficult and requisite of special skill, the clear aspect it gives of diseased regions of the urethra and the facility it offers for their direct medical and surgical treatment, would outweigh all possible objections.

One of the objections that have been made against the Nitze-Oberlaender urethroscope merits brief notice. It is that the introduction of uncovered electric light six inches into the urethra, makes the tube unbearably hot. It has been my pleasure to demonstrate the apparatus to very many medical men from all parts of the world at my Polyclinic, 4 Breitestrasse, Berlin. They have witnessed the light resting in the urethra (without cocaine) for as long as ten minutes and over, while the patient either related his history or looked on indifferently. Then, without turning off the light, I have withdrawn it from the urethra and placed the tube with the light upon the palmar surface of the wrist of the gentlemen about me, with but one result. All expressed unfeigned surprise that the tube with its contained light conveyed nothing further than the normal body temperature. But even were a material rise of temperature the result (which is not the case with the Nitze-Oberlaender), it would more than compensate the interruptions in the examination which it would exact. It must be manifest to even a moment's thought that distinctness of vision is in direct relation to illumination. The nearer the light to the object to be examined, the clearer the object must appear. The Nitze-Oberlaender urethroscope places the light at, almost into, close contact with any part of the urethra, while all other urethroscopes reflect light into the canal; the source of light then being ten, at least six, inches from the site to be examined. All other arguments against the Nitze-Oberlaender fall of their own weight, and therefore require no discussion here.

The diagnosis of pathological changes in the urethra premises a knowledge of its normal endoscopic aspect. This varies individually according to the width and length, *i.e.*, the calibre of the urethra, and according to the blood-supply of its mucous membrane. Thus a normally anæmic urethra appears pale and rosy; a slightly hyperæmic urethra looks distinctly red; while a normally hyperæmic mucous lining is of a purple color.

In considering the normal color of the mucous membrane, it must be borne in mind that it is subject to modifications by the pressure of the endoscopic tube; this artificial appearance must be distinguished from pathological changes which cause similar discoloration. The application of cocaine will also to a degree affect the color of the mucous membrane, by making it appear somewhat anæmic. It will not be found difficult to learn to exclude any errors on these scores.

In looking through the urethroscope the first thing seen is a more or less highly colored disk of mucous membrane. This, in closing in over the objective end of the tube, forms a funnel or circle of mucous membrane which presents for careful observation, 1, a rim; 2, a central figure; 3, an intervening surface. The rim or edge of the funnel generally appears more or less whitened by the pressure of the margins of the open tube.

The central figure is the lumen of the urethra. Its shape varies in the different parts of the urethra, appearing as a semilunar opening in the bulbous portion, as a dimple in the pars cavernosa, and round, or oval, or T-shaped in the glans. A number of longitudinal folds radiate from the centre of the mucous membrane; these are of great diagnostic importance. Their thickness indicates whether they are infiltrated and the degree of such infiltration. Many cases present longitudinal red stripes; they indicate a non-infiltrated mucous membrane. Normal mucous lining of the urethra shows everywhere an equally smooth and glistening surface with a net-work of small vessels.

In drawing out the endoscopic tube the openings of the urethral glands (Morgagnian crypts) present as red depressed specks or small slits of the calibre of a pin's head along the roof, the surrounding mucous membrane being normally smooth or slightly elevated. Very prominent or gaping glandular openings, surrounded by a deeply colored mucosa, indicate pathological conditions which will be considered in their proper place. The number of these crypts varies, under normal conditions, from three to eight. An accumulation of glandular openings in groups indicates pat ological changes.

Endoscopy of the posterior urethra is very rarely practised, partly because it sometimes is painful, and partly because it causes some hemorrhage. These not only interfere with the examination and are out of proportion to the benefits which could result from such examination. Still, when necessary it is easily accomplished by introducing the endoscopic tube armed with the elbowed obturator till it enters the pars membranosa. In lowering the outer end of the tube below the horizontal it is gently conducted into the bladder. Withdrawal of the obturator will naturally be accompanied by an escape of urine through the tube. After gently drawing out the tube until no more urine appears, the liquid still remaining in the tube is carefully mopped up. Then, on inserting the light the colliculus seminalis appears in the field of vision as a round, reddish, pea-sized body. In many cases the openings of the prostatic and ejaculatory ducts can be seen. The peripheral continuation of the caput gallinaginis presents as a more or less prominent ridge of mucous membrane.

In studying the anatomical changes of chronic urethritis as presented by the urethroscope, we find in all stages of the disease two pathological processes: 1, Alterations of the epithelial layer; 2, pathological changes of the urethral glands. The epithelial layer normally forms a smooth, transparent covering of the mucous membrane, having a distinct uniform lustre. This lustre will be increased if the mucosa be congested and swollen; it will be diminished when the mucous membrane is infiltrated. To avoid errors it is necessary to know that an augmented lustre of the epithelial stratum can be artificially produced by some liquid left on the mucous membrane, such as glycerine, cocaine, or mucus, or urine.

Increased lustre of the epithelial layer is found in all cases of subacute superficial urethritis. The more infiltrated the mucous membrane becomes, the more faint its lustre will certainly be; the same holds good in epithelial desquamation with or without infiltration. In some parts the epithelium may be entirely lost, leaving patches of easily bleeding granulations or small ulcerations. In the severer forms of infiltration of the mucosa, the epithelial layer not only loses its smoothness and lustre, but becomes uneven and scaly; it turns opaque and grayish as if covered by a veil. Sometimes the lining membrane is covered with snowy white adherent patches, varying in size from a pin's head to several centimetres in dimension. On account of the similarity of this condition with psoriasis mucosæ oris, Oberlaender calls it psoriasis mucosæ urethralis.

The pathological changes of the urethral glands are divided into two classes, according to their structure and situation. If glandular orifices are visible in numbers the glands manifestly are diseased. *Pari passu* with the severity of the inflammation of the whole mucous membrane, the epithelial layer is destroyed, and thus the orifices of the diseased glands exposed as little red specks mostly arranged in groups.

Oberlaender also diagnoses sub-epithelial glandular inflammation, in which cases the orifices remain invisible. The epithelial layer covering their outlets has a dull, dry, lack-lustre appearance; sometimes desquamation takes place.

The Morgagnian crypts are visible in all forms of chronic urethritis. A solitary diseased crypt very rarely appears on a rosy, otherwise normal, mucous membrane; usually several crypts are found affected at the same time. In the milder degrees of inflammation their orifices appear as small red specks with swollen, puffy walls. Now and then a watery or milky or purulent discharge oozes from them. In the severer forms of gonorrhœal disease, with consequent infiltration around the crypts, their orifices gape and often are surrounded by a puffy red, prominent wall, distinctly marked against the neighboring tissue.

The orifices of the crypts are seldom closed; the inflammation assumes a follicular character and remains in this condition for a long time. Endoscopically we then see a small reddish prominence in the mucosa with a little dimple in its centre, while the lumen is invisible. These encapsuled crypts can be felt by the finger as small, hard nodules.

To be able to understand and diagnose pathological changes of the urethral mucosa in chronic urethritis by means of the urethroscope, it is of importance to remember the histological process in chronic gonorrhœa. All chronic gonorrhœal affections of the urethra are circumscribed and irregularly bounded. The principal seat of the disease is in the pars cavernosa urethræ, or in the anterior part, the bulb being apparently less often affected. The salient histological feature in chronic urethritis is cellular infiltration of the sub-epithelial connective tissue, with a tendency to fibrous transformation thereof. In the milder forms we find the sub-epithelial tissue impregnated with a more or less dense infiltration, consisting of mononuclear or epithelioid cells or leucocytes, which either remain in the upper layers of the sub-epithelial tissue or extend to a greater depth. If these cellular infiltrations cause only a swelling and hyperæmia of the mucous membrane, with no tendency to transformation into hyperplastic connective tissue, the condition is diagnosed as the first form of chronic urethritis, the urethritis mucosæ of Oberlaender. Gradually the cellular infiltration around the Morgagnian crypts and Littré's glands becomes condensed. The epithelium of the urethra being swollen and in a state of desquamation, now changes from cylindrical epithelium into pavement epithelium.

The second form of chronic urethritis is characterized by a denser and deeper cellular infiltration, containing not only leucocytes but also numerous young connective-tissue cells. Whenever the cellular infiltration has gone over to the formation of new fibrous tissue, the urethra appears to be embedded into a rigid mass. The increasing fibrous tissue finally forms a callous cicatricial girdle around the lumen of the urethra. We call this second form of chronic urethritis areal infiltration (Herdinfiltrat). Naturally these different stages of sub-epithelial infiltration modify the endoscopic picture of the mucous membrane.

In the first stage, when only cellular infiltration has taken place, we find an increased lustre of the lining membrane. In cases of denser cellular infiltration the lining membrane has a dull, uneven appearance. The diseased area appears redder than the normal mucous membrane, which becomes swollen and puffy. The longitudinal folds are not slender as in the normal state, but coarse and broad. Instead of 6 to 10 smaller folds we find but 4 to 6 in the central figure. The longitudinal stripes have entirely disappeared. The Morgagnian crypts have swollen, inflamed orifices; occasionally secretion oozes from them. Littré's glands are not visible. When they appear in the field of vision, however, the disease is in a progressive stage. All these changes are irregularly circumscribed. We call this stage of the disease urethritis mucosæ, or soft infiltration.

Endoscopy of hard infiltration will naturally show very various forms according to the advance of transformation of the cellular infiltration into fibrous tissue. With regard to the affections of the glands we subdivide the hard infiltrations into two classes. In the first the glandular hard infiltrations, the orifices of Littré's glands and of the crypts are always visible, as they are more or less inflamed. The second variety of hard infiltrations, the so-called dry form, shows no or but few glandular orifices, they being covered by a layer of epithelial and connective tissue. A dry, dull appearance of the epithelium is characteristic in these cases.

On introducing the endoscopic tube in a case of hard infiltration a resistance by the urethral wall is felt. The central figure appears as a wide gaping funnel. The longitudinal folds as well as the longitudinal stripes have disappeared. The lining membrane has a more or less grayish color. The denser the fibrous tissue has become, the more the whole urethra will have the look of a rigid canal; in the worst form it shows white cicatricial tissue.

If Littré's glands are visible their orifices will be seen in groups, as red inflamed spots in a grayish discolored mucous membrane.

The Morgagnian crypts gape, their lumen is remarkably distended, often surrounded by an inflamed wall, which distinctly shows against the infiltrated, discolored neighborhood.

In the dry form of the hard infiltrations Littré's glands are invisible. The epithelium has a particularly dry and dull appearance, desquamating in spots.

A careful study of such cases will reveal the difference between the various degrees of these hard infiltrations. Thus we can diagnose hard infiltrations of minor intensity, those of a medium degree, and hard infiltrations of the severest forms going over into callous stricture. In comparing such cases it will become clear that between chronic gonorrhœa and stricture only a gradual and not a distinct difference exists. Even in cases of stricture we are able to ascertain if it depends upon a glandular or a dry follicular form of urethritis.

The various stages of restoration, as they occur in the diseased urethra under appropriate treatment, can be followed endoscopically. If a chronic urethritis has been perfectly cured the urethra will have the following aspect: the epithelial layer will grow smooth with normal lustre, normally folded mucous membrane with

a normal healthy color; the crypts and glands cease to be infiltrated, but they may still be visible; and existing cicatrices become smooth and even.

As has been suggested before, urethroscopy of the posterior urethra should not be employed save when required. It is contra-indicated in all cases of acute or subacute posterior urethritis, in tuberculous cases, and in hypertrophy of the prostate. In sexual neuroses or in chronic posterior urethritis endoscopy of the posterior urethra will often be found useful.

In chronic posterior urethritis we also distinguish between soft swellings of the mucous membrane and hard infiltrations, the former being the rule while hard infiltrations are rare. In soft infiltrations the mucous membrane has a purple or cyanotic color, is swollen and of an increased lustre; especially the crest of the urethra and its peripheral continuation show these pathological changes; the parts bleed easily. Hard infiltrations of the posterior urethra only develop after long continual swellings of the mucosa, which then appears pale, grayish, dry, and lustreless. The caput gallinaginis also has a pale yellowish color, a dull lustre, and is not prominent nor wrinkled, but flat and smooth.

Of tumors of the urethra we mostly find papillomata, now and then fibrous polypi, and very rarely carcinomata. Papillomata and fibrous polypi can easily be diagnosed with the urethroscope. The removal of these growths will often cure an otherwise untractable gleet. Oberlaender was the first to diagnose carcinoma of the urethra by means of the urethroscope.

The diagnostic value of urethroscopy having been demonstrated, its therapeutic advantages merit consideration. As previously remarked, there is every reason for demanding an exact diagnosis in urethral affections as in all other diseases. Urethroscopy, we have seen, enables us to diagnose the various forms and stages of chronic urethritis; hence it is but logical to expect the abandonment of the routine treatment of chronic gonorrhœa by injections and bougies, and that the case be treated according to differential diagnosis, which urethroscopy makes possible.

Bearing in mind that the principal anatomical and endoscopic feature of chronic urethritis is cellular infiltration of the mucosa, with a tendency to transformation into fibrous tissue, it must be obvious that the ordinary urethral injections are of no therapeutic value. This has been recognized some time ago, and it led to the application of the bougie or metallic sound in cases of chronic gonorrhœa. These instruments are introduced into the urethra for the purpose of dilating it and of causing pressure upon the infiltrated mucosa, in this way effecting a dissolution or melting of the infiltrations. A moment's thought will show the impossibility of attaining this aim by means of the soft elastic bougie, especially in cases of hard urethral infiltrations.

The passing of metallic sounds of various calibre in cases of chronic urethritis is undoubtedly more rational than the application of the soft bougie. The heavy metallic sound, especially if large calibres are used, in many cases answers the purpose of stimulating the reabsorption of hard infiltrations, but not in all. In very many cases a narrow meatus will prevent the introduction of a larger sound than perhaps No. 24 or 26 Fil. Charrière, or even a much smaller calibre. Such a size would then lie quite loosely in the urethral canal without exerting any pressure or dilatation whatever. For this reason various dilators have been devised, which are easily introduced through a narrow meatus and allow dilatation of the urethra to any degree desired. The best dilators are those of Otis, Planer, and Oberlaender, the Oberlaender's dilator being the most useful. While all the dilators have two blades, Kollmann constructed a dilator with four branches for the pars anterior, with the purpose of exerting dilatation of equal force in all directions.

By means of these dilators infiltrations of all dimensions can be broken down, and thus the normal calibre of the urethra restored. But it is evident that true callous infiltrations are no fit objects for dilatation; they must be treated by the other methods which enter into the therapeutics of this form of urethroscopy. If the dilators are used indiscriminately without previous endoscopic diagnosis as to the seat of the infiltrations, dilatations may be continued for months and months without gaining the end in view. Urethroscopy has shown that infiltrations are always circumscribed and not diffuse. Cures can be effected only by directing dilatation to those localized infiltrated places. Is it therefore too great a requirement that all treatment should be based upon correct endoscopic diagnosis?

The Nitze-Oberlaender urethroscope not only guides treatment by dilatations to the very seat of infiltration, but also enables the physician to attack localized gonorrhœal foci through the urethroscopic tube under the guidance of the eye. The endoscopic tubes are sufficiently wide to admit the introduction of other instruments besides the electric light, and enable the practitioner to employ them under direct illumination of the diseased parts. Infiltrated glands can easily be incised with a knife or destroyed with an electrolytic sound; various solutions can be injected into the glands or any openings found in the urethra. Under direct illumination hard infiltrations also can be incised, and even internal urethrotomies performed. The endoscopic tubes will also allow sufficient room for the removal of urethral polypi by means of the snare or forceps. All this can be done, and must be done, under the supervision of the eye. Whoever will test the applications of these instruments through the endoscopic tube will find no difficulty in handling them.

It is beyond my hopes that this little effort will give the urethroscope a place among the general practitioner's instruments of precision and treatment; an abler pen than mine would be required for such a desirable end. But it is my hope that at least those specialists who have as yet not used the instrumentarium I have herein mentioned, will be led by these crude lines to investigate. Their work then will serve to tear urethral diseases from the realm of that crass empiricism which, sadly enough, has too long enveloped them. If my labor brings about only investigation, my ambition will be more than gratified.

In conclusion I desire to perform a most pleasant duty. It is to thank those gentlemen from England, America, and the British Colonies who have honored me by becoming my pupils, for the incentive they gave me to condense herein the salient points of my clinical lectures. Thanks also are due to my friend Ferdinand C. Valentine, M.D., of New York, for valuable suggestions regarding the arrangement of this little article.

May 30, 1895.

Amputation of Omentum in Hernia.—1. All irreducible hernias should be operated upon unless contra-indicated by age or condition of the patient. 2. All omentum found outside the abdomen, or that will protrude under gentle traction, should be removed. 3. Multiple, independent ligatures of good-sized silk, which surround the vessels alone, or small pieces of fatty tissue, are believed to be safer than other methods. 4. The use of some film-forming substance, as aristol, on the stump is believed to protect in a measure from subsequent adhesions.—De Garmo.

Absorption of Ligatures.—In four hundred experiments it was found that, in from one to two years, seventy per cent. of catgut ligature had become absorbed; thirty-six per cent. of silk, sixty-six per cent. of hemp or flax, and twenty per cent. of horse-hair. Order of rapidity; catgut, hemp, silk, horse-hair.—Porta.

Insomnia.—Asafœtida is a valuable remedy in the insomnia occurring in the aged.

ARE WORK AND WORRY CAUSES OF NERVOUS AFFECTIONS?

By L. HARRISON METTLER, A.M., M.D.,

CHICAGO, ILL.

Much stress is laid by authors upon overwork as a cause of nervous troubles. On the other hand, Dr. Clifford Allbutt says, in a recent popular essay, that as excitation is the function of normal nerve-cells it is hardly conceivable that their injury should be brought about by simple excitation. It is not to be denied that neurasthenia is a palpable reality, and that it is an accompaniment of modern civilization. The genuine neurasthenic, with his restlessness, insomnia, absent-mindedness, weakened memory, languid expression, drawling speech, tired gait, lack of enthusiasm, tendency toward pessimism, headache and other aches, dyspepsia, constipation, and general malaise is too visibly among us to deny his existence. There are those who declare that our modern civilization, with its high-pressure mode of life, its sharp competition, its exhausting round of amusements, its rivalry of wealth, its fads, follies, and fashions, its sensationalism, its superficiality and mental boulimia, its self-indulgence, luxury, and unnatural stimulation, is responsible for the increase of nervous troubles. They say we must retract and put ourselves under greater restraint; we must return to a Spartan simplicity, and we must live a less sensuous life, cultivating more and more the homely pleasures of a rustic existence. All of which is undoubtedly true and has been preached by poet and philosopher from Hesiod to Thoreau. On the other hand, there are not wanting advocates of a still greater stimulation of human nerve-force. They believe that man is capable of a still higher civilization and that science is going to give him possession of yet greater power over nature. In the attainment of this desirable climax they hold that the weaker existences must necessarily be eliminated, simply because of their incapability to keep up with the rapid march of events.

In the struggle of mind over matter some must obviously be led astray or be oppressed by the unwonted glamour of the new conditions. Many nervous systems must be shattered and ruined in their futile effort to accommodate themselves to the swift change. The works of genius, the creations of art, the discoveries of science, are all the result of highly stimulated nerve-force. Rousseau's idea of the normal man is not the right idea, for if man is to remain in a blissful state of barbarism, civilization and his high destiny would be impossible. Advancement comes only from competition, and competition involves an ever-increasing stimulation of nerve-force. Barbarous races dwindle away and ultimately vanish in the presence of civilized man because they cannot compete with his superior intelligence. If they attempt to compete, they are quickly overwhelmed, and their constitutions are undermined by the too sudden alteration of environment. In somewhat of a similar way we are approaching a higher state of civilization, and many a constitution is being broken down because of its unprepared condition to meet the rapidly changing environment. Neurasthenia is to a large extent the cry of the weaker nervous systems, that they are being left in the rapid advancement of the race. They are struggling hard and valiantly to keep up, but all without avail. It is a question, then, whether human progress shall stop and turn back in their behalf, or continue onward in its career and leave them to their fate. Must electricity and steam be abolished that the nerves of neurasthenics be relieved of the harrowing excitement of high speed? Must grand opera, great commercial enterprises, and magnificent feats of skill and genius remain unattempted because a certain number of nervous systems are incapable of maintaining their healthy equilibrium in the presence of such vast undertakings? Most assuredly not, answer the advocates of the higher advancement for the human race. Let nerve-force be even more stimulated, they say; let man continue to strive after his loftiest mental and physical ideals; that is the very purpose, the *raison d'être*, of nervous matter. Civilization and the increased stimulation of the world's nerve-force proceed *pari passu*; if nerve-force fails it must be regenerated in some other way than by the checking of competition and human progress. Thus argue the two opposing factions in regard to the causes and amelioration of the neurasthenia so prevalent at the present day. Both explanations have an element of truth in them; but neither, it seems to me, has yet accounted for the great excess of neurasthenia that exists in our midst, and daily flocks to the offices of our noted neurologists.

As I do not purpose to consider here such physical causes of neurasthenia as autoinfection, toxæmia, reflexes, traumatisms, etc., but rather the psychic causes and causes originating in vicious habits, I will at once enter *in medias res* by considering for a moment the modern physiology of the nervous apparatus. In the most recent conception of the cerebro-spinal system of nerves impulses originating in the cerebral cortex are as much peripheral as those starting from the skin. The direct sensory-motor centres are to be found in the spinal cord and basal ganglia. The cortex is a general centre for the representation of motor and sensory images. Psychosis is a sensory-motor phenomenon and mentalization is the result of the combined activities of the cortical, sensory, and motor areas. Voluntary action, therefore, is as much a reflex as an ordinary involuntary spinal reflex. Removal of the cerebral hemispheres, olfactory ganglia, optic lobes, corpora striata, and optic thalami results in a loss of intelligence, of inhibitory rationality, but the animal still executes purposive movements which are somewhat different from the simple reflex acts depending upon the spinal cord. In 1876 Hitzig spoke of the effects of cortical lesions in the motor area as "the expression of an abnormal representative action;" in other words, as the result of a destruction of the motor images belonging to certain voluntary movements. The muscles of the animal are not paralyzed, but the animal no longer possesses any mental images as ideal representations of the movements it should make or desires to make. The condition, roughly illustrated, is probably somewhat like that of the nightmare, in which the victim is more or less conscious of his surroundings and is full of a desire to move, but is nevertheless incapable of action or acts only automatically.

Munk's theory is popular in Germany and affirms that the activity of the cortical sensory-motor areas results in "conceptions of movements" rather than movements themselves. Franck inclines to the theory of a reflex action in the motor areas. Marique adopts somewhat this reflex theory for the motor cortex. Schiff's theory in regard to the cortex is that of a pure reflex. Many authorities among British and continental experimenters could be cited to show that the cerebral cortex does not act directly upon the external sensory muscular apparatus of the body. Though there is considerable obscurity in regard to the real functions of the basal ganglia, and in regard to the mental relations among themselves of the sensory and motor areas of the brain, there is almost a unanimous opinion, based upon the closest study, that the gray matter of the cord (and possibly of the basal ganglia as well) is the direct centre from whence pass the motor impulses to the muscles and sensory impulses to the brain. The idea of a certain desired movement originates somehow in the cortex; a certain set of cells are started into activity and send forth an impulse to the cells in the anterior horns of the cord. These cornual cells receive the impulse, transform it, and send it out to the appropriate muscles for the production of the required movement. In the same way the prick of a

pin is felt somewhere on the surface of the body and the sensory impulse is transmitted to the gray matter of the cord. Here it is transformed and sent up to the sensory cells of the cortex, which interpret the nature of the original impulse. In both instances the brain acts more as the interpreter of the motor and sensory impulses. In either case the brain has remained relatively quiescent, and both the motor and sensory impulses have been reflective in the cord. These facts are so well known that I only refer to them in the briefest possible manner. The reason that I refer to them at all here is to show that the cerebro-spinal system resembles a balance, with its fulcrum in the intermediary gray matter of the cord and its two armatures, the cerebro-spinal system of nerves and nerve-cells on the one hand, and the spino-musculo-cutaneous system on the other. The former, roughly speaking, is psychical in character, or has to do with impulses that partake of purely mental characteristics, while the latter is more strictly organic in character and is somewhat of a mere connecting link between man's ego and the external world. Of course there are many details not entered upon here, and this conception of the cerebro-spinal apparatus is only presented coarsely for the purposes of the present essay.

Accepting, then, for the nonce, this twofold conception of the cerebro-spinal system, the internal or mental or psychic on the one hand, and the external or organic or musculo-cutaneous on the other, I wish to show that a want of proper balance between the two, rather than the mere overwork of the entire system, is the real cause of much of the modern neurasthenia. And if I can succeed in doing this, not the least of the advantages will be that certain suggestions will naturally present themselves to the mind of the reader for the relief of the trouble.

It is an old saying that genius and talent are but synonyms for industry and an unusual capacity for work. Dr. Clifford Allbutt has said that in his extensive observation he has rarely seen a case of mental break-down from simple overwork, provided the individual originally had a normal nervous system free from hereditary taint. In almost every instance of insanity seen by him attributed to prolonged nervous strain there was some inherited weakness, bad mode of life, or other cause beside the mere overwork. Clearly, therefore, the work, while being an active cause, should not be regarded as the sole or even the important cause. Every once in awhile, however, there are genuine cases of neurasthenia in whom there seems to have been an originally strong and healthy physique, but in whom overwork has been, so far as we can see, the real and only cause of the trouble. In such cases I have almost invariably noticed that it was not the overwork alone that initiated the nervous break-down, but rather the monotony of that work. To illustrate: A pianist practises upon his instrument say eight hours a day, and does almost absolutely nothing else in the way of a physical or mental offset during the hours that he does not practise; in a short time neurasthenia results. On the other hand, another pianist of apparently equal physique and nerve-force also practises eight hours a day in divided intervals, and when not practising turns all his energy to some other pursuit, mental or physical; he continues for years and never shows the least indications of neurasthenia. Neurologists have all seen such examples, and they are well illustrated in the lives respectively of Schumann and Mendelssohn.

I was recently told by a distinguished concert-singer, educated for many years abroad, that the reason a great many vocalists never get beyond the amateur, though they may have marvellous vocal powers, is that they practise singing aloud too long a time at once, and so completely exhaust their voices and nerve-force. For this reason many of the continental teachers are telling their pupils to practise their singing mentally, that is, to hold the music and read it without making a sound with the vocal cords except occasionally. I see in this method not a diminution of actual work done, but a decided relief in its monotonous character.

Many artisans use their hands more than does a telegraph operator, but the latter is the one who suffers from the cramp, because of the persistent monotony of his work.

The introduction of machinery and the specialization of work, chiefly brought about in the great factories, has not increased but rather lessened the actual work done by the operatives. Nevertheless cramps, neurasthenia, and a dozen other functional ailments attack the latter that were quite unknown to the hard-working all-round mechanic of former days. The great majority of the modern factory employes are either unable or unwilling, through ignorance or weariness, to offset the monotonous strain to which they are subjected by appropriate mental relaxation. One side of their nervous apparatus is therefore in more or less of a dormant state, while the other is stimulated or exercised to an unusual degree.

Among students, scientists, professional men, and brain-workers generally, the same condition obtains upon the other side of the nervous apparatus. With them, instead of a monotonous series of external impulses pouring in upon the reflex centres of the cord, the impulses are sent down, in the representative form as it were, from the cortex to the spinal centres, but there they end without their appropriate outlet in musculo-cutaneous activity.

The romance writer, for instance, like the unfortunate Marie Corelli, who leads more or less of an arduous sedentary life, exercising her imagination with all sorts of real and unreal visions, stimulates but one side of her nervous make-up, leaving the organic side more or less dormant and subject to unfulfilled impulses. Every form of prolonged mental strain, without a complementary relaxation in some form of physical activity, necessarily disturbs the balance between the psychic and organic sides of the nervous system. It is this prolonged breach of balance rather than the mere quantity of work done that acts disastrously upon the nerve-centres. For this reason the introduction of athletics, when properly graded, into university life has been of advantage to the average student. Consider the life and work of Oliver Wendell Holmes, who lived an all-round existence full of out-door pleasure as well as of mental strain, and one will have an admirable illustration of a well-balanced nervous system tending toward health, optimism, and good old age. I was once told by a friend that one evening he happened to be in a room adjoining one occupied by Paderewski, and that out of mere curiosity he took the trouble to note that during one of his practising periods this distinguished pianist executed a particular cadenza without a moment's cessation something like seven hundred and fifty times. Is it any wonder this artist at the end of the season suffered an attack of nervous prostration! The one-sided monotony of such an exercise would disintegrate any normal nervous matter.

The increased responsibilities necessarily associated with our higher civilization and keener competition produce an excess of worry. To this worry has been attributed much of our modern neurasthenia, and justly so, but the worry which is usually associated with neurasthenia is the result rather than the cause of that trouble. It is the expression of an unbalanced nervous system, the cry of the nerves and nervous elements on the psychic side for more rest or more exercise to restore the normal equilibrium of the whole. There is a form of worry, however, which is unavoidable and is a cause rather than a result of neurasthenia. It is the accompaniment of a highly organized nervous apparatus, is to a certain extent normal, and is sometimes otherwise known as over-anxiety. To tell a man who is involved in a vast enterprise not to worry be-

cause of certain changing conditions would be about as sensible as to try and persuade a miner entrapped in a caved-in shaft to keep cool and not get nervous. Accidents and responsibilities bring fear and anxiety, and these in turn produce worry. Such worry is involuntary and reveals an over-excited condition of the psychic side of the nervous system. It can be borne for a time, but if not counteracted by some complementary exercise of the other side, the organic, it sooner or later results in a disastrous breach of balance and neurasthenia. It isn't the worry, or even the excess of it, that harms, but the monotonous continuation of it. The occasional manifestation of this worry is in fact a wholesome sign, for it shows a commendably sensitive nervous organization. The orator, for instance, who experiences a feeling of over-anxiety before he appears in the presence of his audience is likely to develop into a greater speaker as he goes on in life than the one who is so stoically indifferent as to feel no nervousness at all. As physical pain is man's greatest protector by teaching him to be more guarded in the future, so mental anxiety up to a certain point is his benefactor in causing him to avoid, if possible, the mistakes of the past. Just as the continuation of physical pain ends in physical breakdown, so the continuation of worry terminates in the ruin of the nervous system.

Work and worry, I therefore take it, are not baneful in themselves, not even when carried to excess, but the monotonous, unbroken continuation of the excess is exceedingly injurious. An occasional break in the equilibrium of so delicately a balanced organization as the human cerebro-spinal nervous system is not only necessary but often extremely commendable. Only in this way can individual and racial advancement be accomplished. But too long maintenance of the rupture of equilibrium terminates, as we see all about us, in the most unfortunate results for the nervous system.

The corollary of all this is almost too obvious to need repetition. In the management of neurasthenia failures are notoriously frequent, and very largely, I believe, because the trouble is not viewed from the above stand-point. Absolute rest is frequently as uneffective in restraining an overwrought nervous system as the whole gamut of nervines, stimulants, baths, massage, and electricity. How often has the mistake been made of sending a patient broken down with an excess of business care and anxiety away to some lonely mountain resort; or of recommending some pampered daughter, living a quiet life in a small town, into the midst of the unwonted glare and whirl of some fashionable summer resort! An athlete must keep up his training, but it must be regulated; so a hard student should not be deprived entirely of his books, but his physical relaxations should be properly intermingled with his studies. Before any general advice is given, before any medicine is prescribed, the daily and almost hourly habits of the neurasthenic should be inquired into. When any monotonous habits or particular nervous strain, mental or physical, are discovered, it is not enough, nay, more, it is generally highly injurious to tell the patient he must give up absolutely such habits. Most patients will answer that that is more easily said than done, and in most cases it is so. On the other hand, the medical adviser must study the nature of those habits and employments and recommend others that counteract or complement them in some way. The athlete must be recommended to take up some line of mental study, and the scholar must be encouraged to adopt some regular form of physical exercise. The monotony rather than the mere amount of their respective occupations must be overcome. The emotional maiden who overindulges her imagination with novels should be recommended to exercise her reasoning faculty more with works of a different character. If she is visionary and given to dawdling away her time in day-dreams, she should be given a few tasks in household drudgery as an offset.

Gardening is a splendid relaxation for a banker. A European trip with the faithful keeping of a diary is a capital outing for the girl who has passed a butterfly existence of a long fashionable winter. Tennis, boating, and all sorts of athletic sports are to be urged for those whose occupations are sedentary and confining. On the other hand, those whose work is largely mechanical and physical should be persuaded to relax themselves by taking up a course of reading, or the study of some language, art, or science. Gardening would be a poor sort of relaxation for the carpenter who has been pushing the plane all day. The commercial traveller would smile at you if you suggested to him that he needed more physical exercise; so would the shop-walker or the letter-carrier or the insurance solicitor. It is a good thing to suggest to neurasthenics also the authors and books they should read, the kind of amusements it would be well for them to see, the class of friends that they should cultivate. In fine, no detail is unimportant in the management of this prevalent trouble and the details of the moral treatment are undoubtedly the most important. It must always be remembered that a neurasthenic's nervous system is in most cases not so much overworked or underworked as unbalanced. Every suggestion made by the medical attendant must have in view the restoration of this balance. To obtain the best results in the treatment of neurasthenia demands therefore a thorough comprehension of the trouble and a faithful attention to the minutest details on the part of the practitioner. He must be a man quick-witted, full of ready ideas, liberally educated, somewhat of a psychologist, a close student of human nature, conversant with the people and events of his day, sympathetic, social, and positive in character. Such a physician will handle cases of neurasthenia, all other things being equal, better than one who merely prescribes drugs and recommends rest and change.

Columbus Memorial Building.

FŒTAL DYSTOCIA.[1]

Illustrated by a Case of Difficult Delivery of Head, Shoulders, and Adherent Placenta, with Remarks on the Immediate After-treatment of Post-partum Hemorrhage.

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So many members of this Society are constantly brought into intimate contact with obstetric cases involving complications of more or less difficulty that no apology seems necessary in presenting before you to-night this paper upon a special subject. The case about to be described has been selected not only because it is in itself an extremely interesting and unusual case, but because it will offer for discussion so many points which are of direct practical value to us all.

This patient was thirty-six years of age; pregnant for the eighth time. Her first three children were born alive, the next four still. All the children had been large—at least nine pounds in weight. There was much œdema of the extremities in the first and second pregnancies, less in the third, and none subsequently. She was extremely desirous of having another living child; but, as four in succession had been born dead, she was of course much in doubt whether this could be accomplished. Just why these four apparently healthy children were stillborn I could not learn. She was a woman of very large frame, in good health when I first saw her. Her pelvis was symmetrical and unusually large. Her

[1] Read before the West End Medical Society, June 1, 1895.

last menstruation was June 15th to 20th, and she was sure that she felt life on November 7th. When I saw her, November 22d, the fundus was at the proper height for a five months' pregnancy, and therefore corresponded exactly with the dates of menstruation and quickening. On January 19th the fundus was at the proper height for a seven months' pregnancy, the child, presenting by the breech, was freely movable in the liquor amnii, which was rather more abundant than is usual at seven months.

Three weeks later (February 7th) this patient presented quite another picture—the liquor amnii had increased enormously in quantity so that the fundus was almost at the ensiform, and the position of the fœtus could no longer be made out by palpation; moderate dyspnœa was present because of the pressure upon diaphragm, and the stomach refused to retain ordinary food. Secretion of urine was scanty, but there were never any evidences of nephritis. I told the patient that it would be necessary to induce labor before long if she became worse. It had been my intention from the first to induce labor before full term, in order to avoid having the child too large for easy delivery and to avoid degeneration of the placenta, which I suspected might have been the cause of the deaths of the previous children, as we know that placental degeneration often occurs in multiparæ at full term, if the children are unusually robust and grow to an enormous size.

On February 16th (nine days after the dyspnœa had begun to be distressing) the patient was brought to the hospital in a desperately bad condition. Her pains had begun the night before at eight o'clock and she was completely in the second stage when admitted at 11 A.M., *i.e.*, duration of first stage of labor had been fifteen hours. Labor had evidently come on because of the excessive abdominal pressure—fundus was at the ensiform, and the abdomen extraordinarily distended and so tense that palpation was absolutely impossible. Dyspnœa was extreme, pulse rapid, temperature high, and her general condition very poor because of the exhaustion from lack of sleep and inability to retain any food. She was quickly prepared for delivery. When the membranes were ruptured, at 11.18 A.M., the position of the child was found to be L. O. P., the head, of large size, engaged in the pelvic brim. It was noticed that the scalp was unusually thick, and seemed œdematous immediately after the rupture of the membranes, when of course no caput succedaneum had had time to form. Child was alive, but the heart could not be heard because of the hydramnios.

The mother's condition was so alarming that immediate delivery was clearly indicated, so forceps was applied at 11.26 A.M. to sides of the head. The wide separation of the forceps handles showed that the head must be very large. With moderate traction, aided by the patient bearing down, the head advanced into the pelvic cavity and the position became occiput directly posterior. The forceps now began to slip badly, when stronger traction was used. As it was necessary, for the mother's sake, to deliver this head as soon as possible, the handles of the forceps were compressed and an increasingly strong traction used, but the forceps slipped just the same. As the head was now completely in the pelvic cavity, with the occiput directly posterior, an attempt was made to rotate the occiput to the front, but this resulted only in the forceps going around till inverted, while the head remained stationary. Hoping that a forceps with a greater divergence between the blades might secure a better hold, I substituted Simpson forceps for the McLane forceps, which had been used up to this time, but this fenestrated instrument slipped with every traction, even when the handles were held tight together. Of course, I had by this time given up all hope of saving the child, for I knew that the skull must have been more or less fractured when the forceps slipped while the handles were compressed. Auscultation showed that the fœtal heart was still beating, but was very irregular. The forceps was removed at 11.47 A.M., because delivery with this instrument was impossible, and further attempts would be a waste of time.

Podalic version seemed indicated now, as forceps had failed and craniotomy of the living child was not thought best, though I must say, in thinking the case calmly over since, that craniotomy was really indicated, if we consider the fact that the skull was already fractured so that the child could not possibly live long even if born alive, and if we give due weight to the advantages gained from not administering chloroform to a patient whose condition was already very bad, and not subjecting her to the shock which is necessary in doing an internal version. Another thing which made me at that time decide upon version was the knowledge that the patient was so desirous of having the child born alive. So chloroform was given to the surgical degree, the left hand was slowly passed into vagina at 11.55 A.M., pushing the head up and off to the left. In the relaxed condition, due to the chloroform, this was not at all difficult, and the head was soon resting in the left iliac fossa. The anterior (right) knee was at once found and a finger hooked into its flexure, but strong traction failed to make the child turn. The leg was then straightened out and a good hold obtained upon the foot, but the strongest possible traction upon this right foot, with upward pressure upon the head, and downward pressure upon the breech, failed to turn. Traction was made upon both feet with the same negative result. The umbilical cord was now felt of at the navel and found to be pulseless, so the child was undoubtedly dead (12.16 P.M.). Death of the child probably explains why the attempts at version failed, for a dead body lacks that resiliency which makes version easy.

Soon after the hand was withdrawn the head came down into the pelvis again. The blades of Tarnier's cephalotribe were then inserted laterally, grasping the head (L. O. P.) over the left side of forehead and the right side of occiput. The blades were screwed so firmly together that slipping was impossible. Repeated tractions, as powerful as could be exerted, with extreme oscillation, laterally and vertically, caused slow advance till the head was born at 12.24 P.M. As the head was being extracted, the occiput was rotated to the front, so as to have a smaller diameter born. During the strong traction necessary for delivery the head burst and most of the brain escaped. Then it was discovered that the shoulders were too large to enter the pelvic brim, though the strongest possible traction, without and with oscillation, was made with the cephalotribe still grasping the head.

The only way now remaining to effect delivery was to diminish the shoulder-bulk, so the head was removed from the body by turning it around completely, thus wringing it off of the neck very easily and quickly, leaving as neat a stump as if the decapitation had been done with a knife. My hand was then inserted and the anterior (right) arm brought down. Traction upon this arm so strong that the shoulder-joint began to separate failed to cause advance, so the other arm was brought down and traction made upon it till it also began to tear in the axilla. By this time the shoulders had come down to the pelvic floor. As no more traction could be made upon the arms, a blunt hook was forced between the ribs near the spine. By very strong traction on this hook the body was finally delivered, back anterior, at 12.46 P.M.

The patient was by this time *in extremis*. The uterus, containing the secundines, was unusually large and flabby. A little blood began to trickle away just after delivery of the child, so an attempt was made to express the placenta in order to prevent further hemorrhage. As this attempt failed, the whole hand was inserted and the placenta found on the right side of the uterus, extending up well over the fundus. This pla-

centa was firmly adherent over its entire maternal surface and had to be dug away from the uterine wall with the fingers and brought out by the handful. This was done as rapidly as possible—in about three minutes. Hemorrhage was profuse all the while. As soon as all the placenta had been extracted, at 12.51 P.M., a hot acetic-acid uterine douche was given, causing the uterus to contract well and remain contracted so that there was no more hemorrhage.

Before extraction of the placenta was completed, the patient was apparently dying; all the symptoms due to great loss of blood were present. Meanwhile a nurse had been giving hypodermics of ether and of brandy—at least a dozen of a half drachm each were given as rapidly as possible, but the pulse remained imperceptible at the wrist. As soon as the uterus was emptied the first hot saline enema was given and the patient soon began to rally slowly. One-half hour later the pulse could be counted (120), and it slowed gradually as the enemata were given. The great value of hot saline enemata after hemorrhage cannot be over-estimated, and their value was especially illustrated in this case. The first enema, consisting of two pints of water at 116° F., one ounce of whiskey, and one drachm of salt, was given at 1 P.M., and followed by another at 1.30 and another at 2.45 and another at 3.45 P.M., then a smaller hot enema (one pint of water, one ounce of whiskey, and one drachm of salt) was given at 5.30 and again at 10 P.M. All these were retained except the last, which was partially expelled. As soon as an enema of this kind ceases to be retained, I take it as a sign that the vascular system has obtained all the fluid it needs to replace the lost blood. In this case there were fully nine pints of saline solution retained and absorbed before the pulse became full and strong, thus showing that no more fluid was needed. The value of the heat carried in with the enema must not be underestimated. When a patient is in deepest collapse, one hot enema will do more good than several warm ones. The salt must not be omitted, if we wish the fluid to be quickly absorbed. A drachm of salt to a pint of water makes a formula easy to remember and is near enough to a "normal salt solution" for all practical purposes. The enema also gives us an easy means for introducing stimulants when the stomach refuses everything, and we thus avoid the inconvenience of hypodermic stimulation.

I run the risk of wearying you with these statements about well-known facts, because I am afraid that in the eager rush for new remedies and new specifics, which is so characteristic of this day and generation, some of us have forgotten, or may forget, the standard value of these simple but always reliable methods of dealing with serious conditions. For several years now I have used hot saline enemata containing various stimulants for the immediate after-treatment of all cases of severe hemorrhage with the result that I cannot report even one fatal case.

During the night following delivery the patient could retain nothing in the stomach. She vomited repeatedly, and retched even when the stomach was empty. This troublesome symptom was finally relieved by giving small doses of champagne and cracked ice, after several other gastric sedatives had been tried in vain. In the afternoon (about twenty-four hours post-partum) she could retain milk and vichy. From this time on her convalescence was rapid and constant, without an unfavorable symptom of any kind.

The chart of her temperature, pulse, and respiration showed that her puerperium was uneventful, except for the wonderful fact that she recovered. She had no after-pains, as she had had in all previous puerperia except the first. She had no headache, which is so common after an enormous hemorrhage. She had no sepsis, which is so apt to follow exhausting labors, especially if there is much blood lost, or if operative manipulations are prolonged. The absence of the headache and sepsis and her smooth convalescence were undoubtedly due to the generous use of the saline enemata. The absence of after-pains was due to the thorough emptying of the uterus. The lochia were normal in quantity from the first, instead of being scanty as is the rule after hemorrhage, but their color was pale. The uterus involuted perfectly. At her own request, because she felt so well, she was allowed up in a chair on the twelfth day and was allowed to walk a little on the seventeenth day.

With your permission I will set before you some rather astonishing figures about this case. Of course you are at liberty not to believe them, but I assure you that they are true. When the membranes ruptured, nine quarts of liquor amnii were caught in pails; a moderate estimate is that fully one-half as much more was lost then and during delivery, as some escaped with every pain, and much more came away, when the attempt at version was made; therefore, the total quantity of liquor amnii was at least twenty-seven pints. The child, a female, though of only about eight months' intra-uterine development, according to the best of my knowledge and belief, measured 56 ctm. in length; the circumference of the shoulders was 43 ctm.; of the abdomen, 45 ctm.; and of the right thigh, 19.5 ctm. The head and body weighed 9 pounds 6 ounces, but all of the blood and meconium and nearly all of the brain were missing; these would certainly weigh 2 pounds (probably more) in such a large child, so the total weight was at least 11 pounds 6 ounces. A necropsy of this child revealed the fact that the peritoneal and pleural and pericardial cavities were full of brownish serum, so the child would probably not have survived long, even if it had been born uninjured. Most of the blood with the placental débris was caught in basins. After the pieces of placenta had been picked out, the blood was found to weigh 93 ounces; a very modest estimate of the blood that was not caught is 12 ounces; so the total blood loss was 105 ounces, all of which hemorrhage took place within five minutes. The placenta weighed 3 pounds 11 ounces. If we add together all that escaped from this patient's body from the time when the membranes ruptured till the uterus was empty, we find a sum total of about forty-eight and one half pounds.

In the operative part of this case there were several practical points demonstrated which, it seems to me, are well worth considering. One lesson of special importance is, that if the forceps slips when properly applied, it means that the case is not adapted for delivery with forceps, *i.e.*, the forceps is contra-indicated and its further use will result only in doing harm. Fenestrated forceps blades slip just as badly as do solid blades, if the head is too large, *i.e.*, any forceps will slip, if it does not fit the head. If the forceps slips while strong traction is being made, the child's skull will surely be fractured. After the liquor amnii is gone, version is always difficult and usually impossible, if the child is dead. When the fœtal heart cannot be heard, feeling of the cord at the navel is a legitimate way of finding out whether the child is alive or dead, if this information is necessary for deciding upon further treatment. If the child must be born head first and forceps cannot deliver, the cephalotribe is the best instrument for obtaining a hold of the head firm enough to accomplish delivery. Oscillation will cause advance when straight traction fails. Pulling down one or both arms after decapitation is the easiest way to deliver enormous shoulders which cannot otherwise be made to enter the pelvic brim. If the placenta is adherent to the uterine wall, its removal by hand is the only quick and safe method.

Abortion.—After membranes have been removed, the uterine cavity should be swabbed out with iodine it being an excellent antiseptic and hæmostatic.—PARVIN.

DEAFNESS FROM INTRA-NASAL DISEASE.

By JOHN A. THOMPSON, M.D.,

CINCINNATI, O.

ALL the scientific work done by physicians in their own field of labor is directed toward the prevention or relief of human suffering. Our physiological laboratories only fulfil the purpose of their creation when they investigate and teach the laws of normal being and show us how to avoid a disastrous conflict with them. Pathological investigations, including bacteriology, are meant to teach us the true nature of disease, that we may prevent or cure the abnormal processes revealed. We seek for knowledge only that we may apply it to the individual case. As the object of all this study is clinical, suggestions for physiological and pathological research must largely come from clinical observation. The experience of the physician in his daily rounds among the sick and suffering should show where we are lacking in knowledge. The practitioner should suggest the topics that the investigator may work out in the laboratory. I believe it a duty, where a physician encounters cases that cannot be explained by known physiological and pathological principles, to place these cases on record, hoping that some acuter mind may supply an explanation which will result in the prevention or cure of similar conditions in other patients.

Diseases of the ear are more intractable to treatment than those we encounter in any other department of medicine. Late cases of chronic catarrhal otitis media in either of its forms are regarded by experienced otologists as being almost hopeless by modern methods of treatment. From this hopelessness arises the constant suggestion of new procedures directed to the ear itself, in the hope of at least partially restoring the function which is so important to the happiness and success in life of the individual. A few observers, notably Swinburne, turning from the attempt to cure the already established condition, have sought to lessen the number of hopelessly deaf by seeking the cause and method of prevention. Swinburne examined the nose and throat carefully in a thousand cases which presented themselves at the Harlem Eye, Ear, and Throat Infirmary, complaining of deafness. Where deafness results from disease of the middle ear, his conclusions are that in ninety-five per cent. of all cases the primary lesion is in the nose or naso-pharynx. Just how disease in these organs produces chronic inflammation in the tympanic cavity has been a question of dispute. Some experienced writers claim it is due to the direct extension of inflammation by continuity of tissue. In structure the tympanum is only one of the accessory sinuses of the nose, though it differs entirely from that organ in function. Others have thought we could trace the resultant ear disease, secondary to obstructive lesions in the upper respiratory tract, to imperfect aeration of the middle ear. Still other authorities have thought that the interference with the circulation in the internal and middle ear by the inflammatory and neoplastic changes in the nose or naso-pharynx was the cause of the secondary disease. While the battle has been fierce and the flow of ink free in this wordy war, it is probable that all are right; that each method plays a part in the production of secondary diseases in the middle ear.

While I have seen many cases where the secondary deafness could be accounted for and the cure understood from the well-known relations of nasal and aural diseases, I have encountered others that are not susceptible of explanation by any of the known facts in rhinology or otology. I wish to report three of these cases, chosen because they are dissimilar in many of their features. They suggest that there is a relation not yet understood between the healthy condition of the nose and naso-pharynx, and the sense of hearing. In all of these cases there has been a serious and irremedial impairment of the organ of hearing, yet in all the ability to hear has been greatly increased by restoring the nose and throat to their normal condition.

Mrs. S——, aged thirty-one years, married when sixteen years old, has suffered from diseases of the generative organs since the birth of her first child. She is very nervous, weak, and anæmic. She suffered from pains in the chest, headache, cardiac palpitation, rapid pulse, and dyspepsia. These symptoms could not be relieved by ordinary constitutional treatment. She was referred to me by her physician, Dr. W. H. DeWitt, for the treatment of the upper air-passages, with the hope of relieving these intractable symptoms, which he believed were secondary to the local disorder.

The patient had marked hypertrophic rhinitis, with a deflected and thickened septum. The thickening was in the right nostril. There was also marked naso-pharyngeal catarrh. The right ear was deaf to all ordinary tests. She could not hear the watch on contact. She could not hear the conversational voice. She could hear loud voices only as an indistinct noise. She gave a history of this ear as follows: Seven years before, while suffering greatly from her uterine trouble, the ear became inflamed and was intensely painful for several days. The drum was finally perforated; the pain diminished with the free discharge of pus from the ear. She had had occasional attacks of acute suppuration in the middle ear from that time. Inspection of the ear showed a cicatricial drum membrane with evidence of old perforations. There was no suppuration at this time. The ossicles were firmly bound together by old inflammatory adhesions. The condition revealed by inspection was so bad that no attempt was made then or subsequently to improve the hearing by treatment of the ear. The hypertrophic rhinitis was treated by the usual method, and the spur on the septum was removed March 13, 1894. The headache and neuralgia of the chest, which the patient had supposed were all due to her uterine trouble, were entirely relieved within six months after this operation. The rapid pulse and cardiac palpitation yielded to the combined effect of the operation and heart tonics administered internally. The patient began to improve in health and strength and in a short time felt better, weighed more, and was better able to do her work than she had been for years. About ten months after the operation she discovered that hearing had returned to the supposed incurably deaf right ear. A careful test of this organ in April, 1895, shows that the patient is able to hear the conversational voice fairly well, and hears the watch, which was not heard on contact before the operation, two inches from the ear.

F. J. H——, aged eighteen, had scarlatina when he was thirteen years old. The scarlatina was complicated by purulent otitis media in both ears. The drum membrane and ossicles of the right ear were completely destroyed. In the left ear three-fourths of the drum membrane was destroyed and the ossicles remain bound together by cicatricial adhesions. With every cold the patient caught there would be suppuration from one or both ears. I saw him first in March, 1894. At that time he heard a conversational voice one foot, could not hear a watch on contact, and could not hear a whisper at all. There was no appreciable difference in the hearing powers of the two ears. He was about to lose his situation as clerk because of his inability to carry on a conversation with customers in the store.

Examination of the nose and throat showed hypertrophic rhinitis and a large spur on the septum in the left nostril. There was a complicating naso-pharyngeal catarrh. After treating the acute inflammation that was present when I saw him, for a few days, I removed the spur and cauterized the hypertrophied turbinated bodies so as to give him free breathing room through the nose. The left ear was suppurating when I first saw him, but this suppuration readily yielded to the dry treatment. The patient was under treatment

six weeks, and was dismissed with the ability to hear a whisper three feet and to distinguish ordinary conversation so readily that he still retains his position as clerk. December 1, 1894, he caught a severe cold, and with the resultant swelling and inflammation of the nose and throat his hearing became again seriously impaired. Ten days of local treatment cured this attack, and with the return of the nose to the normal condition the hearing distance for the whispered voice again became three feet for either ear.

Mrs. F. L. J——, aged thirty-five, has been deaf from childhood. I can get no distinct history of the cause of this deafness. She had repeated attacks of acute purulent otitis. In her earlier years she was treated by a number of good otologists, who succeeded in checking the suppuration, but did not prevent the total loss of hearing power in the right ear. She had been constantly under the care of a competent man for three years before I saw her. She had visited him once or twice a week all this time to have the left ear inflated by the Politzer method. This inflation gave temporary relief from the tinnitus aurium and improved the hearing temporarily. In spite of this treatment the deafness was progressive, and at the end of the three years she was worse than at the beginning of this period. Examination of the ears showed the right ear with only a perception of loud sounds. Inspection of the drum showed only a mass of cicatricial tissue, through which nothing could be seen to throw any light on the condition of the middle ear. The left ear showed a badly retracted drum membrane with cicatrices where old perforations had healed. Loud voice heard only one foot, watch not at all, in left ear. Examination of the nose showed a bad hypertrophic rhinitis, and in the right nostril, at the junction of the perpendicular plate of the ethmoid with the triangular cartilage, there was an enchondroma with a broad base nearly an inch in diameter and so thick that it completely filled the upper and anterior portion of the right nostril. As all known methods of direct treatment to the ear had failed to benefit the deafness, I decided to remove the enchondroma and to restore the lumen of the nostril by cauterization of the hypertrophied tissue in the turbinated bodies. The operation was made under chloroform October 11, 1894. I cut the nasal branch of the ophthalmic artery in the first incision for the removal of the tumor. This complicated very much an operation, always difficult to perform on account of the free bleeding hiding the field of operation. I removed the tumor as rapidly as possible and packed the nose with cotton saturated with McKenzie's styptic solution. Recovery was further complicated by an attack of follicular tonsillitis which began three days after the operation. The patient was already weakened from loss of blood and from the shock, so the attack of tonsillitis was unusually severe and prolonged. The immediate effect upon the hearing was of course disastrous. As soon as the patient was able to resume her visits to the office, the hypertrophied tissue in the turbinated bodies was destroyed by the galvano-cautery as rapidly as this could be done without exciting severe inflammation. The patient remained under treatment for four months and was dismissed with hearing distance for the watch, left ear, of nine inches. She hears the ordinary conversational voice with ease. She had never been able to hear a clock, which had been given her as a wedding present eight years before, until after this operation. On awakening one night she was very much alarmed at its ticking, though she was lying in bed across the room from the mantel on which the clock stood. Up to the present the improvement has continued, and I have no doubt the hearing will be better a year from now than it is to-day.

These three cases present few similar features. There was in all marked nasal obstruction from hypertrophy of the normal tissues and from the growth of abnormal structures. The condition of the ears in all was such as to offer no hope of cure by treatment of the ear itself. All were benefited so they could hear ordinary conversation, the best test of hearing power, by treatment of the nose.

In the first case reported the ear was never treated, either before or after the operation on the nose, yet as a result of this operation hearing is restored to an ear which to all appearances was hopelessly deaf.

In the third case the patient had been under the constant care of competent men from childhood to mature life. In spite of this care the hearing power was entirely lost in one ear and so far diminished in the other ear that common conversation could not be heard. Yet in this case the hearing power is restored to the ear by restoring the normal lumen of the nostrils. During the time she was my patient the ear received no treatment. It might be said the result in these cases was due to the fact that normal respiration and aeration of the middle ear through the Eustachian tube was restored. While this is a possible explanation, I do not believe it to be the true one. In the third case the Eustachian tube had been kept open by constant treatment, yet the deafness was increasing. The tube remaining open, no attention was paid to it while I was treating the nose, yet there was a remarkable gain in hearing power. It certainly will not apply to the second case, where in one ear there was no drum membrane at all and in the other ear only a remnant. The recurrence of the deafness months afterward when the nose became inflamed and swollen, and the prompt restoration of good hearing power by treatment of the nose, is an additional demonstration of the controlling influence that, in this case at least, the nose has on the power of hearing.

While I do not pretend to explain the influence which brought about the deafness or the cure in these cases, there is a practical conclusion to be drawn, upon which we can act, even if we do not understand thoroughly the theory or the principle on which our action is based.

This deduction is, that no case of supposed incurable deafness is really so unless the nose and naso pharynx have been examined and treated, if necessary, by a competent rhinologist.

ALKALINE INJECTIONS FOR THE TREATMENT OF GONORRHŒA.

By PHILIP JAISOHN, M.D.,

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THE methods of treating gonorrhœa are almost as numerous as the individuals who are affected with this disease. There is no fixed rule governing the treatment of this common malady. For instance, the so-called "specific treatments" "work marvels" in one case, but fail in another. The books and journals are full of contributions and suggestions under the head of the treatment of gonorrhœa, according to the individual's experience as to what success he has obtained by a certain mode of treatment. However, all these various methods have one common object in view; that is, to arrest or destroy the growth of the germs which cause the inflammation. The majority of cases generally yield under these treatments in a more or less satisfactory manner, but as a rule the moderately severe cases never become entirely cured in less than four weeks' time.

It is needless to say how frequently we meet with those cases that have been supposed to be cured, which have developed into gleet, stricture, inflammation of the adjacent glands, etc. There is a new fact which has hitherto been unobserved, and which I think will be of interest to the medical profession. Before going further, it is necessary to understand the characteristics

of the germ which causes gonorrhœa (gonococcus), in order to describe the new fact more intelligently.

The gonococcus was discovered by Neisser in 1879, and cultivated by Baume in 1885. It is constantly present in virulent gonorrhœal discharges from the part in the interior of the pus-cells, or attached to the surface of the epithelial cells. Baume succeeded in cultivating it only in the blood-serum; but no one has ever been able to make it grow in the ordinary peptonized bouillon, nutrient gelatine, or agar-agar. Recently, however, it has been successfully cultivated in the ordinary media, provided the media are rendered acid by adding a few drops of hydrochloric acid.

As a rule, bacteria do not grow well in acid media, whether they be of pathogenic or innocuous variety. Therefore the peculiarity of gonococcus is that it grows in acid, and not in alkaline media. For this reason gonococci flourish in the mucous membrane of the urethra or vagina, which are acid in reaction by the passage of urine and the glandular secretions. Knowing the fact that they do not grow in alkaline media suggests to us the idea of rendering the urethral or vaginal mucous membrane alkaline in the treatment of gonorrhœa. The obvious reason is to make the part as unfavorable as possible for gonococci to thrive in. I have treated six cases at different stages of the disease, and obtained the most satisfactory results by using alkaline antiseptic injections. At the same time, liberal doses of alkaline diuretics administered internally; the object of which is not only to make the part alkaline by the local irrigations, but rendering the urine alkaline also. Of course, we must consider also the management of staphylococcus, which is always associated with gonococcus to produce pus, and aggravates inflammation in this form of urethritis. There is nothing which will destroy these pyogenic cocci more effectually than the solution of bichloride of mercury. For this purpose I use the mercurial solution at the strength of one to ten thousand, making this solution alkaline by adding liquor potassii at the proportion of one-half drachm to the ounce.

The injections should be given at least every four hours, and internally the following mixture is given:

℞. Sodii bicarbonatis..... ʒ j.
Spts. ætheris nitrosi..... f. ʒ ss.
Potassii citratis..... ʒ ij.
Infus. lini comp.....q.s. ℥ j.
M. Sig.: Take a wineglassful every two or three hours.

My experience with this mode of treatment is limited, therefore I will not make more conclusive remarks in regard to its efficacy, but my faith concerning it is great. The chief merit of this method is that it hastens the recovery much quicker than any other procedure. In my own experience, four out of six cases became entirely cured within two weeks of the treatment, although in the beginning they were all severe types of gonorrhœa. The other two cases were of long standing, and they took longer to gain complete recovery; but the gleety discharge diminished considerably after two or three irrigations, and disappeared altogether within three weeks.

Colica Pictonum.—

℞. Magnesii sulphat..... ʒ j.
Acid. sulphuric. dil..... f ʒ j.
Aquæ..... f ʒ iv.
M. Sig.: Give one tablespoonful three times a day, preceded by ten grains of iodide of potash.

—BRUNTON.

Rheumatism in Malta continues to be treated, in severe cases, by bee stings, a method which has preserved its reputation for a long time. The antidote is said to give great relief to sufferers, though on first hearing it does not recommend itself so well to the uninitiated.

GEOLOGY—A MEDICAL COLLATERAL.

BY HARVEY B. BASHORE, M.D.,

WEST FAIRVIEW, PA.

THE earth, or at least its upper layers, is beginning to have such an important place in the prevention of diseases and epidemics, that a study of geology must become of more or less value to the physician and the sanitarian; the correct understanding of drainage and sewage disposal, of water and food supply, depend considerably on a definite knowledge of the earth's surface.

It is not long since, that through the labors of Schloessing, Müntz, and Warrington, we know the rôle of the nitrifying organisms in filth disposal; summer and winter, nitrification goes on, and filth, changed into harmless compounds unfit for bacterial development, furnishes a nutrient for growing plants.

The study of wells, their quality, quantity, and pollution of their waters, depends notably upon the rock structure. The "strike" and the "dip" of a rock-bed are of vast importance in studying the drainage area and the water-supply. The "dip" of a stratum frequently determines whether or not a certain well is infected, and the character of an adjoining clay-bed may determine whether or not it forms an impassable barrier to a leaking cesspool or drain. The outcrop of an impermeable stratum will determine with surprising accuracy the depth to be drilled for a well, though far distant from the outcrop.

In artesian well-supply the water-bearing horizons are of the utmost importance, and geologists are now at work mapping them out in the eastern coastal plain; by this means much useless labor has been saved, and districts which formerly drank polluted surface waters are now supplied with the pure water of a deep boring. The character of the water yielded in a certain place always depends upon the character of the rock-bed from which it is derived; the hard and sparkling water of a limestone region—with its supposed calculi-forming properties—forms a marked contrast to the soft, palatable waters of a slate or sandstone region.

The location of certain strata may directly affect the health and comfort of large cities and wide-spread districts. For example, the Schuylkill, polluted by mine drainage and sewage, is partially, at least, purified by limestone strata crossing its course above Philadelphia; the limestone changing the proto-sulphate of the mine drainage into oxide and sulphate of iron; the oxide precipitating the organic matter thereby aids purification, and the sulphate is changed into the harmless calcium sulphate. The Susquehanna is likewise polluted, but the great limestone belt of Pennsylvania crosses the Susquehanna Valley below Harrisburg, and hence that city and all above suffer from polluted water.

The structure of a town site is at times of vast importance to the health of the dwellers thereon; Bethlehem, Pa., suffered from an epidemic which was traced to its public water-supply, namely, a spring. How this became infected puzzled the physicians for some time, but at last the difficulty was explained. The town is built on silurian limestone, which almost always bears large underground streams and large water-bearing cavities; the cesspools of the town, in certain places, pierced the water-bearing strata and infected the spring far away.

But it is in the last stages of geological history that effects were produced which had, perhaps, the most bearing on sanitary topics. The location of cities and highways, the drainage of large areas, the changing of old river courses, depend in a great measure on pleistocene formations. The great glacier and its concomitant phenomena, wherever they acted, literally changed the "face of nature."

In deep and narrow valleys, like that of the Susquehanna, their value and importance is more apparent, perhaps, than elsewhere, and anyone who has ever travelled northern regions will readily see how vastly civilization has been modified by the great glacier.

If pleistocene floods had not swept through our river valleys and deposited their layers of clay and gravel,[1] many cities would not stand where they do now, nor would railroads follow these natural highways.

Camille Flammarion tells us in his "Last Days of the World" some very fascinating facts about geological changes in the ages to come; how the very life-history and all nature of the globe is changed, simply by the increased permeability of the earth's strata; thereby, of course, leading to a diminution of water. While M. Flammarion's deductions are perhaps considerably exaggerated, we are, nevertheless, beginning to learn that geology is not all theory, but that it has some practical bearing on, at least, part of the world's life-history.

Progress of Medical Science.

The Treatment of Dysmenorrhœa. — Dr. Schwarze writes upon treatment of the forms of dysmenorrhœa which are unassociated with inflammatory disease of the uterus at its appendages, those due to anatomical changes and congenital malformation of the uterus, therefore that associated with pathological anteflexion, retroflexion in the virgin uterus, and the different forms of congenital deformity of the uterus. This class includes stenosis of the external and internal os and all forms of dysmenorrhœa in which no anatomical changes can be demonstrated. He believes the following drugs are of use: the preparations of iron, antipyrin, phenacetin, antifebrin, exalgin, and sodium salicylate. In some cases it may be necessary to administer codeine and opium, the dose being small. In young girls and women of apparent good health the Thure-Brandt's method of gymnastics of the entire body is frequently followed by marked benefit. It should particularly be applied for a week preceding each menstrual period. In well-developed and apparently healthy virgins, with severe dysmenorrhœa, the writer advises ext. viburnum prunifolium fl., a teaspoonful three times daily, for five to seven days before and during the menstrual period. Usually the Thure-Brandt gymnastics and the viburnum prunifolium treatment are combined. Massage of the uterus does good in those cases where there is an undeveloped or infantile uterus. It should not be employed in young girls. The introduction of a sound into the uterus just before the menstrual period, removing the pathological anteflexion and dilating the canal, is often followed by relief of symptoms. Rapid dilatation of the cervical canal a day before the period is the better method. Electricity applied to the uterus does good in many cases. The negative pole, an aluminium sound, is introduced into the uterine cavity, and the positive pole, a large, flat electrode, is placed upon the abdomen. A faradic current of from fifty to one hundred and fifty milliampères is employed. Finally, should there be no anatomical lesion and the menstrual period so very painful that life is made unhappy, oöphorectomy should be performed.—*University Medical Magazine.*

The Treatment of Vomiting.—A French physician recommends the following formulas, the first of which, according to Steffen, is useful in the vomiting of pregnancy: Distilled water, five ounces; tincture of iodine, twelve drops. A tablespoonful of this in half a glass of sweetened water is to be taken every two hours. The same author recommends the addition of a few milligrammes of morphine hydrochloride to each spoonful, or an ounce of the distilled water may be replaced by an ounce of cherry-laurel water. The *Centralblatt für die gesammte Therapie* recommends the two following formulas: 1. Chloroform, nine hundred grains; tincture of iodine, one hundred and twelve grains. Five drops of this are to be taken every night in a glass of Seltzer water. 2. Distilled water, three ounces and a quarter; cocaine hydrochloride, half a grain; antipyrine, fifteen grains. A teaspoonful may be taken every half hour. The following procedure, says the writer, in which three solutions are used, has often been employed successfully: 1. Alcohol, one hundred and fifty grains; menthol, eight grains; tincture of nux vomica, thirty grains. 2. Tincture of iodine, one hundred and fifty grains. 3. Saturated chloroform water, three ounces. Every half hour, or every fifteen minutes if necessary, the patient should take a dessertspoonful of the chloroform water, which may be diluted with iced Seltzer water, after having added ten drops of the first solution to it. If this is not sufficient, two drops of the tincture of iodine may be added to each spoonful. Finally, if it is necessary, from two to three drops of a 1-in 50 solution of morphine or cocaine may be added to these formulas. These two solutions are usually employed for subcutaneous injections. It is well to substitute occasionally for one of these medicaments from two to four drops of the ordinary solution of antipyrine for cutaneous injections, according to the following formula: Antipyrine, seventy-five grains; cocaine hydrochloride, two grains and a half; distilled water, a sufficient quantity to make ten cubic centimetres. If these different medications fail, says the writer, the physician may resort to the following therapeutic measure, which is very simple and has been successfully employed by M. Robin in serious cases: Apply a small blister to the pit of the stomach, also administer a small suppository containing a grain and a half of powdered crude opium and a sufficient quantity of cacao butter once or twice during the twenty-four hours. The vomiting is very often arrested, even if it is the serious vomiting of typhoid fever. Sometimes, also, inhalations of oxygen are useful.—*New York Medical Journal.*

Obliterative Arteritis in a Boy Fourteen Years of Age.—A case of this kind, occurring in a young boy, is reported in *The Lancet* by Dr. B. W. Bond. A boy, fourteen years of age, came to him suffering from a sharp attack of "shingles," extending around the left side of the chest and back. He was evidently in bad health, and on taking his left wrist to feel his pulse the doctor discovered that none could be felt. No pulse could be felt anywhere in the left upper extremity until the subclavian was reached. Here the beat was synchronous with that of the right subclavian, but much feebler. The radial and brachial arteries could be felt as cord-like bodies. On questioning the boy, he said that beyond occasionally having "pins and needles" in the left arm and fingers, he had felt no inconvenience whatever, and, in fact, he was unaware of the condition. He usually suffered from chilblains during the winter months, especially on the feet. The collateral circulation was evidently good, for beyond a slight blueness of the fingers, there was no other visible sign of deficient nutrition. The temperature of the fingers was practically the same on both sides, and there was no anæsthesia. As regards cause, there was no sign of cervical rib or pressure on vessels, the heart-sounds were normal, and no specific or rheumatic history could be obtained. There was no sign of congenital syphilis elsewhere. The pulse in the right radial was normal, and no undue thickening of arterial walls could be felt. The interest of the case lies in the early age of the patient. Dr. Bond has seen a similar condition at the age of twenty-three and twenty-four years, but believes it to be rarely seen in a patient as young as fourteen years.

[1] See The Story of the Gravels, by the author, in Lippincott's Magazine for March.

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THE TREATMENT OF SPRAINS BY MASSAGE.

FROM a study of over twelve hundred recent cases of various kinds and degrees of sprain, Drs. Van Arsdale and Gallant (*The Medical News*) announce the following conclusions:

Massage is indicated in subcutaneous hemorrhage, traumatic joint inflammations, recent or of long standing, and other late forms of inflammation, such as that from rheumatism, etc.

Fractures at the ankle are not jeopardized by very early massage, but whether or not massage later on (during the first week) is harmful, all are not agreed. Immediate massage, on the contrary (if need be, under anæsthesia), permits of a better diagnosis, and in cases with great swelling hastens the union of fragments by removing the blood and exudation between them. If fracture is made out, the massage is not to be repeated. As to contra-indications, massage should never be applied in bacterial inflammations, *i.e.*, tuberculous, gonorrhœal, or pyæmic joints. The authors believe that massage of sprained joints will: 1. Prevent swelling, or rapidly disperse it if present. 2. Prevent pain, or quickly remove it when due, as it must be, to tension. 3. Prevent stiffness, or overcome it when already present from disuse. 4. Prevent the sense of weakness and restore the part to its original vigor and strength. 5. Reduce the time of treatment from weeks to a corresponding number of days. 6. Permit the immediate use of the injured member.

When it is remembered that the treatment of sprains by the older methods is often far from satisfactory, the good results obtained by massage in the hands of experts certainly claim attention. The general practitioner will do well, however, before entirely discarding these "older methods," to thoroughly acquaint himself with what joint massage really means.

Dr. Van Arsdale has described at some length his own method of procedure, and we cannot do better than transcribe his words:

"In treating a sprained ankle by massage it is convenient to have the patient lie at full length on a rather low table (from eighteen to twenty-four inches high) upon his back with his head on a pillow, or upon his abdomen, with the flexors of the leg relaxed. The limb should be bared to well above the knee, and no constricting garments should be permitted to interfere with the circulation in the thigh. Examination of the injured joint having been made, the circumference of the limb and the extent of motility noted, the entire foot and leg are next moistened with chloroform-oil uniformly applied by means of gentle rubbing over the entire surface. The gentle touch thus first brought to bear upon the parts has the advantage of reassuring the patient. In applying the emollient, care must be taken to arrive at a 'happy mean,' as too little will result in friction, which will irritate the skin and increase the discomfort of the patient, while an excess causes the hand to slip over the surface, and results in an unnecessary waste of strength, an early fatigue on the part of the *masseur*, without accomplishing the desired effect.

"Beginning well above the tender or swollen portions of the limb, gentle, systematic, upward strokes are carried well above the knee. These first strokes are made with the pulp of the fingers, both hands being used and held parallel with the leg. At first the sides of the leg are attacked, one with each hand; but soon more of the palmar surface of the fingers is brought into contact with the skin of the patient and gradually surrounds the whole circumference of the leg, each stroke being long and slow (not more than thirty to the minute). As the force of the pressure is gradually increased, the pulp of the thumb is brought into play, and the right hand supersedes the other in force and activity, until it will become necessary to grasp the lower part of the heel, or metatarsals, and make counter-traction in order to steady the limb and permit of a greater development of force.

"When the leg, by a change of color from blue to white, shows evidence of depletion of venous blood and lymph, the strokes may begin lower down and more directly over the seat of injury, always being carried upward with the pressure exercised by the fingers—delicate at first, but with ever-increasing intensity, with the thumb of one hand only, while the other hand steadies the foot in the most convenient position. The tissues, which were hard and resistant to the touch at first, soon become softer and more elastic, and with this the pain at first experienced by the patient grows gradually less and his confidence in the operation increases. From time to time, whenever the superficial veins of the leg that were first emptied appear engorged or swollen, it is considered imperative to continue the strokes upward above the knee, and repeat the massage of the upper leg in order to evacuate the newly imported supply of blood and lymph well into the vessels of the thigh, and, as it were, 'drive the fluids home.' In like manner the toes and the portions below the place of injury are visited and their tissues also are emptied of the stagnant fluids. The region around the ankle is now considerably smaller, paler, and softer than at first, and the thumb, keeping up the upward stroking all the time, and moving with an independent action against the fingers placed opposite to it on the limb, busies itself finding out the special points around the joint where more marked hardness and stiffness may be felt, and in diving down between the bony projections and tendon-sheaths, while it glides more lightly over the prominences and ridges of bone. The well-trained thumb is very quick at discovering the points of special sore-

ness, even without the help of the patient's subjective sensations, and will make them special points of attack. When fatigue is experienced, the hands are changed and the work carried on with the left.

"Toward the end of the *séance*, which must be indicated by the patient's sensations and condition, the strokes are made to grow gradually more gentle again, and, becoming longer, extend from the foot well up to the knee, more closely resembling those described by some authors as *effleurage*. This procedure always gives the patient a sensation of pleasure and relief, and when the *séance* is ended he should be entirely free from pain, at least for a time. If he is not, it is a sign that the massage has not been properly applied.

"Massage the limb twice daily, morning and afternoon, for half an hour at a time. After massage rest the joint for half an hour, and then permit the use of the limb in walking. Elevation of the leg between *séances* is always advisable. Moist warmth is useless."

A NEW METHOD OF EXAMINING THE RECTUM AND SIGMOID FLEXURE.

Dr. Howard A. Kelly announces a new method of examination and treatment of diseases of the rectum and sigmoid flexure. This method he has been using for eleven years, but has not perfected it until within the last two years. The details of his procedure are given in the *Annals of Surgery* for April, 1895.

The steps are briefly these: 1. Thorough evacuation of the bowels.

2. The patient is placed in a knee-breast posture, the elbows spread out at the sides, while the thighs are perpendicular.

3. A cylindrical speculum or proctoscope, provided with an obturator, is then introduced.

The buttocks are drawn apart and the blunt end of the obturator is laid on the anus, which is also coated with vaseline. The direction of introduction is downward and forward, and when the sphincter is well passed up under the sacral promontory. The moment the speculum clears the sphincter area, the obturator is withdrawn, then air rushes in and distends the bowel. This constitutes the fourth step in the procedure. Fifth, and last, is the inspection of the dilated bowel by light reflected from a head-mirror. Anæsthesia is usually unnecessary, since the specula are mostly of small calibre. They differ in length, the longest being 35 ctm., and this is called the sigmoidscope.

Dr. Kelly states that by means of this method of examination, he has plainly seen and sounded a stricture of the bowel 14 ctm. (five and a half inches) above the anus. He has also recently seen a polypus not more than 5 mm. in diameter, 10 ctm. (four inches) above the anus, and he has had occasion to examine cases diagnosed and treated for years as colitis, in which he found the rectum the seat of a chronic inflammatory trouble, limited either above or below the promontory by a perfectly sound mucosa.

A Fatal Name.—An Italian was recently killed in this city, during a quarrel, by a fellow-countryman bearing the deadly name of Morphini.

HIPPOPYRRHINE.

A venerable correspondent of the *Gazette des Hôpitaux* makes a suggestion regarding the use of the word vaccine and vaccinate. He recognizes, as so many others have done, the awkwardness of the term as applied to the inoculation of animals or men for the prevention of diseases other than smallpox. To use the word vaccinate in connection with diphtheria, rabies, or cholera, is manifestly an improper application of terms. Still we need something that will serve as an equivalent. In the case of the antitoxin injections for diphtheria, Dr. Badour, the writer in question, suggests the term, hippopyrrhinate, as an equivalent to the word vaccinate. The word is a combination of ἵππος, horse, and πυῤῥός, red. The last word has for its French equivalent the term *roux*, which is an ingenious compliment to Monsieur Roux, the pioneer in France of the anti-diphtheritic injection. Dr. Badour would therefore "hippopyrrhinate" children suffering from diphtheria rather than inoculate them with diphtheritic antitoxin. The French writer's idea is better than his suggestion. The average physician would be more embarrassed in attempting to use so clumsy a term than he would by the operation itself. There is, however, a distinct need for some general word which is the equivalent of vaccinate. The word immunize has been adopted largely, and fills to a considerable extent the need, but when a person has already been attacked with the disease such word is not applicable. We shall hope that some of the learned members of our profession, who are fond of word-making, will discover a term that will hit off the case aptly and euphoniously.

News of the Week.

The New Mexico Standard for Medical Colleges.—At a recent meeting of the New Mexico Board of Health it was resolved that examination will be required from all applicants to practise medicine in the territory who shall have been graduated after July 1, 1897, from any medical college not requiring preliminary examination of its matriculants, or equivalent evidence of satisfactory general education, and, for graduation, evidence of four years' study of medicine and four terms of lectures occurring in four separate years. Meanwhile the present standard of three years' study, three terms of lectures in three separate years, and preliminary examination of matriculants will be maintained for all applicants who have been graduated since July 1, 1890.

Hospitals and Horse-racing.—M. Lebaudy has sent to the French Hospital and Dispensary of London a donation of 25,000 francs, part of a prize won by a horse which he had entered at the Auteuil races.

The William F. Jenks Memorial Prize.—The author of the essay bearing the motto, "Vade mecum," which was designated as highly meritorious by the committee of award of this prize, was Dr. William Rienhoff, of Springfield, Mo. The essay was on the subject, "Infant Mortality during Labor, and its Prevention."

The American Academy of Railway Surgeons.—The second annual meeting of this society will be held in the banquet hall of the Auditorium Hotel, Chicago, on Wednesday, Thursday, and Friday, September 25, 26, and 27, 1895. The president of the Academy is Dr. C. K. Cole, of Helena, Mont., and the secretary Dr. Webb J. Kelly, of Galion, O.

The New York State Medical Licensing Examinations.—During the academic year from September, 1894, to June, 1895, inclusive, the total number of candidates coming up for examination before the State Licensing Board was 677. Of this number 507 were successful, and 170, or 25.1 per cent., were rejected. Six hundred and six of these candidates, of whom 161, or 26.5 per cent. were rejected, came before the regular board; 60, with 8 (13.3 per cent.) rejected, came before the homœopathic board; 11, with 1 (9.1 per cent.) rejected, came before the eclectic board. Of the candidates for the year, 83 came up for examination in September, 77 in November, 56 in January, 66 in April, 163 in May, and 232 in June.

The Cholera.—The London *Times* reported on August 29th that a man had died in one of the suburbs of that city, after a sickness which lasted sixty hours, and that a post-mortem examination indicated that his death was due to cholera. *The Lancet*, however, investigated the rumor and found that there was no proof whatever that the disease was Asiatic cholera, for a careful bacteriological examination failed to show the presence of Koch's spirilla. The reports of the disease in the East are, unfortunately, better founded. A despatch from Shanghai says that official reports show that there were forty thousand deaths from cholera in Pekin during August. Other parts of China, notably Nankin, and most of the large cities of Japan, are also suffering severely from the ravages of the disease. It is reported that cholera has been brought to Honolulu by a ship which touched there on her way from Hong Kong to San Francisco. The same ship, upon her arrival at the latter port, reported a clean bill of health. The customs officers have discovered, however, that during the ten days she lay there, there were in a cubby hole in the steerage three bodies of Chinamen who had died of cholera. The prevalence of cholera in Honolulu and in the Orient has created much anxiety on the Pacific coast. The Board of Health of Portland, Ore., is already adopting stringent quarantine measures, and it is thought that at no time have the cities in that part of the country been so seriously menaced as now. The disease has also been carried from Japanese ports to Vladivostock, in Siberia.

The Huxley Memorial.—According to a report in *Science*, the movement begun in England for the erection of a suitable memorial to Professor Huxley is taking form rapidly. A suggestion has been made that the monument be made international, and it is expected that, on the convening of the British committee, in October, this extension of the plan may be given formal approval.

A Ship's Crew with Beriberi.—The captain of a steamship, recently arrived here from Barbadoes, reports that when he left that port there was an American bark in the harbor whose captain and nearly all of the crew were suffering with beriberi. The bark had sailed from Aleppy, Madras, on May 16th, loaded with general merchandise bound for New York, and on the voyage nearly all of the crew and also the captain were stricken with the disease. They put into Barbadoes for medical assistance and fresh provisions.

An Epidemic of the Dancing Sickness broke out a few weeks ago among the school-children of Rehlingen, a village in Germany. During a violent thunder-storm that came on one day while the children were all in school, one of them, a girl twelve years of age, was suddenly seized with a general tremor, and soon after, jumping from her seat, began to dance wildly over the floor. Other girls immediately began to imitate her, and before long there were over thirty of the girls, and seven or eight of the boys, all hysterically dancing around the school-rooms. This was kept up for an hour or two, and was repeated the following day at about the same hour. The schools were then closed for three weeks in order to get the children into a normal state.

The Pilgrimage to Lourdes this year is the largest that has ever taken place. From fifteen thousand to twenty thousand ill and afflicted were received there every day. A great many reputed miracles have been reported; the cases are examined at Lourdes by a board of physicians, three of whom are English-speaking Protestants. A despatch in the *Sun* says that the reports of the pilgrimage were "in some features most appalling. The Orleans station in Paris was filled day and night by thousands of sufferers enduring indescribable agonies in the effort to reach the healing waters. Most of the time the air rang with shrieks of pain as the almost dying pilgrims were loaded or unloaded on the cars, which were packed to their utmost capacity. The scene one afternoon, when a special train from Germany, laden with six hundred invalids, many of them desperate cases, arrived for a change of cars, was enough to drive mad any spectator without the strongest nerve." The officials of the Orleans railway state that the returning trains have not nearly as many passengers requiring assistance as the departing trains.

Obituary Notes.—Dr. Edward Scott, of this city, a graduate of the College of Physicians and Surgeons, died in San Diego, on August 29th, of phthisis. He was twenty-eight years of age, and had gone to the Pacific coast three months ago in the hope of arresting the progress of the disease.—Dr. Thomas Henderson Chandler, Dean of the Harvard Dental School, died in Boston, on August 27th, at the age of seventy-one years.—Dr. Henry W. Rand, of Brooklyn, died at Sugar Hill, N. H., recently. He was born in Nova Scotia in 1851, and was graduated from the Bellevue Hospital Medical College in 1877. He was Lecturer on the Principles of Surgery at the Medical School of the Long Island Hospital. He left a wife and two children.

Mortality in New York State.—According to the State Board of Health bulletin, the average daily mortality in this State for July was 377, as against 293 for June. The average daily mortality during July in the past ten years was 370. More than one-quarter of the

deaths from all causes were from diarrhœal diseases, though the number from this cause was below the average for the past ten years. About fifty per cent. of the deaths from all causes were of children under the age of five years. Diphtheria caused less than three per cent. of the deaths, the mortality being below that of the corresponding month in 1894. Whooping-cough caused 143 deaths, measles 130, and scarlet fever but 32, all of them being in the maritime and Hudson Valley districts. There were no deaths from small-pox, and no cases of this disease were reported.

Cremation in the United States.—In a report made to the New England Cremation Society, it is stated that seventeen crematories have been established in this country during the past ten years. The number of bodies cremated in each of the ten years was as follows: In 1885, 36; in 1886, 119; in 1887, 125; in 1888, 199; in 1889, 262; in 1890, 362; in 1891, 464; in 1892, 576; in 1893, 677; in 1894, 876.

Public Baths in New York.—Mr. W. Tolman, Secretary of the Committee on Public Baths, recently reported to Mayor Strong that plans for the public bath-houses had been prepared and, after approval by the Health Department, adopted. The next step will be the selection of several sites for the bath-houses, and then the securing of the necessary appropriation, which it is hoped can be done in time to have one or more of the baths in operation by or before the beginning of next summer.

The Mortality in European Cities during 1894.—The death-rate of Berlin for 1894 was 17.2 in a thousand, that of London, 17.7; Brussels and Hamburg, 18.1; Amsterdam, 18.3; Copenhagen, 18.7; Turin, 18.8; Rome, 19.6; Glasgow, 20.0; Paris, 20.2; Manchester, 20.4; Vienna, 22.8; Liverpool, 23.8; Dublin, 24.7; St. Petersburg, 31.4; and Moscow, 34.1.

Mandelate of Antipyrin is a newly discovered combination which is said to have all the therapeutic properties of antipyrin, but without its injurious action upon the heart. Mandelic acid is obtained by the action of prussic acid and hydrochloric acid upon benzaldehyd.

The Pennsylvania and Maryland Medical Union Association held its eighteenth annual meeting at Columbia, Pa., on August 29th.

Medical Touts at Hot Springs.—The fight on the ropers and steerers goes merrily on. The doctors, almost to a man, are backing the authorities with money and influence, and we hope before long to be able to chronicle the fact that not one of these men will be left in our fair city.—*Hot Springs Medical Journal.*

Cimicifuga in Rheumatism.—Dr. David Hurd (*Medical Age*) is a firm believer in the efficiency of cimicifuga as a remedy for rheumatism of all kinds. He gives from four to six drops (presumably of the fluid extract) four times a day. The drug, like many others of its kind, possesses irritant properties which, in large amounts, produce vomiting and purging—a direct method of excretion possessed by the animal organism. In smaller doses it enters the circulation, and then it is only reasonable to suppose that the various excretory organs are stimulated to extra activity in throwing the offending substance out of the system. To this increased activity of the emunctories the improvement in rheumatic affections following the use of cimicifuga must doubtless be attributed.—*Pittsburg Medical Review.*

Etiology of General Paralysis.—At the recent French Congress of Alienists and Neurologists, M. Lagrange read a paper on "The Relation of Syphilis to General Paralysis of the Insane." Among 287 women in his hospital service, 6 had general paralysis, and of these only 1 was syphilitic. Of 250 men, 25 were paralytic, but only 2 syphilitic. One man, forty years of age, had contracted syphilis after he had had distinct symptoms of general paresis for some time.

Oxygen Treatment of Ulcers.—One of the most interesting demonstrations of the meeting was that by Dr. Stoker, of Dublin. It consisted in the application of oxygen gas to the treatment of chronic ulcers. The treatment consists in the incarceration of the affected part in a chamber charged with oxygen during several hours of each day. I recall one illustrative case of a large annular ulcer of the leg, which had defied all sorts of treatment in the London hospitals for years, and which was completely cured by this treatment in two months. One interesting test case was that of a woman with a very large ulcer on each leg, each practically like the other. The one was being subjected to the modern bichloride treatment, the other to the oxygen treatment. The former was free from all germ life, none being demonstrated by culture processes, while the latter abounded in practically all of the pathogenic variety, yet the latter ulcer was healing with twice the rapidity of the former. This fact would indicate that oxygen is not a germicide, and that the presence of pathogenic germs in an ulcer is not inimical to the process of repair. The paper, when published, will attract widespread attention, a fact for which the profession is in no sense indebted to the Council of the British Medical Association, which declined to give Dr. Stoker a place on the programme, but who, with true Irish grit, hired his own hall.—Dr. Charles A. L. Reed in the *Lancet-Clinic.*

One of the Early Woman Doctors.—A veracious writer in the Paris *Temps* tells a story of an English army surgeon, named Macleod, "a grave, skilful, wise, and reserved practitioner." His comrades sometimes rallied him on his sobriety and continence, but he replied only with a shrug of the shoulders. One day, in India, a lieutenant of his mess jokingly said that he lived like a young lady. Macleod jumped from his chair and slapped the officer in the face. A duel followed, and the lieutenant was shot. The surgeon then resigned and returned to England. Upon his death, some years later, it was found that the surgeon was a woman, and among her papers were found some showing that she was a member of one of the oldest families in Great Britain.

The Trade of Medicine.—A German paper gives an account of a danger menacing the welfare of doctors which has lately appeared in Munich in the shape of "medical corporations," advertised to furnish treatment at extremely low rates.

Reviews and Notices.

MANUEL DE SÉROTHÉRAPIE ANTI-DIPHTHÉRIQUE. Par le DR. M. FUNCK, Chef des Travaux Bactériologiques de l'Institut Sérothérapique de Bruxelles. Preface by PROFESSOR DESTRÉE. Brussels: H. Tanertin. 1895.

THIS may be said to be the first practical work of the kind on the methods of preparing antitoxin, the action of the serum, the technique of injection, etc. Besides this, in the one hundred and sixty pages are comprised an account of the evolution of serotherapy and the general results from it in diphtheria during 1894. The work is one of practical interest at the present time, aud deals with the actual results of laboratory work and observation.

THE CELL. OUTLINES OF GENERAL ANATOMY AND PHYSIOLOGY. By DR. OSCAR HERTWIG, Professor Extraordinarius of Anatomy and Comparative Anatomy; Director of the II. Anatomical Institute of the University of Berlin. Translated by M. CAMPBELL and edited by HENRY JOHNSTONE CAMPBELL, M.D., Assistant Physician to the City of London Hospital for the Diseases of the Chest, and to the East London Hospital for Children. London: Swan Sonnenschein & Co. New York: Macmillan & Co. 1895.

THIS is an important addition to the literature of histological anatomy and physiology, and we are glad to find it translated into English for the use of those students who are unable to read the work in the original. The translation has been well done in the main, though it is a pity that the editor has apparently never heard of the word proton, proposed, we believe, by Wilder, as an equivalent of the German Anlage. Indeed, both author and editor might have improved their work considerably by a study of the American literature of the cell.

TRANSACTIONS OF THE NEW YORK STATE MEDICAL ASSOCIATION FOR THE YEAR 1894. Volume XI. Edited for the Association by E. D. FERGUSON, M.D., of Rensselaer County, N. Y. Published by the Association.

THIS handsomely printed volume, of some seven hundred and fifty pages, contains a number of interesting papers on a great variety of subjects.

A SUMMARY OF THE VITAL STATISTICS OF THE NEW ENGLAND STATES FOR THE YEAR 1892. Boston: Damrell & Upham.

THIS is a concise statement of the marriages, divorces, births, and deaths in the six New England States for 1892. It has been compiled under the direction of the Secretaries of the Boards of Health of these States, and is an important contribution to statistical literature.

ANNUAL REPORT OF THE SUPERVISING SURGEON-GENERAL OF THE MARINE HOSPITAL SERVICE OF THE UNITED STATES FOR THE YEAR 1893. In Two Volumes. Washington: Government Printing Office. 1895.

THESE volumes contain the usual reports of the Marine Hospital surgeons and inspectors on duty in this country and abroad. They are an evidence of the good work done by the officers of this service under the able and energetic direction of Dr. Wyman. In looking over these reports, however, one is constantly reminded that the work done belongs in no sense to the Treasury Department, but should be done by officers of a National Health Department.

ENCYCLOPAEDIE DER THERAPIE. Herausgegeben von OSCAR LIEBREICH, Dr. Med. Geheimer Medicinalrath, o.ö. Professor der Heilmittellehre an der Friedrich-Wilhelms-Universität, unter Mitwirkung von MARTIN MENDELSOHN, Dr. Med., Privatdocent der Inneren Medicin an der Friedrich-Wilhelms-Universität, und ARTHUR WÜRZBURG, Dr. Med. Kgl. Sanitätsrath, Bibliothekar im Kaiserlichen Gesundheitsamte. Erster Band, erste Abtheilung. Berlin: August Hirschwald. 1895.

THIS is the first part of the first volume of what promises to be a work of great merit and utility. It is not strictly an encyclopædia of therapeutics, for a number of subjects treated, as, for example, amyloid degeneration, are as yet beyond the reach of treatment. It is perhaps rather an encyclopædic medical dictionary with special emphasis upon the therapeutic titles. Many of the leading clinicians of Germany, in addition to those specially designated as editors, are contributors to the work. Among the more important subjects dealt with in this part are: Abscess, Absorption, Acids, Alcohol, Diseases of Old Age (Alterskrankheiten) Anæsthesia, Antidotes, Antimony, Antiphlogosis, Antipyretics, Antisepsis and Asepsis, Arsenic, Asthma, Medication (Arzneianwendung), and Atropine. One of the titles, written by Ewald, is on Achylia Gastrica, the term proposed by Einhorn for a condition in which there is no secretion of the gastric juice. This and many other articles show that the work is fully up to date. The completion of the work is promised within the next two years.

THE LONDON HOMŒOPATHIC HOSPITAL REPORTS. Edited by GEORGE BURFORD, M.B., C. KNOX SHAW, and BYRES MOIR, M.D. Vol. IV. London: Homœopathic Hospital. 1894.

THIS volume contains a number of papers on various subjects by the leading homœopathic practitioners of London.

THE AMERICAN ACADEMY OF RAILWAY SURGEONS. Official Report of the First Meeting. Edited by R. HARVEY REED, M.D. Chicago: American Medical Press Association. 1895.

THIS volume of transactions contains the history of the Evolution of the American Academy of Railway Surgeons as well as the report of its first meeting in Chicago, in November, 1894.

THE RETROSPECT OF MEDICINE. A Half-yearly Journal, Containing a Retrospective View of Every Discovery and Practical Improvement in the Medical Sciences. Edited by JAMES BRAITHWAITE, M.D., Obstetric Physician and Surgeon to the Leeds General Infirmary, etc. Vol. CXI. London: Simpkin, Marshall, Hamilton, Kent & Co. 1895.

BRAITHWAITE'S Retrospect appears with its accustomed regularity, and contains the usual amount of abstracts from periodical literature. This excellent work holds its own well in competition with its younger rivals.

SKIASCOPY AND ITS PRACTICAL APPLICATION TO THE STUDY OF REFRACTION. By EDWARD JACKSON, A.M., M.D., Professor of Diseases of the Eye in the Philadelphia Polyclinic and College for Graduates in Medicine; Surgeon to Wills Eye Hospital, etc. With twenty-six Illustrations. Philadelphia: The Edwards & Docker Co. 1895.

THE object of this book is to urge a more general adoption of skiascopy in the examination for ametropia. The method is one which is but little employed by ophthalmologists, but the author believes that this neglect is the examiner's loss. The description of the test is clearly expressed, and the author writes with all the authority and the enthusiasm of an expert. Young ophthalmologists cannot afford to gnore skiascopy, and they can nowhere find it better explained than in this little work.

THE EYE IN ITS RELATION TO HEALTH. By CHALMER PRENTICE, M.D. Chicago: A. C. McClurg & Co. 1895.

THE author of this curious book was evidently prepared to encounter adverse criticism, for he begins with the definition of a critic and recounts his necessary qualifications. We confess we have been unable to verify the facts of astounding cures of organic diseases by the fitting of glasses, as recounted by the author, which run counter to all medical experience from the days of Hippocrates up to that of Prentice. Among the cases which the author asserts that he has cured by eye-glasses are many of pulmonary tuberculosis, diabetes mellitus, ovaritis, "female weakness," Bright's disease, prostatitis, insanity, cirrhosis of the liver, sterility, rheumatism, and uric-acid diathesis.

O QUARTO CENTENARIO DA FEBRE AMARELLA. Pelo DR. CARLOS SEIDL, Director do Hospital de S. Sebastião. Rio de Janeiro: Besnard Frères. 1895.

THIS is a brief monograph written to commemorate, but not to celebrate, the quadri-centennial of the first appearance among the Europeans, companions of Columbus, of yellow fever. This occurred on March 24, 1495.

CHART OF THE SYMPATHETIC NERVOUS SYSTEM. By BYRON ROBINSON, M.D. Chicago: E. H. Colgrove & Co. 1895.

THIS is a drawing, life-size, of the sympathetic nerve, made from dissections. It gives one a very clear idea of this important part of the nervous system.

OFTALMOLOGIA CLÍNICA. Por el DR. ENRIQUE LOPEZ. Segunda Serie. Habana: Imprenta del Avisador Comercial. 1895.

THIS is a study of 1,000 cases of affections of the eye conducted on the same plan as an analysis of a former series of 1,000 cases published by Dr. Lopez five years ago. This volume is illustrated by sixty-seven wood-cuts. The work is a valuable contribution to ophthalmological literature.

A COMPLETE CASE RECORDER IN GENERAL MEDICINE AND GYNECOLOGY, for the Use of Physicians, Students, Dispensaries, and Hospitals. By S. B. LYON, M.D. Chicago: A. L. Koursh & Co. 1895.

THESE blanks are intended to assist the student in hospital or the practising physician in keeping an accurate record of his cases. They seem to be well adapted to this purpose.

STUDIER OVER ÆTIOLOGIEN OG PATHOLOGIEN AF ILEUS. Af JOHAN NICOLAYSEN. Kristiania: Det Steenske Bogtrykkeri. 1895.

THIS is an interesting monograph, illustrated by two colored plates, based upon a careful study of thirty cases of ileus. Fourteen were due to internal obstruction, sixteen to strangulation of the gut from external causes.

ANUARIO DE LA CLÍNICA PRIVADA del DR. FARGAS. Barcelona. 1895.

THIS is a report of the gynecological cases occurring in the private practice of Dr. Fargas during the course of a year. The subjects treated are surgical intervention in uterine myomata, torsion of the pedicle in ovarian tumor, anæsthesia, aseptic methods employed by the author, vaginal applications, and a description of an operating-table.

LA MEDICACIÓN ANTITÉRMICA EN LOS PROCESOS FEBRILES AGUDOS. Por J. QUERALTO, Profesor Auxiliar de Clínicas en la Facultad de Medicina de Barcelona, etc. Barcelona: Francisco Martinez. 1895.

THIS excellent monograph on antipyretic medication in acute febrile conditions obtained the prize of the Royal Academy of Medicine and Surgery of Barcelona, in 1892. The author's conclusions are, in general, that fever calls for no treatment other than that directed against the causal condition, except when it rises to a dangerous height. In such case the antipyretic that is of the most value is the cold bath; alcohol in moderate doses is also very beneficial.

Clinical Department.

CASES OF BRAIN TUMOR.[1]

BY GEORGE J. PRESTON, M.D.,

PROFESSOR OF PHYSIOLOGY AND DISEASES OF THE NERVOUS SYSTEM, COLLEGE OF PHYSICIANS AND SURGEONS, BALTIMORE, MD.

SINCE the last meeting of this Society, several cases of tumor of the brain have come under my notice, among which the following are perhaps worthy of record:

CASE I.—Samuel F——, colored, aged thirteen. Family history negative, except that the father gives a suspicious history of syphilis. The boy's personal history was good; he has had the usual diseases of childhood, but has been fairly healthy. In April, 1893, he had a convulsion, which was attributed to undigested food. A few weeks after this he had another convulsive attack, and since has had two or three attacks a week. The attacks are general, attended by total loss of consciousness. Just before the attack comes on he holds his arms out in front of his body. When first seen at the dispensary the case was regarded as one of idiopathic epilepsy, and the attacks were very much lessened in frequency by the bromides. After he had been some months under treatment he suddenly developed diplopia. An examination of his eyes, kindly made for me at this time (March 14, 1894) by Dr. Harry Friedenwald, showed paralysis of the right external rectus and intense neuro-retinitis of both eyes. V.—R. E. $\frac{5}{15}$, V.— L. E., reduced to counting fingers at 4 to 5 feet. There was also left lateral achromatopsia. At the next examination, a week later, central vision was the same; but there was now left lateral hemiopia, complete in the upper half of the field, and partial in the lower. The part preserved on the hemiopic side was still further reduced by March 16th, ten days later. The boy was admitted into the hospital June 16, 1894, when the following notes were made: Organs of circulation, digestion, respiration normal. Urine shows no trace of albumin or sugar. Great loss of strength and general emaciation. Is barely able to stand, and cannot walk without assistance. There seems to be some tendency to fall backward. Both superficial and deep reflexes absent. Complains of intense headache, and the head seems very sensitive to percussion. Tactile and pain sense greatly impaired. By this time the paralysis of the right external rectus had entirely disappeared. Hearing was greatly impaired by April 3d, and when admitted into hospital the boy was completely blind and deaf. The optic nerves now showed post-neuritic atrophy. The boy's strength gradually failed, and death took place on July 22d.

The autopsy revealed a tumor measuring something like 6 × 6 ctm., situated in the right temporo-sphenoidal lobe. The growth apparently started from the inner surface of the dura mater, and the bones of the right middle fossa were eroded by the pressure. The whole of the right temporo-sphenoidal lobe was softened and disintegrated, and the softening also involved the right occipital lobe. The right cuneus was softened in its centre, but the gray matter was not invaded. The only part of the cortex involved was the temporal lobe. The ventricles were full of fluid. Other organs normal. Microscopic examination of the tumor showed it to be a sarcoma.

CASE II.—Georgianna C——, colored, aged thirty-nine. Family history negative, except that a brother had epilepsy. Personal history negative. Examination of chest showed pulmonary tuberculosis. Heart normal. No albumin or sugar in urine. Reflexes, superficial and deep, normal. Patient states that she has had intense, unintermittent pain in the head, and locates the pain about the junction of the lamboid and sagittal sutures. There is marked tenderness on percussion at this point. According to the statements of patient this pain began five or six weeks prior to entering the hospital. Mental power is distinctly impaired; there are no delusions, but she answers questions in a vague, uncertain way, and her talk is rambling. Patient has had epileptiform attacks for some months past, and says she can tell when the attacks are coming on by certain peculiar feelings in her arms, particularly the right. Examination of the eyes shows double optic neuritis, with congestion and tortuous veins. The right eye has many retinal hemorrhages.

Death occurred from pulmonary tuberculosis, and the autopsy revealed a circular, firm tumor, fungoid in appearance, measuring 2 to 3 ctm. in diameter, and attached to the under surface of the dura. The tumor imbedded itself in the superior occipital convolution of the right side, making a cavity about the size of a partridge egg. Microscopic examination of the tumor showed it to be a papilloma. The ventricles were full of fluid, the brain otherwise normal. The interest of this case lies in the marked symptoms, head pain and tenderness on percussion and optic neuritis, caused by a tumor of such small size and located in such a comparatively unimportant part of the brain.

CASE III.—Henry J——, colored, aged thirty-five, was brought into the hospital in a convulsion. Gave a history of having had fits before, but it was impossible to fix the date of onset. Organs of circulation, respiration, and digestion were normal. Examination of the urine showed albumin and casts. There was no paraly-

[1] Read before the Twenty-first Annual Meeting of the American Neurological Association, Boston, June 5th.

sis of motion or sensation, and the reflexes, superficial and deep, were present. Ophthalmic examination showed congestion of eye ground, but the condition of the patient was such that no thorough examination could be made. After a few days the patient's general condition improved somewhat, and he complained of intense headache, unintermittent in character, and not confined to any particular part of the head. At this time a peculiar tremor developed; starting in the left arm, it gradually involved the shoulder and head of the same side. In a few days the tremor became general, involving the whole body, and a rather active delirium set in. Patient would answer questions, but in an irrational way; there was no deafness. He finally became maniacal, and had to be tied in bed. For a few days his delirium took a religious turn, going to heaven, conversing with the Lord, etc. He then took a turn at swearing, and for several days kept this up constantly. The patient became gradually weaker, and died November 15th, or about two weeks after admission to the hospital.

The autopsy showed a tumor growing apparently from the dura, involving the posterior portion of the left temporo-sphenoidal lobe, the occipital lobe of left side, and the left lateral lobe of the cerebellum. The growth destroyed the posterior half of the second and third convolutions of the temporal lobe, but did not touch the first convolution. It will be remembered that there was no discoverable impairment of hearing. The occipital lobe was also involved, most of the angular and supra-marginal gyri being compressed. The tumor encroached slightly on the under surface of the left lateral lobe of the cerebellum. It is to be regretted that the condition of the patient was such that no accurate examination of the eyes could be made. The tumor was a sarcoma. The liver and kidneys were cirrhotic, and spleen small and cirrhotic.

Case I. was the only one in which operation was suggested, and the father of the child refused permission. In the other two cases, although a diagnosis of brain-tumor was made, definite localization was impossible.

THE COEXISTENCE OF ERUPTIVE FEVERS.

By A. A. HIMOWICH, M.Sc., M.D.,

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John Hunter[1] announced his doctrine on this subject in the following language:

"As I reckon every operation in the body an action, whether universal or partial, it appears to me beyond a doubt that no two actions can take place in the same constitution, nor in the same part at one and the same time; the operations of the body are similar in this respect to actions or motions in common matter.

"It naturally results from this principle that no two different fevers can exist in the same constitution, nor two local diseases in the same part, at the same time. . . . In two eruptive diseases, when both are necessarily the consequence of fever, and when both naturally appear after the fever, nearly at the same distance of time, it would be impossible for the two to have their respective eruptions, even in different parts, because it is impossible that the two preceding fevers should be coexistent."

Charles Murchison,[2] commenting on Hunter's views, very justly remarks that this doctrine is at variance with clinical experience. At present there are very few physicians who have not met cases in which the coexistence of two fevers was plainly manifest, but the coexistence of eruptive fevers is indeed of rare occurrence. We very often meet cases of scarlet fever and diphtheria, measles and diphtheria, but we do not often meet typhus or typhoid fever together with scarlatina, nor scarlatina together with measles. Because of the comparative rarity of such coexistences I consider the following cases worthy of record:

Case I.—S. S——, female, about three years of age, was taken sick with an unusually high fever. As no cause could be found to account for the high temperature, I deferred diagnosis until further development and treated this symptom by frequently sponging the body with alcohol and water. Two days later there appeared the well-known eruption of varicella, but this did not in the least diminish the severity of the fever.

As I had never before seen such a peculiar case of varicella, I watched my little patient with extreme interest. Next day my attention was called by the mother to the patient's throat, as she observed some difficulty in swallowing. The throat was typical of scarlet fever; an examination of the body revealed the scarlet eruption. The case proved to be a very severe scarlatina.

There were two more girls in the family. One older, who had already suffered from this disease, and one younger. The latter was not isolated at the beginning, and when the true nature of the disease was ascertained I considered it too late for isolation.

I must confess that there was also the desire to see how her younger sister would be affected. The result was that this child went through the same experience as her sister, viz., high temperature, varicella, and scarlet fever. Both suffered subsequently from nephritis, and both recovered.

Case II.—R. S——, female, four years of age, was brought to my office for treatment. Her mother made the diagnosis of varicella, but she thought the child was also sick otherwise. The diagnosis was correct, but as the fever was higher than in an ordinary case of varicella, and the general appearance bad, I ordered the child to be put to bed and fed on milk alone. Next day I found the typical eruption of scarlatina on the child's body and face; the throat was also one of scarlet fever. The disease in this case ran a much milder course than in the two previous cases.

Case III.—S. K——, female, about three and one-half years of age, was brought to my office for general distemper. The mother gave me the following history: The child had a red eruption on the body first, then on the face and extremities; but no other symptoms were observed. At night she would have some fever, which would disappear in the morning. The child was playing during the day with other childeren of the same tenement, and there was nothing to indicate that medical advice was necessary. The eruption was all gone, but the child's general condition became very bad. From the history, it seemed evident that the patient was suffering from a mild attack of scarlet fever. The examination strengthened this supposition. The child's body was in the desquamative stage, and there was albumin in the urine. On further questioning I learned that there were other children suffering from scarlet fever in the same house about the same time that this child had the eruption. The child had bronchitis, not of a severe form; surely not enough to account for the general debility and malaise. Considering the nephritis mostly responsible for the trouble, I began to treat the kidneys, with the result that the amount of albumin was diminished considerably. The fever increased steadily, and with increase of fever the pulmonary symptoms became worse. This led me to believe that the fever was due to the development of a broncho-pneumonia. The mother noticed that the child's eyelids were red and heavy, and there was a great deal of sneezing and coryza. The same night the whole face and body were covered with a red eruption, while the severity of the fever abated. When I saw the child in the morning I was struck by

[1] John Hunter's Works, Palmer's Edition, vol. iii., p. 4.
[2] Murchison on Fevers, Second Edition.

the peculiarity of the rash. There was surely measles, but besides measles there was also the distinct eruption of scarlatina. Both eruptions coexistent in the same child at the same time! The scarlatina was probably a reinfection from the previous attack.

Dr. Francis Huber also saw the case in my absence. When I was informed of the fact I saw Dr. Huber, and he told me that he could plainly distinguish the eruptions of both measles and scarlatina.

These cases show that eruptive fevers may be coexistent, not only varicella and scarlet fever, but also measles and scarlatina. This coexistence is probably of greater frequency than is generally supposed, but the symptoms of one fever mask the other so that it is rarely recognized and very often not even suspected.

That one attack of scarlatina does not always immunize the individual from another attack of the same disease, and that they may follow each other in rapid succession, undisturbed by other pathological changes in the same system, is clearly shown in the last case here reported.

136 Henry Street.

TREATMENT OF TYPHOID FEVER.

By WILLIAM E. PUTNAM, M.D.,

WHITING, IND.

I believe that typhoid fever, like diphtheria, is first a local trouble and then becomes systemic. I first empty the bowel and unload the portal circulation, using calomel or cascara sagrada, or any other efficient laxative, so that the bowel is well emptied. At my first visit I put the patient in possession of the largest and best room in the house.

Usually all carpets, rugs, and curtains are taken up. During the last two years I have not used aconite or fever remedy of any kind internally. I order first a soap-and-water bath, going over the body a little at a time and covering all parts not under the brush. Then I have the nurse give an alcoholic rub. This is always followed by a fall in temperature of from one to two degrees and one or two hours' sleep. To lower a fever of 104° F., I have the nurse wet the whole surface of the body with alcohol, wait five minutes and go over the patient again; then take the temperature and, if not low enough, go over patient once more, but not to exceed three times, with the alcohol. Internally I used for several years turpentine in emulsion, after an excellent article I read in the Medical Record. Then I used salol with good results. For the last two years, I have used sulphocarbolate of zinc in two-grain tablets. Dose, four grains every two to four hours. I have lately treated about twenty cases with sulphocarbolate of zinc, depending almost entirely on that one drug. A number of times, when the temperature would jump up two or three degrees, I have doubled the dose of my sulphocarbolate of zinc, and it acted on the typhoid poison in the canal in such an effective manner as to bring the fever down two or three degrees. I claim in all cases where the bowels are open that four-grain doses of sulphocarbolate of zinc will lower the temperature. In private practice, when the patient eats forbidden fruit, as we know they oft-times do, I never hesitate to go after it and chase it down through the canal with half a grain of mild chloride of mercury or cascara sagrada tablets.

Nitrate of strychnia, grain $\frac{1}{30}$, every four hours all the way through, will give your patient comfort and help his lungs to pump more good air. This drug is best given in tablet triturates.

During convalescence I give the old standby—quinine, strychnia, and iron. Since 1885 I have not lost one case of typhoid where I was called during the first ten days of the disease, and I have had as high as twenty-three cases of typhoid under treatment at the same time.

Society Reports.

THE BRITISH MEDICAL ASSOCIATION.

Sixty-third Annual Meeting, held in London, July 30 and 31, and August 1 and 2, 1895.

(Specially Reported for the Medical Record.)

SECTION OF SURGERY.

First Day, Wednesday, July 31st.

Address of the Chairman.—Sir William MacCormac took as the subject of his address "Some Points of Interest in Connection with the Surgery of War." He said that a study of the effects of the new small-bore rifle-bullets and the injuries that they inflicted was one that it was impossible to over-estimate. It was to be regretted that in the British army the principal medical officer in the field was not given that influence in the councils of the general commanding which was his due. The disposal of the enormous number of wounded that was sure to collect after a general action in the future was a question that would have to be reckoned with. The speaker showed specimens obtained in the war of 1870–71, exhibiting the shattering effect on bones of the large bullets then in use. There was a strong family likeness between the new rifles adopted by all the European powers. The bore was, upon the average, less than one-third of an inch, the charge of powder varied from 215 to 225 grains, the bullet resembled a lead-pencil, and its length was about four times its diameter. It described twenty-five revolutions in a second, had an initial velocity of two thousand feet per second, and an effective range of about two miles. Hitherto nine-tenths of the wounded in modern war were injured by rifle-bullets. Many experiments had been conducted with a view to ascertain the nature of the injuries that would probably be met with in future wars. Leaden vessels and pipes filled with jelly had been fired at, at short ranges, and the results noted. The distortion and explosive effects were enormous. Large rents were made, and the walls of the vessels bulged out in various directions. The explosive effect seemed to occur after the bullet had traversed the vessel; for the displaced wall could, in many cases, be pushed back, showing the cleanly cut round hole of exit.

The German War Ministry, with its characteristic practical foresight, had instituted and carried out a series of elaborate experiments in order that German military surgeons might be prepared, as far as possible, for the nature of the injuries that they might be called upon to treat. In the museum in Berlin there were now upward of one thousand specimens, the result of these experiments. Most elaborate precautions were taken, which the speaker detailed, so that the bodies of men and animals fired at should be, as far as possible, under the conditions in which they would be struck in real warfare. In examining the wounds frozen sections were made, or the track of the bullet injected with fusible metal. At a range of two thousand yards the bullet traversed the skull, thorax, or abdomen. The liver was the organ that suffered most damage, being, in some cases, almost pulped. The intestines were perforated by multiple wounds, from three to eight in number. The effects of a bullet, fired at a range of fifty metres, on a full skull were appalling, its walls being shattered fearfully. On an empty skull, beyond the two perforations, little damage was inflicted. Using reduced charges at a short range, the effects were proportionately less severe. When the shaft of one of the long bones, such as the femur, was struck, great damage was inflicted, the bone being shattered for a distance of five or six inches. When the cancellous tissue at the end of a long bone was struck,

much less damage was caused beyond the perforation. The conclusion to be drawn from these experiments on the long bones, and from the specimens exhibited, was that the damage done was very great up to ranges of two thousand yards or even more. The openings of entrance and of exit were both small, but great damage was done in between, as in the case of an ankle-joint, which was quite shattered. The new bullet was often found to be unchanged in appearance even after penetrating cancellous bone. After richochetting, the bullet was extremely dangerous, as its hard covering was liable to be torn and the sharp edges cut through arteries and other soft parts. In 4.5 per cent. of the bullets found after inflicting a wound, there was deformity of the projectile. As regards the danger of hemorrhage, primary bleeding was much more likely to occur in wounds from the new bullet than from the older, while secondary hemorrhage would be less frequent. It was well known that in the field wounds of the large arteries are generally fatal, for the patient dies before help can reach him. It was, therefore, greatly to the credit of the Japanese that in the late war with China they saved two such cases, one of wound of the brachial artery, the other of the femoral. This showed how closely their bearer companies must have attended on the troops engaged.

It was noteworthy that large vessels were frequently only partially divided by the new bullet, and this, to some extent, explained the greater liability to primary hemorrhage.

As Volkmann had observed, injuries to bones caused by gunshot are less serious and heal much better than injuries of the like extent inflicted by other forms of violence. The experience of the German-Russian surgeons von Bergmann and Reyher in Europe and Asia respectively, during the Russo-Turkish War, was remarkable. They recorded most successful results of conservative treatment in cases of wounds of the knee-joint.

In future, conservatism must be the rule in the treatment of gunshot wounds of the bones. Direct wounds of the lung by the new bullets were simple, and unless a large vessel or bronchus were wounded almost trivial. Splinters of bone were seldom carried in. When, however, the bullet glanced off some external object, the injuries were serious. Otherwise the elastic air-containing substance of the lung suffered scarcely any harm beyond the small track of the bullet.

Excluding suicidal cases, the mortality in lung wounds recorded was only 12.5 per cent., and all these cases succumbed to injury of large vessels or bronchi.

Injuries of the skull are very serious. In 1870–71 ten per cent. of the wounded were injured in the skull, but in not all of these was it penetrated. In future, probably, the skull would be seriously fractured or fissured whenever it was touched by a bullet.

Wounds of the abdomen will probably be invariably fatal, unless an early laparotomy can be performed. This affords the only hope of recovery, but it is probable that in the field in the confusion and strain attending a general action, with hundreds of wounded needing help, the surgeon will be unable to afford the time and care needed for its performance. Skilled assistance will also perhaps be scarce.

It is to be expected that the next great war will be far more destructive to life than former wars of modern times, but the recoveries among the cases treated will probably be more numerous. Bullets will seldom lodge in the body, and should one do so, it should be left alone and not searched for. The probe will be less used and, as Fischer has said, the surgeon at the dressing station must use his eye more than his hand.

The address was illustrated by numerous lantern slides and preparations lent by Professor Hueter, of Greifswald, and by others.

Rhinoplasty.—Surgeon-Major Keegan then read a paper on "Rhinoplasty in India." His experience had been chiefly among young and healthy patients, principally women who had been mutilated by jealous husbands or others. The operation which he usually practised was that described in Treves's "Operative Surgery." He removed a flap of skin from the nasal bones, and having reversed it so that the epidermal surface was inward, used it as a lining for the newly formed nares in order to prevent subsequent contraction. A flap brought down from the forehead was used to cover the surface thus denuded and to complete the nose. In dividing the root of the flap later on, he was careful to cut a wedge-shaped piece out of it, in order to preserve the shape of the bridge of the nose. Lantern photographs of several women and one man, showing their condition before and after operation, were projected on the screen. The results in all cases appeared to be excellent. There was no discussion on this paper.

Fracture of the Femur.—Sir William Stokes, of Dublin, then read a paper on the "Diagnosis and Treatment of Fractures of the Upper Third of the Femur." He said the subject was perhaps not so interesting as the more modern developments of surgery, such as operations on the brain, the abdomen, etc. It was good, however, to look back from time to time and revalue the conclusions that had been arrived at. Some surgeons thought that the amount of attention that was devoted to the diagnosis of certain injuries in and about the joints was excessive. He could not agree with this view. He held that as long as anything was unknown, no amount of attention was excessive that would help to throw light upon it. At present inquirers into this subject were impeded by a dense jungle of conflicting symptoms. He contrasted these, and referred to the fact that in the repair of some cases of injuries of the upper end of the femur there was exuberant bone formation, in others there was none formed. Sometimes the injury preceded a fall, in others it was the result of one. In dealing with fractures of the neck and of the thigh-bone, the fibro-synovial envelope of the cervix was often left unconsidered. This structure, which he preferred to call Stanley's ligament, was of great importance. On its integrity the result of fracture of the cervix largely depended.

The fibro-synovial covering had but very feeble and osteogenetic power. Want of union was often due in old persons to osteoporosis, but it was a mistake to suppose that the angle that the neck of the femur made with the shaft was altered in this disease. The specimen before them showed this clearly, as Humphry had already pointed out. Fracture was not due to any alteration of angle. The change in shape of the lower jaw in old persons was often quoted as a parallel case, but the analogy was a false one. The deformity of the jaw was due to unopposed muscular action, the teeth having been lost and the muscles continuing to act without enough resistance to balance them. He thought that the old classification of fractures of the neck of the thigh-bone into intra- and extra-capsular was clinically good. The former class he would divide into those with and without penetration. Extra-capsular he would divide into those with and without impaction. By means of a lantern-slide photograph of a specimen he showed that the angle of the cervix might be increased in impacted fracture. It was to be noted that very tall people had cervixes more oblique than usual—for instance, the thigh-bone of Magrath, the Irish giant, which he showed.

The nearer to the head of the bone the fracture was the less chance there was of union. Eversion of the limb was due to rotation of the shaft of the bone over a hinge situated in the anterior wall of the neck at the point of fracture. Inversion, when it occurred, was due to the position of the limb at the time of accident. The differential diagnosis of these fractures was most important to the surgeon and to the patient. The

usual treatment adopted only tended to separate the fragments. As to routine treatment the practice of laying the limb on a pillow and in fact doing nothing should be entirely abandoned. He referred to Senn's experiments. The good results obtained by the use of ivory and bone nails showed, in his opinion, that the more perfect the fixation the more certain the union. It was, therefore, most unwise to attempt to disengage the impacted fragments. The outcome of Senn's experiments was the splint here shown, which carried a screw pad by which carefully graduated pressure could be brought to bear in order to keep the fragments in apposition. In Erichsen's "Surgery" it was said that in an impacted extra-capsular fracture there was no hope of restoring the limb to its normal length and position, and the patient must be left lame for life. Southam, of Manchester, however, in a young person, had broken down the impaction and got a good result. This was only a single case, and the procedure was not often applicable, and not at all in old persons. Union did sometimes occur in intra-capsular fracture, but in these cases he believed that Stanley's ligament was not penetrated. He thought that Bryant's double splint or his own screw extension splint was the best apparatus. The latter allowed the patient to sit up while keeping up moderate extension. This was a very great advantage, especially in old persons. There were two essentials in a good splint: 1, It should allow the patient to sit up; 2, the extension should not be more than to secure immobility.

Conclusions: Alteration of the axis of the neck does not occur, and is therefore not a cause of fracture. Absorption is due to osteoporosis preexisting, and in contusions to its being set up. Distinction and classification are of importance. Bony union is possible in all situations. The nearer the fracture to the head the less the chance of union. In treatment, fixation, rest, and moderate extension are desiderata.

In the discussion that followed SIR GEORGE M. HUMPHRY said that there was not much left to add to what Sir W. Stokes had said. He would state it as an axiom that fracture in any part of the body and at any age will almost surely unite if kept at rest with the fragments in apposition. The cervixes of the femurs in old people were altered by senile absorption due to diminished power of resistance to the absorptive cells which were normally present in the cancelli. The upper part of the femur was peculiarly dependent for its strength on the cancellous structure. An interesting point was that, despite these senile changes, the osteogenetic cells in the bone did not lose their powers. Non-union was rare after fracture at the base of the neck. Much bone was generally thrown out there, and as the specimens produced showed, it was often superabundant. Intra-capsular fracture was commonest at the narrowest part of the neck close to the head. Non-union in such cases was not due to the want of bone-forming power of old people, or to deficiency of blood-supply. All parts of the skeleton had blood-supply enough for their repair. Failure to unite was largely due to the impossibility of overlapping of fragments in this situation. It was an established fact that overlapping bones almost always unite, and that firmly. Secondly, it was due to the fact that the new bone-forming cells were not detained by the soft parts in the neighborhood of the fracture, but were set free in the cavity of the joint capsule. If the fragments be kept in apposition they will surely unite. He showed a specimen in which a fracture close to the trochanter had united firmly, although the patient was eighty years old. A section through the bone showed firm union. The retaining fibro-synovial membrane was thicker in front, but it was also closer to the bone and more liable to be torn than at the back, where it was loose. Whether torn or not, however, the result was much the same. Contact between the broken surfaces was the essential thing.

Absorption occurred almost exclusively in the outer fragment, between the site of fracture and the trochanter, not between the fracture and the head of the bone. This process might be very rapid. Almost the whole neck of the femur might disappear in two or three weeks. He showed a specimen illustrating this liability of the outer fragment to absorption. The neck had entirely gone, while the broken surface close to the head was unchanged and still bore a projecting spicula of bone that (as often happened) had split away from the under side of the neck. This absorption was due, he said, to rubbing, and to the abundance of osteophage cells and weakness of resistance to them.

MR. BRYANT agreed with Sir W. Stokes, although he thought that the tabulation of these fractures into the eleven varieties referred to was not of much clinical value. Nor did he think that the distinction between intra- and extra-capsular fracture was clinically important. The really important question was whether the fracture was impacted or not impacted. Most of these fractures were originally impacted, but the impaction was destroyed afterward, either by the active or passive movement of the limb.

He agreed that the cause of inversion in certain cases was the position that the foot happened to be in at the time of the breaking. Immobilization and moderate extension were the ends to aim at. He had had forty-two consecutive cases of the average age of seventy; all had left hospital with good and useful limbs. Bed-sores were practically unknown. He could not pretend to say whether there were intra- or extra-capsular fractures. Very gentle examinations only should be allowed, and no attempt made to obtain crepitus, which was not needed for diagnosis.

Southam's case was a striking exception. He (Mr. Bryant) had had one patient, aged thirty, in whom there was inversion of the limb and impaction of the fragments. The case looks like one of dislocation. Considering at that age that it was wrong to condemn the patient to be a cripple for life, he loosened the impaction under an anæsthetic and rotated the limb out. The result was very good, but an enormous amount of callus was thrown out. In such exceptional cases it was justifiable to gently break down the impaction. The do nothing treatment was unjustifiable.

DR. BENNETT, of Dublin, said that he would take a wider field than the previous speakers had done. He would include fractures below the trochanters. He had twice produced intra-capsular fracture of the neck in attempts to produce dislocations onto the dorsum ilii, by forcible adduction in cadavers of seventy to eighty years old.

MR. GREIG SMITH thought that there was some risk of elevating a rare variety into a separate species and of drawing clinical references therefrom.

An important division was that into fractures caused by indirect vertical violence at any part of the neck and fractures from direct transverse violence applied near the trochanter major. The degree and direction of obliquity of the fracture was most important both as regards immediate reduction of deformity and final result.

It was to be remembered that only part of the head of the femur bore against the acetabulum in the erect position of the body, and the obliquity of the line of fracture and eversion of the limb depended on this. Non-union was due to the absence of a nidus for the formation of new bone. We were too apt to forget the rôle played by the soft parts, and more especially by fibrous tissue in the repair of fractures.

He asked for a simple classification and would especially classify the obliquity. The fracture might be oblique downward and outward, and in that case there would be no shortening.

MR. MAYO ROBSON said that in his opinion an elaborate classification was only possible in the post-mortem room. It was of small clinical value. The pres-

ence or absence of impaction was the really important thing. He believed that wherever there was opposition there was union. He would disturb the parts as little as possible, and apply the long splint with extension. If, however, recumbency was badly borne, Thomas's hip-splint was useful. As regards Southam's case, no doubt many surgeons had had such cases where breaking down the impaction in young persons was advisable, and had proved useful. In such it was not justifiable to let things alone. An important point was to find out the best method of treating these difficult injuries.

PROFESSOR SINCLAIR thought that the specimens showed that bony union was commoner than was generally believed. Intra-capsular fracture was often caused by external rotation, in which case the periosteum was not torn, and union resulted. When, however, the fracture was caused by vertical force, the weight of the body continuing to act after the bone had given way tore through the periosteum.

SIR W. HINGSTON, of Montreal, said that he was surprised to hear a general opinion expressed that union was common and shortening rare. The experience of surgeons in America was entirely different. Actions against surgeons for malpraxis in the treatment of fractured femur were so common that it had been found necessary at one of the great surgical gatherings in the United States to express the conviction that some amount of shortening was unavoidable. He was delighted to hear that in this metropolis surgeons were so successful. He feared, however, that general practitioners in the country would still have to screen themselves behind the American pronunciamento rather than the cheering dictum of accomplished London surgeons.

MR. GANT thought that shortening was almost universal.

DR. WEEKES, of the United States, said that he held the classical views as to the classification and causation of these fractures. He thought that Liston's long splint with a hip-piece to prevent rotation, or else a long sand-bag, was the best thing to use.

MR. KEETLEY said that in young people he would treat fractures of the upper part of the femur just like other fractures. He described a case of fracture of the neck of the femur on which he had operated. He had found the head ankylosed to the ilium and to the mushroom-like end of the neck by new bone. Removal of the head and of the mushroom-like growth gave a good result. Sir William Hingston's delicate sarcasm was perhaps justified. It was, however, so kindly put that while we appreciated it we were not hurt by it. Still, however, he held that it was a fact that in London, in fractures of the femur, those of the neck excepted, shortening was rare. Indeed, he had been looking for the last year or two for cases of shortening in which to use his pins, but almost without success. He showed the pins that he used for such cases and also in recent oblique overlapping fractures. These consisted of two L-shaped pieces of steel, one arm of each of which was passed through a hole made in the bone with a brad-awl, beyond the fracture, the other arms being lashed together with wire while the bones were held in the correct position. An anæsthetic was of course necessary for this operation. The results had so far been excellent.

SIR WILLIAM STOKES then closed the discussion. He did not agree with Sir George Humphry that the blood-supply to the bones was always enough. If the ligamentum teres were torn through, the supply to the head could not be enough. Several speakers had taken exception to his classification, but he thought their objections were not well founded. We must go to the dead-house for our pathology. *A propos* of Sir William Hingston's remarks as to the prevalence of shortening in America, they were too sweeping. Dr. Senn had stated that with his splint he got results without shortening. He thought that Keetley's pins were too weak and flexible for their purpose. Wood's rather similar contrivance appeared to him to be stronger and better.

Floating Kidney.—MR. KENDALL FRANKS, of Dublin, then read an interesting paper on the "Pathology and Symptoms of Movable Kidney," clearly illustrated by lantern slides. There were several theories current as to the causation of this condition. Tight-lacing and menstrual congestion were said to cause it. Newman's theory was that during violent muscular efforts, such as occurred in parturition or in lifting heavy weights, the kidney might be squeezed between the psoas and quadratus lumborum muscles and shot out of its place, just as a bean may be shot forth from between the finger and thumb. Mr. Franks thought that he would be able to show that this theory would not hold water. In an inquiry into this subject it was first necessary to find out what kept the kidney in its place in health. Dr. Cunningham and he, by means of injections of Müller's fluid and of spirit several times repeated, had succeeded in hardening the kidney *in situ*, and thus fixing the form which it held in the unopened abdomen. On examining the anterior surface of the kidney thus treated, it was seen that this was not smooth and rounded, but that it presented always a transverse ridge, above and below which the surface sloped backward. Viewed in profile from the outer side each kidney appeared to be formed, as it were, of two almost right-angled triangles placed base to base, so that its posterior surface was flat. It would appear that the kidney, by the pressure of other organs, the liver above on the right side and the spleen on the left, was wedged into position by two forces acting in a backward direction. On the posterior surface could be seen depressions caused by the twelfth rib and the psoas and the quadratus lumborum muscles. Other forces tending to prevent its movement were the connective tissue and the fatty capsule. This last, he believed, had not much influence, for it must be remembered that at the temperature of the living body the fat was fluid. He believed that a loss of balance in the abdomen after parturition was the commonest cause of movable kidney.

It was well known that the intra-abdominal pressure, which was previously positive, became negative on delivery and remained so for some time afterward. Getting up too soon from child-bed was the determining cause. The symptoms differed on the two sides, but dragging pain and malaise were symptoms common to both. On the right side, indigestion, abdominal pain, flatulence, and vomiting were complained of. No variety of food or regulation of diet and no medical treatment affected these gastric crises; the symptoms, indeed, strongly resembled those of stricture of the pylorus. The cause of these symptoms was made clear in a case of Mr. Franks's on which he operated. The kidney was found in the right iliac fossa, having in its descent dragged down the duodenum by means of an adhesion, so that the gut was kinked and almost completely occluded. In some cases the adhesion is less tight or longer and there is no kinking. On the left side the symptoms are not so marked or special, but occasionally obstinate and intractable constipation occurs. On operating on such a case he had found the kidney enveloped in the colon, which it had dragged down and which had fallen over the front of it. Fixation of the kidney by suture entirely removed this symptom, and the bowels afterward acted regularly and without trouble.

MR. BLAND SUTTON said that jaundice was sometimes a symptom of movable kidney on the right side. The diagnosis of movable, or rather of floating, kidney was often wrong, and on opening the abdomen it was found that the symptoms were due to other conditions, the kidney being normally fixed and situated. A movable kidney is not free to roam about the abdomen in

all directions; its movements are limited to an upward and downward direction, and it slides in a channel like a mole's "run" behind the peritoneum.

SECTION OF SURGERY.

SECOND DAY, THURSDAY, AUGUST 1ST.

True Ankylosis.—MR. HOWARD MARSH read a paper on the "Pathology and Clinical History of some Rare Forms of Bony Ankylosis." He described certain cases of tubercular joints that had come under his observation, that had run their course without suppuration and had ended, as shown on subsequent excision, in bony ankylosis. The bones removed from an elbow were shown to the meeting. This kind of plastic inflammation running on to organization of inflammatory products without suppuration, occurred, he believed, also in the spine. He showed a specimen of ankylosis of the atlas and axis that he said supported this view. It was a question whether bony ankylosis might not occur in Charcot's disease. He thought that it might without suppuration, and quoted a case of Charcot's where the foot was affected. In this foot the cuneiform and metatarsal bones were ankylosed. The two skeletons of feet shown had been lent to him by Professor Humphry. In these there was bony ankylosis and the surfaces of the bones were covered with vegetations and bony deposits, the joint surfaces being little affected. The history of this specimen was unknown. It was difficult to believe that the changes were the result of pyæmia. He had observed a case of injury to the median nerve that was followed by stiffness and bony ankylosis of a finger joint without suppuration.

There was no doubt that bony ankylosis followed sometimes on gonorrhœal rheumatism, and that it also occurred in the spine in scoliosis. He had seen a case in which throughout the lower extremity the joints were ankylosed by bone. It was common in osteo-arthritis in the spine, unlike other joints in that disease. The joints themselves were intact, but the ligamentous tissues were ossified. The process was sometimes reparative, as when it occurred in acutely inflamed pyæmic joints or in tubercular joints, and sometimes degenerative, as in Charcot's disease and in gout, and in the feet lent by Sir George Humphry, and when ligaments were ossified.

MR. TARGETT said that these cases of ossification of ligaments much resembled myositis ossificans. In one of the specimens shown to-day the ligaments were clearly defined in new bone, the anterior common and costo-transverse ligaments being quite clear and distinct. In Charcot's disease there was atrophy of the bone; if this were not present, the case was probably not one of Charcot's disease. After the joint inflammations of puerperal fever, bony ankylosis was often rapid and complete.

MR. BOWLBY said that in the case of injury of the median nerve alluded to, many fingers were ankylosed. The changes which took place in the joints after nerve injuries were very like those of rheumatism, but bony ankylosis was not common and ligaments were more liable to be affected than were joint surfaces. There were changes in the joints in many nerve diseases besides tabes. He believed that some day certain now little understood joint lesions would be recognized as the result of definite nervous lesions.

MR. BLAND SUTTON said that similar changes occurred in the spines of horses. He did not believe that the atlas and axis shown could be tubercular, because of the age of the patient. Tubercle started in the junction cartilages before ossification was complete. Further, every museum contained specimens of occipito-atlo-axoid ankylosis. These specimens had usually no history, but were found in cemeteries, and one he had seen that was removed from an Egyptian mummy. Arbuthnot Lane had said that this condition occurred in costermongers, and was the result of carrying a load on the head. It had occurred to the speaker that if that were the case, a similar condition should be found in cattle which carried the yoke on their horns, as was customary in some places. He had visited the Veterinary Museum at Alfort and had found several specimens there. He could confirm Mr. Marsh's description of these cases where the anterior common ligament was ossified. Those specimens were generally labelled as rheumatoid arthritis. The condition was a very common one in the horse. There were numerous specimens at Alfort and in the museum at Camden Town. In men no symptom beyond stiffness of back and stooping were complained of; but in horses there was great danger, if they were cast for any purpose, that in the struggle to rise again the spine might be fractured and palsy ensue.

MR. ELLIS, of Gloucester, pointed out that the great toe affected in the specimen was in the position of rest, that of valgus. Those joints most exposed to irritation were most liable to ankylosis.

MR. HOWARD MARSH, in reply, said that, as to the specimen of the first two cervical vertebræ, he must absolutely differ from Mr. Sutton. Tuberculous disease of the spine might occur at any age. He instanced the case of Dean Buckland, who died of atlo-axoid disease at the age of eighty. He thought that if Mr. Sutton had ankylosis of his own vertebræ he would not speak of the affection as trivial and causing no trouble. In these cases the patients were rendered helpless and unable to rise from the horizontal position.

A Hiding Place for Vesical Calculus.—MR. G. BUCKSTON BROWNE then read a paper in which he called attention to a hitherto undescribed locality in the male urinary bladder, where a stone may lie and elude contact with any instrument passed through the urethra. He said that in some cases where a stone had been suspected, it could not be found by the sound per urethra, yet on opening the bladder above the pubes it was found. In other cases a stone had been discovered with the sound, but on doing a perineal lithotomy it could not be found. In these cases the prostate was enlarged inside the bladder, generally backward, forming the middle lobe, and a stone might be hidden in the pouch behind this which he had before described. In some cases, however, there were lateral enlargements of the intra-vesical portion of the prostate, and a stone might be hidden in a pocket between one of these and the bladder wall. In two cases he had found, on opening the bladder above the pubes, that this was the case. In the first case, he was occasionally able to touch the stone with the sound, but never could seize it with the lithotrite. After several attempts the supra-pubic operation was performed, and the stone found in the right lateral pouch described. In the second case the urethra was eleven inches long. Blood followed all attempts at examination or catheterization. Under an anæsthetic, he succeeded in finding a stone. The bladder was distended with solution, which was retained by means of an elastic ligature on the penis which prevented escape of fluid at the side of the lithotrite. In this way he was enabled to crush the stone. A few months afterward symptoms of stone returned. He could not detect a stone by any means at his disposal. The bladder was, however, opened above the pubes, and a stone found in one of the lateral pouches. That first crushed had probably lain on top of it. He advocated distension of the bladder and lithotrity in cases where supra-pubic lithotomy was too severe a proceeding. This failing, he would try to dislodge the stone by suction through the evacuator, to which an aspirator was attached. He found that Cadge, of Norwich, whom he considered the greatest authority on stone, had alluded to this lateral pouch in his lectures, some years ago, at the Royal College of Surgeons.

MR. MAYO ROBSON described a case where a large, hitherto undiscovered, stone was found, on suprapubic operation, to lie in a pouch in front of the intra-vesical lobe of the prostate. In another case several stones were extracted with difficulty from a pouch behind the prostate.

MR. BUCKSTON BROWNE thought Mr. Robson's first case must be unique.

Treatment of Neoplasms of the Thyroid Gland.—MR. BUTLIN then opened a discussion on "The Surgical Treatment of Cysts, Tumors, and Carcinoma of the Thyroid Gland, and Accessory Thyroids." Malignant disease of the thyroid was not amenable to operation. These tumors grew very rapidly and infiltrated neighboring tissues very early. Cysto-adenoma was not uncommon. The surgery of the thyroid had advanced very rapidly during the last few years. This improvement was due to pathological study. Thanks to this it was now known that cysts were very common in the gland. All cysto-adenomas were innocent tumors separable and encapsuled, and the gland was healthy, as in the case of similar tumors in the breast. Our nomenclature showed a slowness to appreciate our newer knowledge. A so-called cystic goitre was not a goitre at all, the gland itself being unaffected. The operation for the removal of these cysts was simple. Drainage was needed for the first few days, owing to the presence of a cavity. Sosin's operation of enucleation was applicable to all partial enlargements of the gland, unless it dipped down behind the sternum. He described a case that came to him in the out-patient room some time ago, which he aspirated; there was considerable bleeding, and oozing occurred whenever the dressing was removed. He had at last to lay it open and plug the cavity, which proved to be a large one. Such bleeding was due to vascular growths on the wall of the interior of the cyst. The scar that remained was an objection to the enucleation operation. He thought that the method of injection advocated by Morell Mackenzie, and described in detail in the "Transactions of the Clinical Society," was often most successful. He strongly recommended that Mackenzie's directions should be adhered to in using this method. Its object was to convert the cyst into an abscess and allow the matter to escape through a cannula until the cavity was closed. It was not applicable to hospital cases, on account of the time it occupied, but for the well-to-do who thought a great deal of the disfigurement a scar produced, it had a great deal to recommend it. The method had fallen into disuse, but he believed that the difficulties encountered were due to want of care in selecting cases. For instance, it has been used in parenchymatous enlargement with very bad results. Injection into the cavity of a cyst was safe, but into the substance of the gland it was not to be thought of. Large cysts and hemorrhagic cysts should not be injected, nor those in delicate and strumous persons, nor should old-standing cysts with thick walls. A moderate amount of intra-cystic growth was not a contra-indication to injection.

DR. W. W. KEEN, of Philadelphia, said that thyroid disease was not common in America, and therefore his experience was not great, but he had recently visited Switzerland and had observed the practice of Swiss surgeons in operating on the gland. No anæsthetics were used except in the case of young children and very nervous women. Five out of six of the cases he saw thus operated seemed to feel very little pain, and the bleeding was much less. Kocher used a transverse incision curved with the convexity downward. The scar of this showed less than a median vertical one. To minimize scar he recommended the subcuticular suture recommended by Dr. Halstead, of the Johns Hopkins Hospital. He thought that the minute attention paid to the arrest of hemorrhage in Switzerland deserved to be imitated. Scarcely two ounces of blood were lost in an operation. Kocher's actual work exactly corresponded to his published method of operation in all its details.

MR. CHARTERS SYMONDS said that he had had forty-four cases without a fatal result. Twenty-nine of these were cases of adenoma. He thought that certain cases of malignant disease in an early stage might be benefited by operation. In advanced cases tracheotomy was often needed as a palliative. He preferred a median incision to the oblique lateral incision. If the cyst on exposure appeared white, it might be fearlessly excised. If, however, it were purple it was probably almost solid from intra-cystic growth, and alarming bleeding might be expected at first. This, however, could be promptly stopped by everting the wall of the cyst and seizing the bleeding vessel. He preferred to operate under an anæsthetic. He had never encountered serious bleeding. He kept a drain in for only twenty-four hours. He did not hesitate to remove cysts that slipped down behind the sternum. He thought that Mr. Butlin's selection of cases for injection was a good one, but cysts without solid growth were very rare. The cyst wall was very thin where the growth was situated, and might give way when suppuration occurred. As to the scar, he made a small incision as low down as possible, so that it could easily be hidden. A very small wound would suffice if the cyst were punctured and emptied before removal.

MR. MAYO ROBSON said that he had found packing the cyst answer well. He had heard of accidents after injection. Since he had read Mr. Symond's paper he had always removed cysts. He had no experience of the accessory thyroids. In his experience, cases of malignant disease were too far advanced when seen to be amenable to operation. In these cases distressing dyspnœa occurred, and it was difficult to relieve it. Tracheotomy was out of the question sometimes. He had found great relief from intubation. He had had difficulty in isolating certain cysts, and had sometimes been obliged to remove half the gland when there were many cysts. As to subcuticular suture, it minimized the scar. He did not think, however, that Butlin's objection to the scar was of great weight. Ether was not a good anæsthetic. It increased the bleeding and dyspnœa. He preferred chloroform or A. C. E. mixture. He would always give an anæsthetic, even if it were only continued till the skin incision were made. When in an operation on the thyroid tracheotomy became necessary as a temporary measure, it was a good plan to suture the rings together at the end of the operation and close the wound, leaving the sutures buried.

MR. BERRY had never seen a case of malignant disease amenable to operation. The layer of tissue immediately over the capsule of a cyst or tumor was almost always microscopically thyroid-gland tissue, however thin. Enucleation was only advisable when there was a single well-defined tumor. If the tumors were multiple or ill-defined extirpation was better. The more nearly the tumor approached to the globular form, the more likely that it could be enucleated. The more pyriform it was, the less likely to be fit for enucleation. Smooth regular-surfaced tumors may generally be enucleated. He described a case of large substernal tumor that he had successfully removed. The tumor scarcely showed above the sternum.

MR. KEETLEY had operated on two cases of malignant disease, also three times without an anæsthetic. In one case of a very large tumor the anæsthetic was stopped as soon as the skin incisions were done. He was not so clever as the abdominal surgeons who would clear you out a pelvis in three minutes or so, and this operation occupied three hours. The patient was unrestrained throughout, yet did not interfere with his hands or struggle in any way. She suffered hardly any pain except when, owing to the difficulty of raising the tumor in order to free it behind, where it was adherent to the trachea and larynx, he had to divide its wall and scoop out the contents in order to allow

it to collapse. The question of malignant disease was too wide a one to go into here thoroughly, but in their early stage these growths must be entirely encapsuled, and could we but diagnose them early enough they might be removed. Attention was clearly needed to early diagnosis. The increased tendency of surgeons to operate on the thyroid must surely lead to operations on early malignant tumors. The improvement of late years in our treatment of the thyroid was due to pathological knowledge acquired *in vivo* instead of *post mortem*. He did not approve of the injection treatment. He thought so serious a thing as a cyst in the neck should be treated through an adequate open incision. No drain should be necessary. If there were a collection of fluid a day or two after operation, it was easy to insert a probe and give it vent.

MR. BARKER had succeeded in removing large malignant tumors of the thyroid. In the first case the growth formed the largest tumor of the neck that he had ever seen. More than one surgical authority had advised against operation five years before. He had to make an incision over thirteen inches long from the mastoid process to the episternal notch. The glands were found to be involved and were removed, so that the pleura was exposed at the bottom of the wound. The patient recovered. Two years afterward recurrence occurred in a gland that had escaped removal. This was excised, and the patient was still alive six years after this last proceeding. In another case also he had successfully removed a malignant growth. He thought that there was no doubt as to the nature of the growth in either case.

MR. JORDAN LLOYD said that he thought that enucleation was an easy proceeding, until he encountered two cases of quite unenucleable cysts containing solid growths. In many cases the hemorrhage was trivial, but it might be alarming. He thought that Mr. Barker's cases were something very different to the cases of malignant disease referred to by Mr. Butlin and other speakers. The long duration of the disease in Mr. Barker's first case was a most curious and interesting fact in the history of the thyroid. That a patient with an undoubtedly malignant tumor should survive to be operated on five or six years after she had been pronounced too far gone for operation, was simply astounding. He shared the belief of other speakers, that malignant tumors of the thyroid in the present state of knowledge were not fit to be operated on. The dangers of the injection treatment were immense. He thought very little of the objections to open incision on account of the scar. A transverse incision low down in the neck was applicable to many cases, and the scar was not obvious.

MR. THELWALL THOMAS said that he had operated on two cases of accessory thyroids. In one lumps were removed from behind and beneath the sterno-mastoid, and below the angle of the jaw. The microscopical appearances were those of thyroid-gland tissue. In the second case there was a tumor above the clavicle in the posterior triangle. It proved to consist of cystic thyroid tissue, the gland itself being normal. It was easily removed. Scars were due, he thought, to the line of incision crossing the natural folds of the neck. What soon after operation seemed to be a linear, almost invisible scar, became broader and more marked if the incision were across the folds, but if it were parallel it scarcely showed.

MR. R. C. CHICKEN deprecated the use of iodine and other irritants to swellings in the neck. They did no good, and often increased the difficulties of subsequent operation. The only case of trouble from bleeding that he had had was due to the use of that most unreliable and most treacherous of surgical devices—the Staffordshire knot. It was only of use when it was wrongly tied. In severe dyspnœa section of the isthmus was most serviceable.

MR. CATHCART reminded his hearers that one cannot draw the line clearly between innocence and malignancy. Hence arose the divergent views of Mr. Barker and other speakers.

MR. BUTLIN, in reply, said that so far as congratulating Swiss surgeons on only shedding two ounces of blood, he should be ashamed himself of such hemorrhage. Two drachms was more like the average in his cases. One objection to the transverse incision was, that where the scar was visible it suggested the last penalty of the law, and might lead to unpleasant remarks. He always avoided puncture of the cyst, because it made removal more difficult.

THIRD DAY, FRIDAY, AUGUST 2D.

Intestinal Anastomosis.—The proceedings began with an interesting demonstration on the cadaver by DR. MURPHY, of Chicago, of the method of using his buttons. It is impossible here to describe the demonstration, which was watched with great interest by many surgeons. Dr. Murphy pointed out that perfect coaptation of surfaces was necessary. The desiderata were, 1, perfect coaptation of surfaces; 2, immediate adhesion; 3, sufficient calibre after separation of the button; 4, permanent organization of the uniting material; 5, avoidance of contraction afterward; 6, maintenance of asepsis; and 7, speed in performance of operation. When all seven were attained we had an ideal operation. By his method edge-to-edge union was obtained, not lateral approximation, for the inverted portions are cut off by pressure atrophy. Microscopic examination after union showed this to be the case. He claimed that the connective tissue was only temporary, and that it was ultimately replaced by reproduction of muscular and other layers of gut, so that in the end there was no scar and no contraction. There were certain points about the blood-supply of the intestine worthy of attention. There were two principal sources, one the radiating mesenteric vessels, the other a collateral or parallel supply. It was found by experiment that the mesenteric vessels might be ligatured for a space of seven inches without necrosis following; but, on the other hand, we could not arrest the circulation through the lateral vessel along the bowel for more than half an inch without producing necrosis. Some failures of union were due to neglect of this. More of the bowel should be removed on the convex border than on the mesenteric, and care must be taken not to include too much of the gut on the convex side. The point of attachment of the mesentery was a weak point in using the button in end-to-end approximation. A figure-of-eight stitch should be placed across this place, so as to draw the two layers of peritoneum closely round the bowel and button. In inserting the button, the female half should first be placed, and in putting in the male half it should be grasped by its outer flange. It was necessary to see that the edge of the mucosa was all within the grasp of the button, otherwise one might get mucosa applied to serosa, with resultant non-union. On opening the abdomen it was easy to tell in which direction the upper end of the gut lay. If the hand were run along the mesentery and the latter were found to be attached to the right, the true upper end of the bowel would be found to lie below, and *vice versa*. The mesentery should be ligatured close to its base, and one ligature would do for many inches of gut. The thread should never be pulled tight before making the knot, otherwise the bowel may be torn. The halves of the button should be slowly and steadily pressed together until the "click" was heard. Openings in the gut should be two-thirds the size of the button. For resection of the rectum a special long, cylindered button was to be used.

Cervical Spinal Surgery.—MR. VICTOR HORSLEY read a paper on "The Results of Operative Treatment of Injury or Disease of the Cervical Vertebræ." He had performed laminectomy in seven cases of caries and

fracture of the spine in the cervical region with paralysis. He had had one death, but all the patients recovered from the operation. He exhibited three patients to the Section.

CASE I.—Caries of atlas and axis, palsy of all four limbs, and beginning of palsy of respiration. Skin dusky and respirations thirty-six per minute. In 1888 he removed the arches of the first and second cervical vertebræ. Six days after the operation power began to return. Wasting of the interossei of the hands was very marked, as in all these cases. It was still noticeable, although it was seven years since the operation.

CASE II.—Caries of fifth and sixth cervical vertebræ. Palsy marked but not complete. Reflexes exaggerated. Sensation normal. Recovered after laminectomy.

CASE III.—Absolute motor palsy of lower limbs and of right upper limb. Anæsthesia up to third rib. Reflexes absent on right side, exaggerated on the left. Removal of arches of third to seventh cervical vertebræ. Began to recover in three days.

In all cases he had noticed rapid recovery after the third day from the operation. Ephemeral recovery was often noticed. This might be explained by the occurrence of temporary œdema.

CASE IV.—Fracture of cervical spine from a fall five months before the operation. Palsy of all four limbs. Slight recovery. Then became worse. Angle at spines of fifth and sixth cervical vertebræ. Sensory palsy was severe. There was even analgesia denoting injury to the central gray matter. Reflexes were exaggerated and the rectum paralyzed. There was contraction of the knees. Quite recovered after operation and removal of fibrous tissue and forcible extension, but the interossei were still rather wasted.

CASE V.—Fall from a cart. Walked after a week. Bodies of fifth and sixth cervical vertebræ fractured. Treated at various hospitals for symptoms, but there was no deformity in line of spinous processes. Motor and sensory palsy, and some analgesia and vesico-rectal paralysis. Reflexes exaggerated. The left optic disk was swollen, possibly commencing optic neuritis. Operation: Removal of arches of fifth, sixth, and seventh cervical vertebræ. The body of the sixth was found to be crushed and fragments driven back. Forcible extension and consequent abolition of ridge. Recovered by the twelfth day. Recovery permanent.

CASE VI.—Tossed by a bull. Fracture. Gradual onset of palsy. Lower half of cord involved. Anæsthesia of post-axial part of upper limb and of patches on lower limb. Vesico-rectal palsy. Operation similar to Case V. No ephemeral improvement. Palsy was more marked after operation (due to œdema?). Recovery slow and not yet quite complete.

CASE VII.—Fall from a car on to the forehead. Got up and walked two hundred yards. Tried to walk upstairs, but could not. Rapidly became paralyzed in all four limbs. Some recovery afterward took place. When seen by Mr. Horsley had spastic rigidity of limbs. Had some voluntary movement, but it varied. Slight deformity of spine. Post-axial anæsthesia of upper limbs. Exaggerated reflexes. Laminectomy and ephemeral recovery. Permanent recovery three weeks after the operation. Can now walk a mile and is still improving. This patient gave up his support too soon and spasm began to reappear, but disappeared again on reapplication.

Mr. Horsley referred to alarming phenomena which might appear after laminectomy in the cervical region. In some cases the temperature rose to 104° F. and the pulse to 130. He let out the cerebro-spinal fluid from the wound and the temperature fell at once.

THE PRESIDENT said that the patients exhibited were surgical triumphs. He would ask for information as to the gradual onset of symptoms in certain of the cases, and in cases where the palsy was immediate he would ask how we were to tell whether the damage done were or were not irreparable.

SIR WILLIAM STOKES asked Mr. Horsley to explain how in caries removal of the laminæ gave permanent relief, when in this disease the bodies alone are as a rule affected. He would like to hear something as to the condition of the bones that were removed. In cases of fracture the operation was unpopular in Dublin. How was permanent extension provided for in the case recorded in which extension was found possible on operation?

MR. E. NOBLE SMITH said that in cases of caries it was important to know when operation was necessary and when recovery might be expected without it.

MR. KEETLEY has had two cases of laminectomy, one of them for cervical fracture of the spine. In one the fifth cervical vertebra was pressed back on to the fourth. Paralysis was immediate. He removed the lamina of the fourth cervical. There was some improvement, but on the fourth day the patient died. At the necropsy the cord was found to be clearly divided although the dura mater was intact. In the second case, of a boy aged eighteen, there was long-standing complete paraplegia from caries. The condition was improved by gypsum corset, but the improvement was transitory. Laminectomy over the projection did not seem likely to do good. He therefore attacked the bodies through the pedicles and heads of the ribs. No abscess was found and the bodies, as far as they could be examined, were sound. The patient was many months in hospital. He went home and finally recovered, as nearly all such cases do if left alone. Mr. Horsley's experience of these cases was greater than that of anyone present except Professor McEwen; but Mr. Keetley ventured to think that in the case of caries extension would have done as well without the preliminary laminectomy. Cervical laminectomy was a very serious operation, more so in surgery. Immediately after a fracture it was very difficult to decide as to need of operation. Examination was dangerous, for the slightest movement of the parts might prove fatal. Laminectomy was almost the only operation in which we approached the disease from the most dangerous side with structures of the greatest importance intervening. Why not operate on the cervical spine from the front and side?

MR. DAMER HARRISON said that hyperextension of the neck was most valuable in fracture. He thought that some of Mr. Horsley's cases would have recovered with this treatment alone. It was impossible to tell what amount of injury was inflicted on the cord. For instance, in one case he had known palsy come on three days after the accident. Laminectomy failed to relieve the symptoms. The dura mater was not opened. After death, the outside of the cord showed no sign of injury to the naked eye, but on section hemorrhage in the gray matter was found.

MR. LUKE FREER asked for more information as to the stage of the disease in the case of caries recorded, and the duration of the paralysis. These cases almost always recovered in time.

MR. MAYO ROBSON had done laminectomy for caries, and found three vertebræ bathed in pus. The same patient afterward had fracture of the vertebra next above. The result was a very partial recovery. The cord was found to be half divided. Laminectomy did no good. If the cord were injured at the time of accident, he did not believe that laminectomy was of any use. If it were not injured, then recovery would occur without laminectomy.

MR. V. HORSLEY, in reply, said that in acute cases, if there were complete motor palsy and abolition of deep reflexes, an operation was not justifiable. In caries, removal of the granulation tissue on the dura mater relieved pressure. He advocated elastic extension under the chin and mastoid processes, through steel spring supports fixed to a poroplastic jacket. In some cases operation was undertaken to save life, on account of urgent dyspnœa, etc. When paraplegia

was due to abscess, he would always operate and drain the abscess if necessary through the pedicles. Drainage must be kept up, or there would be no improvement from the palsy. When extension has been tried for some months without marked improvement, he would operate.

Colectomy.—Mr. Mayo Robson read a paper on "A Series of Cases of Colectomy." He said that four out of five cases recovered. He believed that the use of his decalcified bone bobbin was a great improvement in the operation of cholecystectomy. He used it also in acute obstruction and for lateral anastomosis. With the bobbin the operation could be done as quickly and as safely, or more safely, than with Murphy's button. In some cases, it was a good plan to paint a thin coating of shellac round the central portion of the bobbin so as to delay dissolution. There had been thirteen cases in the Leeds Infirmary, under five different surgeons, with a mortality of twenty-three per cent. He thought that this might be taken as the real rate of mortality in this operation.

Mr. Greig Smith said that he believed it was best to bring the tumor and stricture outside the wound and fix it by means of a skewer; incise the bowel and drain it and operate on the stricture later on when the abdomen was again flat and the bowel not distended and had recovered its tone. No anæsthetic was needed for the second stage of the operation. He described three cases which could not have borne resection at time of preliminary incision, but all recovered after deferred resection operation without a bad symptom. The deferred enterectomy was much easier with the bowel outside the abdomen. In one case of acute obstruction with a small malignant stricture, he used Murphy's button. All went well for two days. The patient then died. The button was found to be all right, but the patient was not fit for the operation. Had he divided the operation into two stages, he believed that the patient would have recovered.

Dr. W. W. Keen, of Philadelphia, described a case of failure with Murphy's button. He could not get the two halves to close on one another with any amount of force that he dare apply. The patient died. The gut was found to have sloughed over the upper half of the button. The obstacle to approximation was caused by the catching of the end of the thread, showing the importance of attending to Murphy's direction that the thread should be cut short after tying.

Mr. Herbert Allingham had had eight cases of resection, of which four died. All were combined with obstruction. He had determined in future to drain these cases first as recommended by Mr. Grey Smith. He could not, however, agree with that surgeon as to the painlessness of removal of the stricture gut. He found the mesentery very sensitive, and that there was marked shock on cutting. He much preferred Robson's bobbin to Murphy's button.

Mr. Harrison Cripps heartily indorsed what Mr. Grey Smith had said as to the advantages of the operation in two stages. He thought that no patient with actual obstruction was fit for resection. As to Murphy's button, he thought it the most fatal way of treating obstruction. It was used in four cases at St. Bartholomew's Hospital, all of whom died. In two of these the button had nothing to do with the result. Of the other two, one died on the eighth day. The junction was complete. The button had passed down the bowel for six inches and had then stuck fast and ulcerated through, causing death from fecal extravasation and peritonitis. In the other case, the intestine had sloughed where it was stretched over the button. He thought highly of Mayo Robson's bobbin, but believed that the finger was the best guide in suturing; there was no need to hurry, and a careful and accurate approximation and suture of the two ends could be made.

Dr. Macewen said that in surgery he was generally a radical, but on this subject he was a conservative. He had relied in the past on sutures and sutures alone. He would not say that he would never use the button or bobbin, but thought that further experience was required of their practical value. He liked the operation in two stages, but there were cases in which one could not get the tumor outside the abdomen as Mr. Grey Smith advised. He spoke of cases in which the control of the bowels was for long defective. This he believed to be due to removal of the ileo-cæcal valve.

Mr. Mayo Robson, in reply, said that he could not agree with Mr. Smith that the tumor could generally be easily drawn out of the abdomen, but he thought preliminary drainage very valuable when practicable. In enterectomy and pylorectomy simple suturing did well, but the bobbin was better. Its use secured continuity of the bowel-wall and avoidance of contraction. The important point was that the ends of the gut were united by sutures and not by the bobbin. The latter was merely a guide and a protection to the sutures for several days. Some of the specimens in the museum showed how Murphy's button might score the intestine in its passage down.

Colotomy.—Mr. Harrison Cripps read a paper on "A Complication Occurring in Inguinal Colotomy." The mortality in nearly every case was due to delayed operation. When the obstruction was complete it was difficult to get at the bowel and it would bear very little handling. It was difficult to stitch it to the skin without going into the muscular coat. In some cases there was difficulty in finding the bowel, but this difficulty diminished with experience, which had taught him that the best plan was to feel for the brim of the pelvis when the rectum would be found and traced to its sigmoid flexure, which in these cases lay much nearer the middle line than normal. Absence of a mesentery was a most unfortunate and dangerous complication. To this cause he owed all the deaths except one. The question arose, What was to be done under these circumstances? Should the operation be given up and the other side opened? The objection to this course was that owing to the fluidity of the fæces in the ascending colon, the management of the artificial anus was far more difficult. He preferred to suture the parietal peritoneum to the bowel. No attempt should be made to draw the skin down to the gut, but the peritoneum should be separated from the wall of the abdomen as far as necessary. The bowel might be opened at the mesentery and the cut edges sutured to the parietal peritoneum; but in this way the wound was apt to get soiled. This might be avoided by raising, as it were, flaps from the bowel, consisting of peritoneum and muscular coats, and suturing these to the parietal peritoneum. The mucosa should not be divided until two days afterward. The bowel was only likely to tear away when there was too short a mesentery. It was an excellent rule to draw out plenty of the gut, as had been taught by Mr. H. W. Allingham. A free opening was always desirable, and in many cases a spring dilator was required.

In one case, after colotomy, a rare complication occurred which ended fatally. The patient did well and recovered from the operation and was about to leave the hospital when he had a sudden attack of pain in the neighborhood of the artificial anus, accompanied by vomiting. As he described it, "Something slipped in his inside," and the pain and vomiting thereupon ceased. As he seemed quite well, he was allowed to leave the hospital, but he returned ten days afterward in a dying condition with the same symptoms and died soon after admission. At the necropsy it was found that a loop of small intestine had slipped between the attachment of the colon and the wall of the belly. Prompt abdominal section would have saved him had the meaning of the symptoms been understood. This case would be a warning to him in the future.

Hernia of the Sigmoid Flexure.—Mr. William Anderson then reported three cases of sackless hernia of the sigmoid flexure through the left inguinal canal, with anatomical specimen. He said that this variety of hernia arose from the absence of a mesentery, the gut being covered by peritoneum for only half its circumference. The bowel having stretched its connections, slips down in the sub-peritoneal tissue and passes easily through the internal abdominal ring which is not protected by parietal peritoneum.

Mr. H. Morris had made an attempt to form a mesentery in a similar case. Mr. Anderson thought it was advisable when operating to close the inguinal canal as completely as possible.

Splenectomy.—Mr. Spanton then reported three cases of splenectomy in his practice. Two of these were fatal, one had recovered. He submitted an elaborate table giving the details of 93 cases of this operation with their results. Twenty-five of these were described as leucocythæmic. Of these only 1 recovered, and this was classed by Mr. Knowsley Thornton under hypertrophy. This gave a death-rate of ninety-six per cent. Of the remaining 68 cases, 44 were cases of hypertrophy; of these 20 recovered; 12 were cases of wandering spleen; of these 11 recovered. Of the remaining 12 cases, all recovered except 1 (condition not stated); these included rotated, sarcomatous, and cystic spleens. The death-rate of splenectomy (exclusive of leucocythæmia) had improved from eighty per cent. in the decade 1865–75 to fifty-one; eighty-five per cent. in 1875–85, and to 19.35 per cent. in 1885–95.

In the speaker's first case (in 1883) death occurred from hemorrhage in seven hours. The spleen, which was hypertrophied, weighed 8 pounds 3 ounces. In the second case, in 1891, the patient died from shock in eleven hours; the spleen weighed 5½ pounds. The patient was very anæmic and the case very unpromising. She had suffered great pain and distress, and had wished for operation. In the third case he transfixed and doubly ligatured the suspensory ligament and the pedicle. The spleen weighed 6 pounds 4 ounces. There was rise of temperature and pains, referred to the situation of the pedicle, for some time. The operation lasted half an hour. In all three cases the operation was undertaken on account of hypertrophy. He thought that in future splenectomy should not be thought of in leucocythæmia. In hypertrophy the symptoms were so severe and rendered life such a burden that the operation was quite justifiable. The mortality had diminished very much of late years. He thought that in certain cases of wandering spleen also operation was justifiable.

Bladder Drainage.—Mr. Cathcart then exhibited and explained a simple apparatus for draining the bladder in cases of supra-pubic lithotomy. It consisted of an ordinary irrigator or douche can, the rubber tube from which, by means of a Y-shaped junction-tube, was made to bifurcate. One branch rested in the bladder, the other was interrupted by an S-shaped tube of glass, from which it ran to a receptacle on the floor. By means of a pinch-cock on the rubber tube close to the reservoir the flow of water from the latter was reduced to a mere dribble. This accumulated in the S-tube, and thus the urine in the bladder was drawn off by an intermittent syphon action.

Owing to the want of time the remaining papers in the programme were read by title, and this terminated the proceedings of the section.

Friars' Balsam, so successfully used during the Middle Ages in the treatment of wounds, ulcers, etc., doubtless owes its virtues to the antiseptic action of the benzoic acid it contained, although the part played by germs in wound repair was then unknown.

Therapeutic Hints.

Bronchitis.—

℞. Potassium citrate..... ʒss.
Lemon juice. . ..... ʒj.
Syrup. ipecac..... ʒij.
Aquæ.....ad ʒiij.
M. S.: One-half ounce four or six times a day for an adult.

—H. C. Wood.

Sluggish Liver and Indigestion.—

℞. Acid. nitro-hydrochlor. dil..... ♏x.
Tinct. podophyllin ..... ♏x.
Succ. taraxaci..... ʒj.
Tinct. nucis vom..... ♏x.
Syrup. zingiberis..... ʒss.
Aq. menth. pip.....ad ʒss.
S.—In water three times a day.

Hydrotherapy in Fevers.—Winternitz, at the International Congress at Rome last spring, gave the results of some recent investigations of thermic effects on the composition of the blood in health. He demonstrated that all applications of cold to the entire or greater portion of the surface of the body, when proper reaction was secured, led to three remarkable results, viz., an increase in the number of leucocytes, an increase in the percentage of hæmoglobin, and an increase in the specific gravity of the blood. Local applications of cold, followed by reaction, accomplished the same results in the local blood-supply. This affords us now for the first time a rational instead of empirical basis for the employment of cold compresses and poultices.

Gout manifesting itself anywhere but in a joint is to be considered irregular or incomplete.—Duckworth.

Kraurosis Vulvæ.—Proceed as follows: a ten per cent. ointment of cocaine to be applied and bromides administered internally; at the end of a week the affected parts are to be painted with tincture of iron twice a week; under this treatment the burning and smarting soon diminished and the fissures healed. Next the parts were smeared with Lassar's salicylic paste, and finally tampons were applied soaked in a ten per cent. solution of ichthyolresorcin. In two months the parts assumed a natural appearance, and recovery was complete.—Bericke.

Chancroid.—Actual cautery and dress antiseptically:

℞. Acidi sulphurici,
Pulv. carbonis ligni.....ää ʒss.
M. Q. s. ft. magma. Sig.: Dry the sore and apply thoroughly by means of a wooden spatula. Allow artificial eschar thus formed to separate spontaneously, using no dressing.

—Ricord.

Catarrh of Gall-ducts.—

℞. Ammon. iodid..... ʒj.
Liq. potass. arsenitis ..... fʒss.
Tr. calumbæ..... fʒss.
Aq. destillat ..... fʒjss.
M. Sig.: Take a teaspoonful three times a day before meals.

—Bartholow.

Aconite is the only drug which in poisonous doses will cause numbness of, and tickling of, the first of the mucous membranes with which it comes in contact, and then of the extremities.—Hare.

Anæmia, especially when accompanied by cardiac disturbances, such as weakness and irregularity of the pulse:

℞. Iron by hydrogen,
Powdered camphor.....ää ʒjss.
Extract gentian..... grs. cxxxv.
Mucilage gum Arabic.....q. s.
Make ninety pills. Dose: Two or three thrice daily.

—Edlefsen.

Nitro-glycerine is a heart sedative and not a stimulant.—Hare.

Chronic Rheumatic Arthritis.—Lord Anson paid £300 for the privilege of publishing the following prescription for chronic rheumatic arthritis :

℞. Sulphur..... ℥ j.
Cream of tartar..... ℥ j.
Rhubarb..... ʒ iv.
Gum guiac..... ℥ j.
Make one powder and add honey..... ℥ xvj.

Mix well, take two tablespoonfuls in a tumbler of white wine and hot water on going to bed, and repeating the dose on getting up in the morning.

—*Louisville Medical Monthly.*

Acute Coryza.—

℞. Cocain. muriat..... gr. vj.
Bismuth. subcarb..... ʒ ss.
Talc..... ʒ jss.

M. Sig : Enough to cover a silver five-cent piece insufflated into each nostril every two hours.

—SAJOUS.

℞. Carbolic acid..... pt. j.
Ammonia water..... pt. j.
Alcohol..... pt. ij.
Distilled water..... pt. iij.

Mix. Sig. : Gtt. 10 to be dropped on a piece of blotting-paper and inhaled for a few moments every hour.

—*Monit. Therap.*

Nasal and Faucial Catarrh.—

℞. Acid. carbol. liq..... ♏xxx.
Sodii biborat,
Sodii bicarb..... āā ʒ j.
Glycerinæ..... f ʒ iijss.
Aquæ..... q. s. ad f ℥ iv.

M. Sig : To be used as a spray.

—DOBELL.

Pruritus Cutaneus.

℞. Acid. carbolici..... ʒ j.
Potassæ fusæ..... ʒ ss.
Aq. dest..... Oss.

M.

—VAN HARLINGEN.

Marasmus.—

℞. Syrupi ferri iodidi..... ʒ j.
Syrupi acaciæ..... ʒ vij.
Aquæ fœniculi..... ℥ j.

M. S. : ʒ j. t.i.d.

—DUPASQUIER.

Acne Rosacea.

℞. Sulphur præcip..... ʒ j.
Calaminæ præpar..... ʒ ij.
Zinci oxidi..... ʒ j.
Glycerini..... ʒ j.
Aquæ destil..... ad ℥ iv.

M. ft. lotio.

Sig. : The lotion to be shaken, then painted on with a camel's hair brush at night.

In morning face is washed with a little warm water (no soap) and powdered over with following :

℞. Acidi borici..... pts. x.
Talci..... pts. xv.

M. ft. pulv.

Sig. : To be applied every morning.

—JAMIESON.

Strontium Bromide in Epilepsy is less prone than potassium salt to produce acne and other disagreeable symptoms, but it has less control over the epileptic convulsion. —WOOD.

Acute Bronchitis.—

℞. Carbonate of ammonia,
Salicylate of sodium..... āā ʒ j.
Camphorated tincture of opium,
Syrup of orange flowers,
Syrup of tolu..... āā ℥ j.
Water..... ℥ ij.

F. S. A.—To take a dessertspoonful every three hours.

—LEWINTHAL.

Tonsillitis.—If obstinate, sodium salicylate should not be overlooked, as some rheumatic element is possible.—GAILLARD.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE THROAT HOSPITAL AGAIN—THE SCHOOL BOARD'S INSULT TO DOCTORS—METRIC SYSTEM FOR THE PHARMACOPŒIA—THE LATE DR. GOODFELLOW.

LONDON, August 17, 1895.

THE Throat Hospital, in Golden Square, is again the scene of squabbling, but only a languid interest is excited by the struggles of those who seem to be defeated. A joint letter was sent to the newspapers to inform the public, that the three persons who sign it "have now entirely severed our connection with" the hospital. These three persons, who deem themselves of sufficient importance for the public to be interested in their proceedings, are : 1, the President—a nobleman and an ornamental official who probably knows little about the matter ; 2, Mr. R. Courtenay Welsh, who describes himself as "lately a member, and for nearly twelve years chairman, of the Committee of Management ;" 3, Dr. Greville MacDonald, who describes himself as "lately Dean of the Medical School, and for eight years physician." Possibly these two last are surprised that they have not found either the public or the profession at all curious as to their reasons. Far be it from me to add to their chagrin, but on the supposition that they feel aggrieved, not too great an assumption in face of their letter, and on the further supposition that they would like to know why they can obtain so little notice, I suggest, Nemesis. Let them remember their part in the great scandal of that hospital eight years ago. At that time, Mr. Welsh was chairman, and Dr. MacDonald, house surgeon, not long previously appointed. Mr. Welsh is not a medical man, but is said to be a "limb of the law." His conduct on that occasion was beneath the dignity of any pettifogging practitioner. He it was who got the late Dr. R. H. Semple to resign in order to give his day to Mackenzie's nominee, Mr. Hovell. When the staff protested and waited on the committee, Mr. Welsh was in the chair and pretended that no rule or custom of the staff could be recognized unless recorded in the minutes of the committee—which of course the staff never saw. He it was who occupied the chair when the staff unanimously resigned—no, not unanimously, Mr. Hovell remained—and when within half an hour, the committee accepted the six resignations and appointed three persons in their places. Of these three Dr. MacDonald was one. However tempting the jump from house surgeon to full physician, he could not be ignorant of what would be thought of the whole transaction, and however great may have been his satisfaction at displacing others, he ought surely to be aware that his conduct on that occasion scarcely entitles him to expect sympathy on this Nemesis.

The London School Board has made a mistake in throwing doubt on medical certificates, as to the absence of children from schools. You must know the Board does not pay for such certificates, which have been given up to now out of kindness to protect parents from the worry of unnecessary proceedings. The officials have now got the Board to sanction the appointment of medical inspectors to investigate the bona fide character of the certificates. This is regarded as an insult, and at some hospitals the physicians who had hitherto given these documents, have agreed to sign no more until the Board rescinds the obnoxious resolution on the question. If the Board persists, it will soon have no certificates to investigate. Is it reasonable that doctors should be asked to give certificates

gratuitously, and when they consent that their honesty should be impugned?

It seems to be settled now that in the coming new Pharmacopœia the metric system will be employed, but that concurrent statements will be given in the old measures. This will no doubt assist the change which will eventually become established.

Dr. Goodfellow, formerly physician to the Middlesex hospital, died lately at the age of eighty-six. He had retired from practice for a long time. In his day he did much good work, and enjoyed the respect and esteem of the profession.

SIR B. W. RICHARDSON AND SCIENTIFIC ACCURACY.

To the Editor of the Medical Record.

Sir: There is much uneasiness in the minds of the laity regarding the good or evil that may come ultimately from bicycle riding. Dependent as they are upon statistics from scientific men, it is little wonder that they are confused by the conflicting statements from what are supposed to be reliable sources. The preponderance of reports seems to be in favor of bicycling in moderation—always barring racing and hard riding. In its good effect bicycling in no way differs from any other of the out-door sports or exercises, with the additional advantage that it is less tiresome and monotonous. But now we have coming forward a certain class of supposedly scientific observers, who seem to draw all their conclusions from a racing stand-point, and judge and condemn the bicycle accordingly. They have not the fairness to state the simple fact that all exercise in excess is injurious, either directly or indirectly, to the heart, and leave the lay reader to believe that bicycling alone is the only exercise that is really a "heart-destroyer."

Sir Benjamin Ward Richardson, in a recent article in the *North American Review*, says that great injury is done to the heart by the bicycle. He makes the statement that he and some learned doctor had made the discovery that "as soon as brisk cycling is commenced the motions of the heart begin to increase." This statement is about as original as to say that as soon as the sun begins to rise the day begins to break. It leaves the impression that very few forms of exercise increase the heart's action, while we are well aware that any exercise of any kind will produce a like effect. Sir Benjamin would undoubtedly be one to advise keeping constantly in the recumbent position, simply because standing increases the rapidity of the heart's action.

He makes the statement that "rowing tells mostly on the breathing organs," presumably meaning the lungs. We should all certainly enjoy having him explain just how an increase of activity on the part of the "breathing organs" could take place without a corresponding increase in the heart's action. Increased respiration certainly means increased blood-supply, which is synonymous with saying increased heart's action. And it would perhaps interest him in a scientific way, to reconcile with his statement the fact that so large a percentage of professional and college oarsmen have been afflicted with heart disease.

He states further that "dumb-bell exercise tells mostly on the muscles, while hill-climbing and pedestrian feats affect the nervous system." Also, that "he has known the beats of the heart to rise from eighty to two hundred per minute in the first exercise of riding." This statement concerning the increased heart-rate is nothing new or surprising to the medical profession, but it gives much cause for alarm to the ordinary reader. His statements concerning dumb-bell exercise and hill-climbing, however, are so misleading that they would be either explained more fully or omitted entirely by a scientific writer. If Sir Benjamin would take an ordinarily strong but untrained man, having a normal pulse-rate of seventy-two beats per minute, and allow him to exercise simply the muscles of the arms with six- or eight-pound dumb-bells for sixty seconds, he would find at the expiration of that time that the pulse had increased to anywhere from one hundred and fifty to one hundred and sixty or seventy beats per minute. This would seem to disprove his statement or implied meaning that dumb-bells affect simply the muscular system, and also show that cycling is not alone in its action upon the heart.

He should also recall the fact that in all contests where strength and endurance are required by athletes the training to increase the strength and tone of the heart is mostly done by cross-country pedestrian and hill-climbing expeditions. But despite such exercises the nervous systems of most athletes (which must suffer inordinately according to Sir Benjamin's theory) are usually in very good condition after such long runs and climbs.

While articles such as Sir Benjamin's and others of its class have no effect upon the medical profession and scientific thinkers, still they are written for popular magazines, and in that manner reach a class of people who believe the statements made because they are supposed to give at least a truthful impression, even if only popularly scientific. One can only think of such writers that they are either thoroughly unscientific, or else so prejudiced that they are willing to sacrifice almost anything to make their prejudices seem well founded. From the article quoted above one might well infer that the writer had only recently discovered that there was an organ in the body called the heart, whose fundamental functions were as yet unknown.

E. H. Williams, M.D.

Decorah, Ia.

New Instruments.

A NEW PERCUSSION HAMMER.

By JOHN T. GIBBONS, M.D.,

Attending Physician, St. Catharine's Hospital, the Central Throat Hospital, and Polyclinic Dispensaries, Brooklyn, N. Y.

The accompanying design of a percussion hammer may interest your readers, especially those engaged in heart and lung work. The rubber is curved so that a broader surface strikes the finger than in the hammers we have

had hitherto. It is fastened in a dome which is surmounted by a ball, which gives a requisite weight to the whole. The handle (a modification of Niemeyer's) is screwed into the ball.

1297 Bushwick Avenue.

Chloral Hydrate is the hypnotic *par excellence* when pain is not a prominent element in the case. I find it best to combine it with ammonia and strychnine, some ammonia salt, not alkaline; all alkalies are sure to bring about decomposition of chloral hydrate, thus making it utterly valueless as a medicament, especially as a hypnotic. Following is a good combination:

℞. Chloral hydrate..... gr. xx.
Ammonia bromide..... gr. xx.
Fl. ext. nux vom..... gtt. x.
Fl. ext. belladonna..... gtt. ij.

Mix. Sig.: To be taken at once and repeated in an hour or two if needed.

—Adolphus.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending August 31, 1895.

	Cases.	Deaths.
Tuberculosis	128	127
Typhoid fever	34	5
Scarlet fever	26	4
Cerebro-spinal meningitis	5	9
Measles	84	7
Diphtheria	124	21

Physiological Action of Periodical Induced Currents.—Dr. A. H. Goelet writes, enclosing the following letter from the Kidder Manufacturing Company:

"NEW YORK, August 20, 1895.

"DR. A. H. GOELET—SIR: In answer to yours of this day, would state your permission was given for winding your lengths and diameters of wire first on two stationary helices, using a No. 21 wire instead of 18 and 22; arranging it so as to give the same results. And later your permission was also granted to wind these upon one helix. Manufacturers always extend this courtesy to the profession. The coil made for Dr. Rockwell, containing 5,000 feet, was made up of Nos. 16, 21, 32, 34, 36, and 38 wires."

Dr. Goelet adds: "It will thus be seen that the coil to which Dr. Rockwell lays claim is very different from mine, which is made up of Nos. 21, 32, and 36 wire, having a total length of 7,550 feet."

A Census of Centenarians has been taken in France, and the results, which have been published, show that there are now alive in that country two hundred and thirteen persons who are over one hundred years old. Of these one hundred and forty-seven are women.

A Blood-thirsty Profession.—Deputy Surgeon-General Thornton, of England, is dreadfully frightened to find himself in the company of ghouls. In a long letter in the *Liverpool Daily Post* of August 10th he warns the public of "a serious danger which is impending over all civilized nations, and which, year by year, grows more threatening. I refer," he says, "to the danger of human vivisection, which is a direct and inevitable consequence of the rapid and sinister growth of the vivisecting spirit, and the rage for experimental research, not only in the medical profession but also among scientists generally. There are many men who, though kind and humane in the ordinary relations of life, become pitiless and remorseless when dominated by the vivisecting spirit. Their minds are filled with the ardor of research, the hope of discovery, and the expectation of riches, honors, and fame as the reward of their labors. Such men would vivisect human beings as readily as animals, if they dared, and they are only prevented from doing so now by fear of the law and public opinion." When the Deputy Surgeon-General came to, he was probably surprised to read what he had written the night before.

Medical Book-borrowers.—The editor of the *Denver Medical Times* is a victim of designing book-borrowers. He says he has lost over fifty volumes during the past year by the failure of borrowers to return his books, and he now calls a halt. Denver has a medical department in the High School Library, and he warns the pestiferous borrowers to go there and leave his library alone. We extend to our esteemed contemporary the assurance of our profound commiseration.

Syphilis and the Female Genitals.—The Vienna correspondent of the *Medical Press* writes that Professor Neumann, in his paper before the Gesellschaft, reviewed the history of this dire disease as recorded by literature, and then criticised the physiological effect on conception, pregnancy, and progeny. His deductions were obtained from 6,000 cases. With respect to the recent exanthemata on the mucous membrane of the vagina, the moist papule was the characteristic form of syphilis. Clinically, this is hard to diagnose when confined to the cervix uteri, but anatomically it cannot be denied a place. In 800 cases of primary syphilis he found 51 to be located on the vaginal portio uteri, and only four times on the vagina itself. Individual diagnosis is often very difficult in multiparæ, although these appear to be the most easily affected. He has not attempted to determine the exact proportion the primaparæ stand to the multiparæ. In both the cicatrix erelong leads on to atresia and menstrual disturbances. The morbid products of syphilis, such as gumma and ulceration, are not uncommon to the female genitals. The gumma is most frequently met with at the "introitus" of the vagina, or anterior third, less seldom on the posterior or middle third. He recited a case where the gumma of the vagina resulted in a fistula with the bowel. He showed by histological specimens that recurrences frequently occur in the vagina. The ovaries and tubæ have also been assumed as the site of syphilis, but not so clearly proved. Syphilitic affections of the corpus uteri are rare, only one case standing on record as such, which may be considered as strange, seeing that metritis and endometritis with abortion is such a common result of the syphilitic poison and a fruitful source of sterility. So many hypotheses are set forth concerning the etiology that only a few may be related here. The older opinions assumed that the poison was conveyed through the ovule or spermatic fluid. The syphilitic changes that produce endo- and myo-metrium of the placenta, causing death of the ovum, is the most reasonable source of destruction. We cannot always find from a macroscopic examination of the placenta and uterus the exact cause, but when microscopically examined we find endo- and peri-arteritis of the fœtal and utero-placental vessels, as well as thrombosis with narrowing or perfect occlusion of the placental and femoral vessels, clearly demonstrating the cause of death. Myometrium is another fruitful cause. By the intervening syphilitic fœtus from the father the mother can scarcely escape the poison at parturition, as the poison can be easily taken up from the small lacerations. We know of no organ in the body where the syphilitic fluid, if freely applied, will not localize itself and recur, as we often meet with it in the neighborhood of the uterus acting as the principal source in habitual abortion. From this point of view, there are often many inexplicable cases of death of the fœtus, either before or after birth, where no trace of syphilis can be elicited in either father or mother, yet the fruit dies of this enfeeblement. On the other hand, it not infrequently occurs in pronounced tertiary syphilis, where mother and father are both syphilitic and the progeny free. Whether the cause presides in the red blood corpuscles, a diminution of hæmoglobin, or a toxine principle pure and simple, is yet to be explained by future investigation. Another hypothesis of oligæmia or pernicious anæmia of the fœtus, which may be the cause of death, cannot be denied.

Medical Politicians.—Lawyers and other laymen are not keeping up with the doctors in the political procession in some parts of France. In the department of Gers all the members of the General Council are physicians, and no non-medical man could well have been chosen at the last election, for every candidate was a doctor.

Furuncles.—A strong solution of chloral hydrate in glycerine and water frequently applied, it is said will abort furuncles.

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Original Articles.

THIRD REPORT ON ELIMINATIVE AND ANTISEPTIC TREATMENT OF TYPHOID FEVER.

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REGARDING the immense amount of energy and effort expended in the study of disease-producing fungi or bacteria, it would be but mere commonplace to say that all the accumulated knowledge, the result of such expenditure, can be of little worth apart from gratification of scientific curiosity, until it can be brought to bear directly upon the treatment of disease due to these organisms. Assuredly, too, the more accurate and comprehensive a knowledge of bacteria is gained, the more clearly outlined become the indications for treatment. In order to have this harmony between pathology and treatment, it is necessary, in the first instance, to be as fully informed as possible concerning the invading micro-organism, and how and why it is able to bring about the tissue changes and clinical symptoms peculiar to it; and, in the second, to remember and constantly to strive to apply that knowlege when the diseased condition appears.

With special reference to typhoid infection it occurred to me, some three years ago, that the treatment advised in current text-books, and that almost universally taught, did not follow at all closely as a logical sequence on what had been ascertained concerning the nature and pathology of the disease, that there was in fact a lack of harmony between pathology and treatment. Accordingly, I attempted a plan of treatment which seemed to me to embody the application of valuable facts relating to the infective germ, and the way in which it brought about disturbance and destruction in the human body. Two years ago I published this plan of treatment in the *Canadian Practitioner*, April, 1893, under the title of "Eliminative and Antiseptic Treatment of Typhoid," and with it all the cases so treated. In 1894 a second paper under the same heading appeared in the MEDICAL RECORD of March 10th. To this second paper I appended an analysis of forty consecutive cases without fatality, and running a course unusually short and unusually free from distressing symptoms, and from what have been spoken of as the accidents of the disease.

I now beg to make a third report, and in doing so I shall in no way alter the original title, for nothing to my mind would so clearly indicate the principles of treatment as the two words "Eliminative" and "Antiseptic." I shall, also, still adhere to what seemed to me on the former occasions the correct way to approach a discussion of this kind, and first gather together, as completely and as concisely as I may, what has up to date been determined by bacteriologists and pathologists concerning the germ itself, and also the relation which it bears to the lesions and symptoms of the disease. By so doing it becomes easier to appreciate consistency or want of consistency in the principles of treatment which I shall have to bring forward, as well as in those which are generally accepted and taught.

It is, of course, past question that enteric fever is the result of bacterial infection. So far, all are agreed, but when it comes to giving credit to one particular variety, there is by no means a like unanimity. There are those who attribute everything to Eberth's bacillus, while there are many observers who are of the opinion that other bacilli, as well, are responsible for part at least of the disturbance. The bacillus coli communis, particularly, is by many considered to produce much of the toxæmia. Others, again, urge that Eberth's bacillus is simply a modified form of common colon bacillus. The great difficulty in distinguishing Eberth's bacillus from the bacillus coli communis, perhaps, accounts for these varied views. There are, however, many apparently sufficient reasons for believing that common bacillus of the intestine is responsible for a portion of the disorder, even though Eberth's bacillus be recognized as the primary and chief aggressor in the disease. There is the primary fact, with reference to bacillus coli communis, that it is capable of producing toxæmia even to a fatal degree. Treves,[1] in his paper on peritonitis, describes the condition, when associated with intestinal disease and injury, as one of poisoning from escape of these bacteria from the injured or opened intestine, followed by rapid spread over peritoneal surface, with correspondingly rapid absorption of the toxic substance to which they give rise. It may, then, be taken as proven that the bacillus coli communis is poisonous. Under ordinary circumstances the quantity absorbed is not sufficiently great to give rise to symptoms. It is more likely, though, that immunity from this constant poison is due to the functional activity of the liver in intercepting and destroying these harmful substances.[2] Treves,[3] also, expresses the opinion that, under certain circumstances, the common bacillus of the intestine becomes more virulent, which is quite in keeping with what has been determined in experimental growths of other forms of bacteria. It is maintained by others that this increase in virulence occurs when it is associated with Eberth's bacillus. However, looking at the condition which prevails, say in the first week of typhoid, it becomes evident that many forms of bacillus are to be found throughout the intestinal canal. Owing to lack of secretion, food materials are not digested and absorbed, but the mass remains to be broken up by the ordinary germs of putrefaction, absorption of toxic products of course taking place. It is only necessary to imagine this process repeated and continued, to be convinced that many forms of bacteria are present in addition to Eberth's bacillus and the bacillus coli communis, and that some portion of toxæmia must be attributed to these putrefactive or unclassified germs. Given Eberth's bacillus as the primary cause, it requires no argument to prove that other forms must play a part in the production of symptoms.

We have only to recall the manner in which bacteria bring about disturbance, by virtue of the toxic substance which they produce, to perceive clearly that the condition in typhoid is one of continuous intoxication. The primary and chief source of the poison is the alimentary canal, although it should not be forgotten that some portion of toxæmia must be attributed

[1] British Medical Journal, January, 1894.
[2] Lauder Brunton: Disorders of Digestion.
[3] Treves: British Medical Journal, January, 1894.

to poison elaborated by bacteria which have been carried from the intestine and deposited in the various tissues of the body, notably in tissues most directly connected with the alimentary canal, *e.g.*, lymphatic nodes of intestine and mesentery.

I am fond of comparing the prolonged poisoning of typhoid to the commonest intoxication we are familiar with, *e.g.*, alcoholic. Typho-toxin and alcohol are each the result of bacterial action, under certain conditions. One process takes place within the body, the other without. Each poison has in the main its characteristic train of symptoms. These symptoms are the physiological effects, and from a survey of these signs we can estimate approximately the degree of poisoning, always remembering that, as with alcoholic poisoning so with the toxæmia of typhoid, individual peculiarity may play a part, that certain conditions may increase susceptibility, while certain other conditions may have a directly contrary effect. It must be remembered, too, that in neither case are we always dealing with the pure drug. With alcoholic poisoning must be included frequently poisonous effects arising from introduction of these substances usually separated and removed. Making allowance, then, for these conditions and peculiarities, it remains true that, just as we judge of the degree of intoxication from the appearance and actions of the drunken man, so in the case of typhoid we can read in the symptoms the amount of toxin in the system.

With reference to the local effects of typhoid poison we are not able to estimate so accurately their degree. We have, however, a few valuable facts concerning the effects of typhoid toxin: 1. That it will irritate tissue-cells and produce swelling, congestion, and infiltrations of the part. 2. That, if it becomes concentrated to a sufficient degree, the irritation is replaced by complete destruction or necrosis. 3. That necrosis may be brought about, not so much as a result of concentration of poison, but owing to long continuance of contact[1] (Sims Woodhead). It is only in the case of the grosser destruction of tissue, *e.g.*, in the intestinal lymphatics, that this local or "caustic" effect can be considered quite apart from those derangements of function which depend largely upon the local effect widely distributed, *e.g.*, rapid tissue waste or increased rate of molecular death from wide-spread irritation. It is, then, safe to assume the local effect whenever the general symptoms are present. To state it concisely, there is in typhoid fever infection of the body by bacterial growth, which brings about a condition analogous to fermentation, with the production of a chemical substance, "typho-toxin," which when diffused through the body gives rise to general symptoms, and where concentrated, to irritation or complete destruction of tissue.

Facts to be carefully noted are: 1. That general symptoms are increased or diminished according to the amount of poison in the body, or dosage. 2. That the extent or degree of local lesion is determined by the degree of concentration of the poison and the duration of contact.[2] Fenwick and Bokenham have succeeded in isolating an albumose from the spleens of those who had died in the third week of typhoid fever. Experimenting with this substance on animals, they found that if it be injected in quantities exceeding 0.02 gramme per kilo of body-weight, there is invariably elevation of temperature and anorexia. The more the dose is increased, above 0.02 gramme per kilo, within certain limits, the higher the temperature. If injections above this quantity are given on alternate days, there is persistent elevation of temperature with anorexia and rapid diminution of body-weight.

Leaving the consideration of what has been determined concerning the poison of typhoid and its action on the organism, let us turn to consideration of the way in which infection takes place, and how the fungi become established in the human body. Whether we say infection is due to Eberth's bacteria or to a modified colon bacillus, it most assuredly comes from without. For the purpose of this paper, it is taken in with contaminated water, is not destroyed in the stomach, and takes on active growth in the small intestine. Very shortly large numbers of intestinal lymphatic nodes become swollen and congested as the result of the invasion of bacilli which have come from the intestinal contents. Shortly, the mesenteric glands become affected in the same way, and after a time bacilli may be found in clusters in many parts of the body. In a former paper I ascribed the apparently selective tendency of these organisms for the solitary glands as due simply to the anatomical arrangement by which each lymph-node became as it were a small reservoir, into which bacteria and poison were conveyed by the numerous lymph-ducts which drain the surrounding area of intestinal surface.

This "hiving" or concentration makes it clear why the intestinal lymph-nodes almost invariably present a marked degree of local change. There are those who maintain that now, although there may be and usually is infection of lymphatic glands for several feet, as well as of other tissues, the infective micro-organisms are no longer to be found in the intestinal contents. But after some time, about the eighth[1] or ninth day and during the remainder of the attack, they may be found in the bowel discharges.

When one stops to consider it, this seems an improbable thing, for in the first instance the contents of the intestine must have been favorable for growth at the time the intestinal lymphatic nodes and the body generally became infected. Then, in the second, it is necessary, in order to have simultaneous invasion of many glands scattered over several feet of intestine, to presuppose that the bacilli taken in with the glass of impure water must have multiplied to some considerable extent. Now, how comes it that after this wide-spread infection of the intestinal glands the bacilli are no longer able to flourish in the intestinal contents? They most assuredly have been able to exist and flourish there, and, according to those who hold the view I have mentioned, after this disappearance they return again and once more find the conditions suitable. From this time, as early as the eighth or ninth day (Klein), until the termination of the disease, they continue in the intestine.

I confess that this theory of presence in the intestinal contents, followed by disappearance, and again by reappearance, is hard to understand. To those who urge that it is exceedingly difficult to distinguish Eberth's specific bacillus from certain forms of common colon bacilli; or to those who maintain that typhoid is due to a virulent form of colon bacilli, this difficulty does not present itself. According to them the specific germs may be present in the intestine throughout the first days of the active disease, as well as during the period coincident with infection of the intestinal lymphatic nodes, and that period remaining after the first ten days or fortnight.

Leaving these diverse views, and taking into consideration the facts of the case only whether it is decided to have a specific Eberth's bacillus or modified colon bacillus, or whatever may be decided as to name—it becomes clear that the infective germ must have been present in the lumen of the intestine in order to have infected the intestinal glands, and there in very considerable quantity, in order to have produced infection simultaneously in so many glands scattered over so great an extent of surface.

It is also beyond a doubt that the specific germ is present in the discharges during a portion of the period which follows infection of the intestinal glands, because

[1] Woodhead: Bacteria and Their Products.
[2] British Medical Journal, April 13, 1895, p. 801.

[1] Klein: British Medical Journal, October 13, 1894; and Hirschfeld: British Medical Journal, April 20, 1895, p. 869.

whole epidemics have been traced to contamination from active cases. Besides, there is no disagreement concerning their presence during the later period. Now, what reason is there for the assumption that the intestinal contents possess immunity during this intervening period?

Then, are we to assume that migration of bacilli from the intestinal contents to the intestinal lymphatic glands is fully completed before any constitutional symptoms arise? Such a theory is manifestly unreasonable, yet unless we maintain it absolutely we must admit that the infectious germs which give rise to the disease form part of the intestinal contents in the early stage of the disease. In other words, the process of invasion of the glands is coincident with the earlier symptoms of toxæmia.

When all are agreed that it is impossible, from a morphological stand-point only, to distinguish a specific typhoid germ from the colon bacilli which are always present, and when many bacteriologists maintain that there are no specific germs apart from the modified colon bacillus, it does seem unnecessary to assume this period of absence, leaving out of consideration altogether the manifest absurdity which I have just shown this theory to involve.

I have devoted some space to this question, because since I first advocated active treatment of typhoid, objections have been raised on the ground that in the early stage of the disease no specific bacteria are to be found in the intestine.

Let us, now, turn to the question of treatment of the condition arising from the infective process briefly described above, and in so doing adopt the plan indicated in the beginning of this paper, to arrive at the treatment by applying the knowledge possessed of the infective germ, and all relating to it. It can scarcely be said that this has been the plan adopted in arriving at the treatment of the past. Until recently treatment was nothing. In many countries "let alone" is still the vogue.

In my first paper I stated that I believed all the indications furnished by a study of the morbid process were met by the adoption of a plan of treatment embracing three distinct heads or principles: Elimination, antisepsis, and dilution. I still adhere to that belief. Elimination is accomplished by free and continuous purgation, as well as by the flushing action of large quantities of water on kidneys and bowels. By the use of purgative medicines the infective process is disturbed in several ways: 1. Bacilli are carried out of the intestine together with the toxic substances produced by them. 2. Poison held in solution by the body fluids escapes with the free secretion into the intestine: and besides, at frequent intervals a quantity of what, in this instance, must be extremely toxic bile, is swept away instead of continuing in the circuit from the liver to the intestine and back again. If constantly relieved in this way the liver can more frequently perform its *rôle*[1] of standing guard and intercepting toxic substances which would otherwise reach the general circulation. 3. Infection of intestinal glands is limited, or, in other words, the source of supply from which bacilli and poison are carried from the intestine is cut off. That is, just as you can and do limit the dose of poison received by the system generally, so do you limit the local dosage and consequent injury of the intestinal glands by the same means. This surely requires no argument, it is evident, if only one stops to recall the manner in which infection takes place. In the one case, lessened dose means milder symptoms, and in the other the smaller the local dose the less severe the local lesion.

Concerning toxin already absorbed and in contact with the tissues, held in solution by the body fluids, some portion of it must be removed with the secretion poured into the intestine, when stimulated by purgative medicines, as well as that drained off through the kidneys. There is nothing unusual in such a claim. We have many examples of removal of poisonous material from the body by similar procedure.

By repeating this process it certainly tends to prevent a dangerous accumulation of toxin in the system, and at the same time prevents, or tends to prevent, local lesion in the intestine from becoming sufficiently great to destroy a vessel, or extend entirely through the intestinal wall. It must not be forgotten that tissue resistance is increased just as the tissues are freed from the effect of the poison. Hence the tissue-cells are in this way rendered more capable of resisting and destroying the bacilli already present in them. It is obvious, too, in order to escape harm, the earlier elimination is brought about and the more constantly it is secured, the better, whether with reference to general symptoms or local lesion. In many instances, I believe, brisk purgation in the early stage carries out so much of the culture and relieves the tissue to so great an extent that the remaining bacilli are destroyed by the liberated tissue and the fever is aborted.

When this is not accomplished, or when the case is not seen early, then purgation must be prompt and energetic enough to relieve dangerous conditions, and continuous enough to keep the dose of poison below a harmful point, if possible, until such time as immunity is reached. In judging of the amount of poison present, attention should not be exclusively directed to one or two symptoms, but the entire list of symptoms should be considered.

Coming now to the second feature in treatment, that is, attempting to destroy micro-organisms by antiseptics, there can scarcely be doubt about the possibility of doing this to some degree. It is quite possible to completely deodorize the contents of the intestine by means of salol or salicylate of bismuth, and, no doubt, by other agents, as anyone can demonstrate. But to be efficient, antiseptics should be used in association with purgatives for the following reasons:

1. Just as it is easier to approximately sterilize an abscess-cavity after first having emptied it, so is it to derive benefit from intestinal antiseptics if the intestine be first cleared of its contents.

2. Intestinal antiseptics, while lessening the production of poison by destroying bacilli, yet could have no possible effect on the poison already in the intestine, but in many instances might themselves add to the toxins present.

3. Much larger quantities of antiseptics can be used without poisonous symptoms arising, if, at the same time, elimination by the bowels is continuously maintained. Any benefit derived from an antiseptic is obtained at once, and if it is speedily cleared away much which would otherwise be absorbed escapes with the contents of the bowels.

The remaining factor in treatment is clearly indicated, for the local effect of the poison depends upon its degree of concentration, as well as upon duration of contact.

Injection of large quantities of fluid is a necessary adjunct to elimination. Fluid drained off, continuously carrying with it the poisonous material it contains, must be replaced. If this were not done, the tissues would suffer from lack of fluid and the toxin remaining would assume a more concentrated, and therefore a more active, form. It might be well, at this point, to consider elimination by purgation in its relation to certain accidents of the disease, *i.e.*, hemorrhage and perforation. I do not propose to enter into the question at length, but shall content myself by pointing out that, if it is true that the local lesion is proportionate to the local dosage and duration of contact, and if it is true that the toxin and bacilli, which would otherwise reach the lymphatic glands, can be carried out by purgation, then it must be that elimina-

[1] Bouchard: Auto-intoxication in Disease.

tion by purgation tends to lessen the occurrence of both hemorrhage and perforation.

In the late cases the indications are the same. If a vessel is already necrosed, hemorrhage is unavoidable; if not already necrosed, the way to prevent it becoming so is by removing the poison. With reference to this point I beg to refer to the paper in the *Canadian Practitioner* of April, 1893, or to the MEDICAL RECORD of March 10, 1894, where I have discussed this question at length. I still maintain the same conclusion, that purgation at no time causes perforation or hemorrhage, but at all times tends to prevent its occurrence. Misconception regarding this matter was the great barrier which interposed whenever an attempt was made to follow in treatment the indications furnished by study of the morbid process. So great was the dread of these two accidents that the fact that the great majority of fatalities were due, not to hemorrhage and perforation, but to toxæmia, was lost sight of. A study of the cases I have to report with reference to this point, will, I believe, convince the most sceptical that formerly a misconception did exist.

So much for meeting the indications furnished by consideration of what has been determined concerning micro organisms on paper or in theory. How does it work out in actual practice? Precisely as it does in theory.

I have to report 172 cases with a mortality of five, or three per cent. No cases were excluded, late cases are taken as well as early. Forty-four of these were my own patients. Forty-one cases were treated at the Toronto General Hospital, to a considerable extent under my own direction, and in every instance under my observation. The remaining 87 cases were furnished me by several medical friends, with two exceptions resident in Toronto.

I have excluded none from my list, whether coming under eliminative treatment early or late, provided only that the treatment had been fairly carried out from that time. Concerning the cases received from others, I can only speak in general terms. All these cases were reported as having done well, with two exceptions, and the treatment gave results such as I have indicated in the papers published. One case died from hemorrhage and one from pneumonia during early convalescence. The hemorrhage case had been ill in the country while nursing a case of typhoid; returned to the city, and after two weeks' illness was again taken to the country. When seen she was comatose, had tympanites, and temperature of 104° F. Given saline in drachm doses every four hours, and shortly the temperature fell, tympanites disappeared, and consciousness returned. On the third day, at 12 A.M., she had a slight hemorrhage and the saline was discontinued. Next day, at 5 P.M., she had a severe hemorrhage and died at once.

The case of pneumonia occurred in an alcoholic, and in my opinion it is doubtful whether he ever had typhoid. However, I have included his case in my list. In two other cases hemorrhage occurred, but treatment was persevered in with favorable results.

Coming now to my own cases, forty-four in number. I had one death from pneumonia, following a very severe attack, in a boy nine years of age. In this case, too, there was slight hemorrhage, which I thought might come from the rectal veins, as it was small and bright in color. The autopsy showed a remarkable condition of the intestine. Although death took place in the fourth week, two minute ulcers only were found in the ileum, but the intestinal glands throughout were swollen.

The forty-one hospital cases gave two deaths. One from hemorrhage, where the autopsy showed the presence of ulcers from the ileum as far down as the sigmoid flexure. She had been in the hospital eight days when death occurred. This case presented symptoms of severe infection, high temperature, distention, and a dusky expression. She did well until the hemorrhage occurred. This was slight at first. The purgatives were discontinued and opium given until termination fatally from extensive hemorrhage.

The second fatal case occurred from hemorrhage from the stomach and nose with general purpura, hemorrhage in every part of the body. Autopsy showed a large number of ulcers, covered with black, dry sloughs. The patient died on the fourth day in hospital. These five cases make up the entire list of fatalities. Two died from pneumonia, after recovering from severe attacks of typhoid.

The two fatal hemorrhages occurred in cases coming under observation, certainly, in the third week of active illness. Both cases gave indications of profound and dangerous toxæmia, which disappeared as soon as elimination was secured.

Analysis of one hundred and seventy-two cases. Mortality of three per cent. No death from toxæmia. No perforation. Hemorrhage in eight cases, including the two fatal cases. My own single case of hemorrhage was so slight that I attributed it to rectal engorgement. In all the cases where I had opportunity of observing, except the two fatal cases, the amount lost was small.

Tympanites never developed in my own or hospital cases during treatment, and where present at first invariably disappeared as soon as elimination was freely secured. Delirium practically unknown after the first days, and I cannot recall a single instance where it was present after treatment became established.

Out of sixty-four charts in my possession, fifty-eight show that the highest temperature reached was in the first three days. That is, the temperature inclined toward normal as soon as elimination was secured. In many instances the chart shows decline in temperature as regular as a flight of stairs, *e.g.*, charts Nos. 1, 2, and 3.

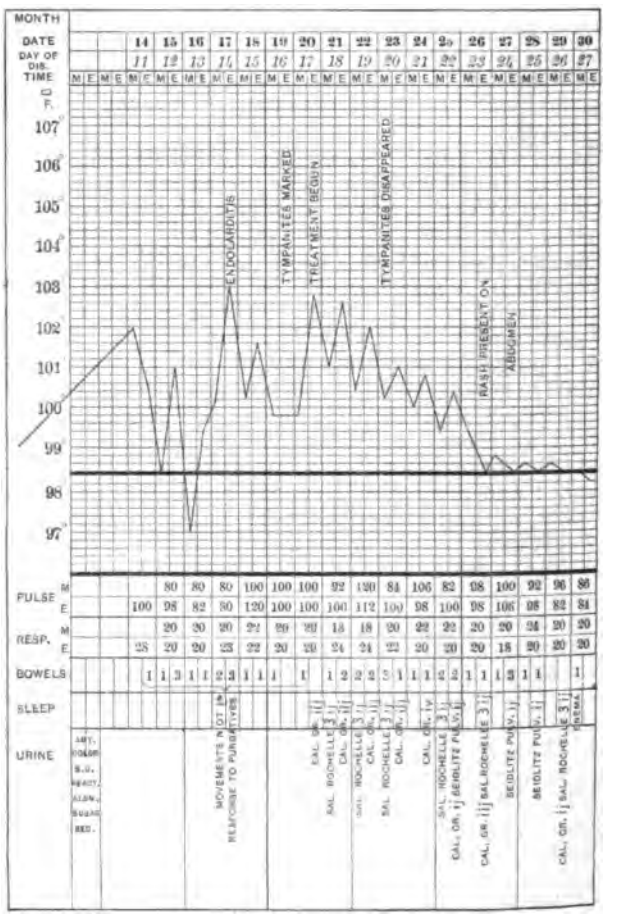

Chart 1.

The pulse, contrary to opinion often expressed, improves with the general symptoms, and it is no uncommon thing to have a pulse between seventy and eighty, strong and regular, after two weeks of continuous purgation. For example, average movements five

per day for eleven days, pulse eighty; average daily movements four for eighteen days, pulse seventy-eight; average movements per day five for twelve days, pulse sixty-eight.

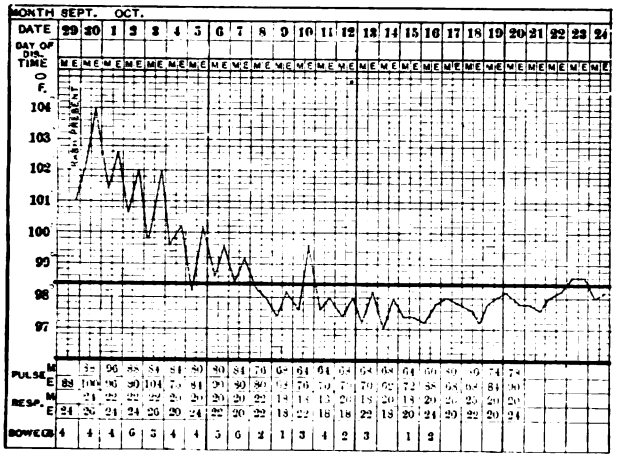

Chart 2.

Diarrhœa, in my own cases, never required controlling treatment. The difficulty was rather the other way. In many instances it is not an easy matter to secure sufficiently free movement, and different purgatives and expedients must be resorted to. Sponging as routine treatment twice daily, but in my own cases never required for reduction of temperature. Lately, many who are warm advocates of the cold bath or Brant treatment, have arrived at an explanation of its action. It promotes elimination [1] of toxin by the urine, increasing the toxidity of the urine five times. Very good; but why confine elimination to the kidneys? Bouchard has shown that in health the bile discharged into the intestine contains just six times the amount of toxin that is discharged with the urine. In the event of unusually toxic processes occurring in the intestine it is fair to conclude that the toxidity of the bile would be very greatly increased. If increased elimination of toxin is the great desideratum, one need not look far for a more direct method than that of immersing the sick man many times a day in a tub or a bed full of cold water. Besides, he is not likely to cry so loudly or beg so pitifully to be allowed to escape if elimination is promoted in some other way.

In short, under this method of treatment the striking feature is the absence or speedy disappearance, in practically every case, of the classical group of symptoms, delirium or coma, tympanites, subsultus, and the extremely foul condition of the mouth and tongue. The two following cases are examples of speedy improvement:

Case I.—Alice G——, aged twenty-four, under Dr. J. E. Graham, was the first case treated in this way in the Toronto General Hospital, Dr. Graham kindly allowing me to supervise the treatment. When the treatment began she had already been seven days in the hospital. Had been given no purgative medicine whatever. She was dusky and drowsy, had decided

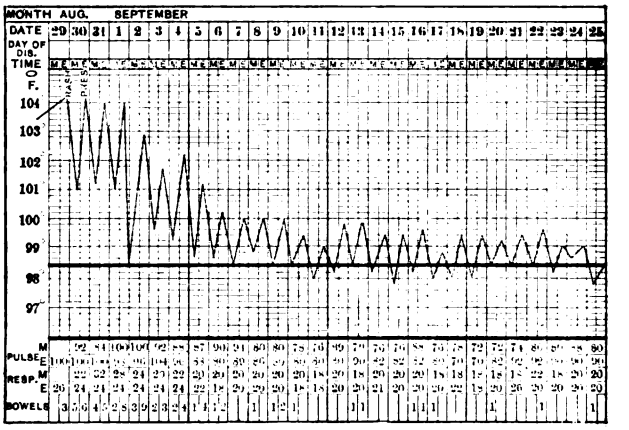

Chart 3.

tympanites and muscular tremor. There was a well-marked pericardial friction rub, also an aortic regurgitant and mitral systolic murmur, all appearing within a few days. Treatment began on the 17th, and free elimination by daily doses of calomel and Rochelle salts secured. Improvement every day. Tympanites completely gone on the 20th, and on the 24th the temperature became normal and continued so. At the same time a perfectly typical rash was present (Chart 1).

Case II.—Also a patient of Dr. J. E. Graham in the General Hospital. I was asked to see him in the absence of Dr. Graham. He had been ill for two weeks

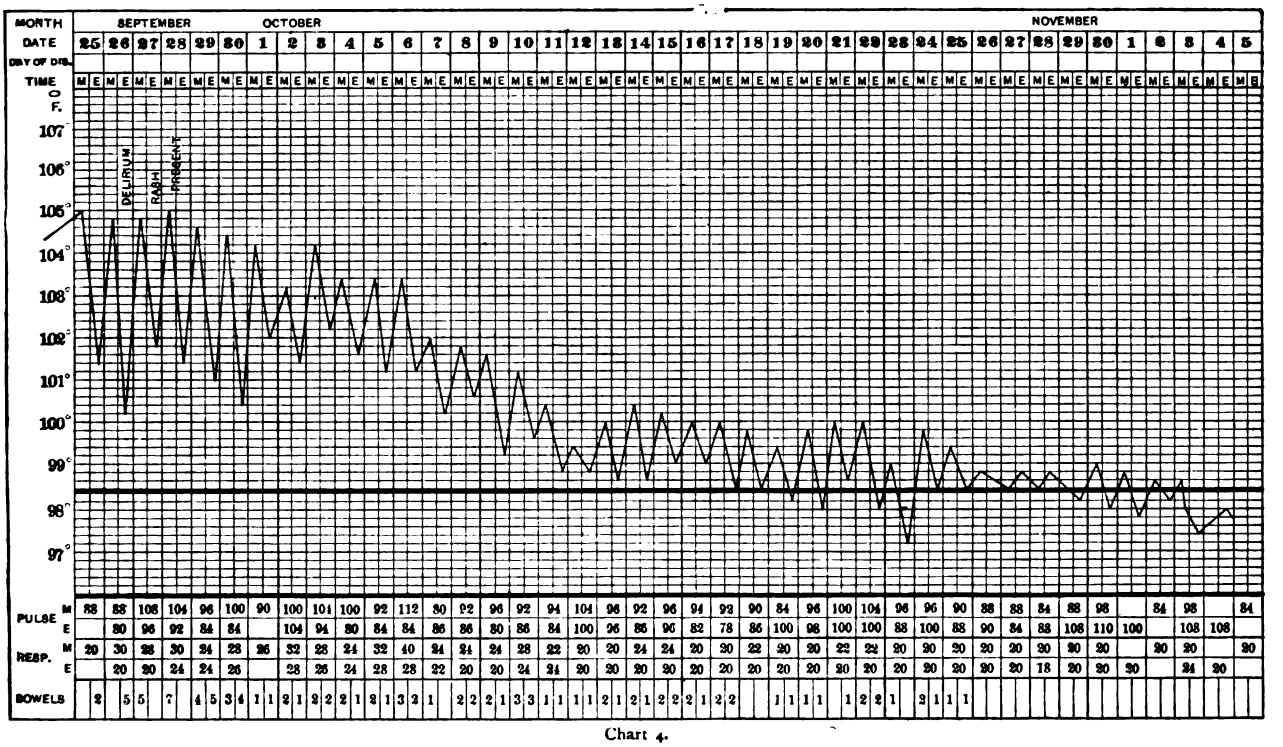

Chart 4.

[1] Burr: Chicago Medical Recorder, October, 1894, p. 229.

and had been in the hospital five days. Temperature, 104.2° F., when seen on the evening of the fifth day (Thursday). At the time of my visit he was profoundly unconscious, with greatly distended abdomen, stertorous and rattling breathing, jaw fallen, tongue dry, tremulous and spasmodic conditions of muscles, subsultus, and picking at the bedclothes. In fact he seemed to be in extremis. I advised magnesia sulphate, half an ounce at once, and continued in drachm doses every hour, and plenty of fluid. In addition, in order to hold him until toxæmia should lessen, strychnine and whiskey were given at intervals. This was on Thursday evening, the 16th, and on Saturday morning he was quite conscious. Purgatives were continued vigorously. Condition continued to improve, and on the 22d the temperature became normal; subsequently it rose slightly, and again became normal on the 27th, to continue so.

In this case I am convinced the patient would have died in a very short time if the toxæmia had not been quickly lessened.

Charts 2, 3, and 4 are quite characteristic, and show the number of bowel movements daily. I have frequently been asked how much purgative should be given in a day. One can have no fixed rule. The idea is to give enough to secure elimination, and the amount required is a matter of experiment in each case. Usually three or four grains of calomel in divided half-grain doses, followed by a saline in three or four hours, will result in free elimination. If not, compound cathartic pill No. 2, followed by sulphate of magnesia or other saline, or else sulphate of magnesia alone in repeated doses. At any rate secure elimination quickly, it matters little how it is done. In many cases days are lost. The dose ordered to-day fails to purge. Next day another is ordered, still without result, no provision having been made in the event of the medicine ordered not being sufficient. In this way several days may go by, and while the patient may be taking purgative medicine he is certainly not receiving eliminative treatment. Indeed, I have known this condition of things to exist during an entire illness. Of course, treatment after that fashion must be due either to carelessness, or failure to grasp the principle in eliminative treatment.

THE AUSTRALIAN, OR O'HARA, OPERATION FOR THE RADICAL CURE OF HERNIA.

By THOMAS H. MANLEY, M.D.,

NEW YORK.

In the spring of 1894, while making a tour through the London hospitals, it was my privilege to witness many surgical operations that I never before had seen, and a few that I had not even heard of.

The great attraction which British surgery had for me was the generally humane character of the aims which inspire the operator, and the pronounced conservatism which one sees extended to all cases, with few exceptions.

It was my purpose, particularly, to determine, as far as possible, just what the position of hernial surgery was, in those cases of non-strangulated variety; and endeavor, if possible, to gather some information of the details in technique of operating that might enable us to give our patient a better assurance of permanence of cure after operation than has been before possible. Happily, in this respect, my hopes were realized.

One afternoon, while in attendance on a clinic held by Mr. Golding Bird, a case of hernia was brought in for operation. My surprise was great when I saw him commence and go through an operation, of which I had no knowledge before, though of late years I had made a searching examination into all available literature on hernial operations, the ancient as well as the modern. The professor described the various steps of the operation, performed it with great skill and ease, and highly commended it, but failed to mention the name of its originator or its history.

My impression of the operation was so favorable that, as soon after my return home as a case of reducible inguinal hernia came under my care, this particular operation was employed, and since the latter part of April, 1894, twenty-one cases have been so treated by me, and in no single instance has there been a relapse, as far as I can learn. I have since learned that Henry O'Hara, M.R.C., S.I. senior surgeon to the Albert Hospital, Melbourne, Australia, first devised it. At the late meeting of the National Association of Railway Surgeons, at Chicago, on the invitation of Professor John B. Murphy, a surgical clinic was held by me in Cook County Hospital, on which occasion I was enabled to perform the O'Hara, or Australian, operation for the radical cure of reducible hernia, and demonstrated the various steps of its technique. Its simplicity and *rationale* so pleased those who saw it that a large number have since urgently requested me to publish a description of the operation, and so illustrate it that they might the better understand it. To fulfil this purpose, and, besides, recommend to the profession what has impressed me as the most desirable, safest, and most durable of all surgical cures of hernia, these few notes are submitted.

In the beginning it is necessary that we have a correct understanding of the precise etiological elements which enter into a hernia, in order that we may the better appreciate how far we may hope to deal with this infirmity by surgical measures; for it may be well to confess at the outset that there are several types of hernia quite beyond our power to cure.

The three anatomical elements which enter into the development of hernia are: 1st, Parietal; 2d, visceral; and 3d, mesenteric. Besides these, there are many other determining factors. The parietal only will be considered here, and only so far as may be necessary to discuss the special plan under consideration; for in that class of cases only in which the faulty development of structure is lodged in the walls, involving the canals of emergence, can we hope for or promise permanent results.

M. Paul Ségond, in his classical work on hernia,[1] was disposed to take a pessimistic view of modern surgical operations for hernia; because he believed there was a certain mortality attending them. Of late, however, he has changed his opinion. In properly selected reducible herniæ, treated skilfully by the method here described, there should be no danger to life at all.

The technique embraced in the O'Hara operation combines some of the principles of the more ancient methods of Gerdy, Watzer, and Valette, with the more modern of Reisel, Macewen, and McBurney, *i.e.*, invagination with obliteration of the lumen of the sac, to which is superadded the more modern procedure of the open incision.

It radically differs from all other modern operations inasmuch as it leaves the abdominal walls intact, the inguinal canal open, and the sac undisturbed in the scrotum. This is wherein its great strength lies; for in all cases, after treatment by this plan, we can give our patient an assurance that, if we should fail to accomplish a permanent cure, we still do not leave him in a state much worse than though nothing had been done, as is the case with many other current operations.

As will be seen, the ideal cases of herniæ which are the most appropriate for the O'Hara operation are the indirect complete inguinal in the male, although with some slight modification it may be utilized with advantage in the femoral or inguinal of the female.

In order to derive the most satisfactory results with this operation, we should exercise discretion in selecting our cases; taking due care to exclude those which are very chronic, or have undergone extensive structural changes.

Hernial operations, in reducible cases, are under-

[1] Traitement Chirurg. des Hernies, par M. Paul Ségond.

taken chiefly for three reasons: 1, To obliterate a deformity-cosmetic purpose; 2, to place a hernia in such a position that it may be more safely and comfortably supported by a truss; and, 3, to secure a definite cure. This operation, as far as my experience goes, fulfils the two latter in a larger measure than any other, and for its cosmetic results is equalled by none yet undertaken by the open incision.

The Various Types of Hernia for which the Australian Method is Best Adapted.—It goes without saying that there are various ruptures that should never be operated on except in the presence of impending, or actual, strangulation. There are many others of such varied anatomical elements that no definite lines can be followed in dealing with them by operative methods; and thus it is that with the scheme here described there are certain types in which we must deviate from our regular course after an operation is begun.

Complete, Indirect, Inguinal Hernia in the Male.—The most common variety of hernia, viz., the complete, indirect, inguinal, is that most suitable for the O'Hara operation, inasmuch as in this we have the sac well down in the scrotum, and are able to separate the neck or stalk as it emerges through the external ring.

In the female, when the viscera make their way out through, or by, the canal of Nuck into the labium majus, we may succeed equally well. It is well to remember, however, in this, which is an unusual form of hernia in women, that the extrusion commonly consists of some of the organs of generation, and that the inguinal canal with the female is very short and rudimentary.

Congenital Inguinal Hernia.—With cases of congenital inguinal hernia, as there is an absence of a free, peritoneal investment, and hence no sac, we may strip the fascia propria off the elements of the cord, and invaginate it in such a manner as to quite completely obturate the inner ring.

Bubonocele.—Bubonocele consists of a hernial arrest within the inguinal canal between the rings; or the apex of the sac may extend a short distance just outside the external ring. In genuine bubonoceles the anterior wall of the inguinal canal must be opened, when we will be obliged to invaginate the peritoneal pouch entire. When any part of the sac protrudes through the external ring, we may easily draw it down and free it from the cord, when it may be turned on itself and sent entire through the internal ring.

Femoral Hernia.—In femoral hernia of recent development we may utilize this method with advantage; though as all surgeons well know, owing to the intimate contact of the fascia propria with the great blood-trunks, the utmost caution must be observed in the process of isolation, inversion, and anchoring the neck of the sac. If we keep close to the inner border of the falciform process and send our carrying-needle through the conjoined tendon, or Haselbach's triangle, we will avoid all danger of vascular damage.

Age.—Seven of my cases were in children under five. In all this class, when they are over measles and whooping-cough and have ruptures which are incoercible, the earlier they are treated the better. These little ones suffer but very slightly from the operation, and can be scarcely restrained from running about after the first few days succeeding the operation.

Period of Convalescence.—One of the greatest advantages of this operation is the very brief convalescence.

As there has been no shock to the system, no extensive division of tissues with large breaches in the soft parts to close in, there is no pyrexia, no constitutional disturbance; and as a rule, with adults, it is my practice not to confine them in bed beyond nine or ten days. Children are allowed to be up after a week, but a spica-bandage is worn for six weeks later, when all supports are cast aside. With adults, as the reparative power of the tissue is not so active, it usually requires about a fortnight for complete union.

Technique of Operation.—In order to endeavor to render the written description of this operation more comprehensive, I have had struck off the few diagrammatic sketches here inserted, although, as there is a great diversity in the pathological changes of the tissues which we encounter, and the extent in the alteration and changed relations of the anatomical structures, no description by pictorial illustration, however perfect, will convey more than the most elementary outlines for an operator.

The Extent and Site of the Division of the Tissues.—In uncomplicated cases of reducible, indirect, inguinal hernia, we commence by making two incisions. The first, or inguinal incision, is made down on the neck of the sac as it emerges through the external ring. A two-inch incision carried downward over the long axis of the protrusion in the direction of the scrotum, or labium, according to sex, will give us ample space to reach the peritoneal envelope, completely detach it from the spermatic cord, lift it out of the opening, draw it well downward, transfix, ligate, divide, and invaginate it.

The position and extent of this incision must be modified according to the volume and site of the hernial descent.

The precise and exact manipulation of this incision, and what it exposes, constitutes the key to the operation.

In order to proceed with rapidity and safety it is not only necessary that we are familiar with the normal elements of the spermatic cord, but we must also fully understand the extensive alteration in structure which we may be prepared to meet in the generality of cases. In fully developed scrotal hernia of moderate volume our course is clear. The sac is adherent to the connective tissues of the scrotum, the infundibular process of the cord is quite free, therefore we readily expose and lift the neck out through the opening.

It will be remembered, however, that in some varieties of inguinal hernia the sac is quite free and elastic, following closely on the contained viscera in reduction; so that when we open down over the track, which but a moment before it occupied, we find nothing except the spermatic structures, for it has ascended to the internal ring, or at any rate it is within the canal,

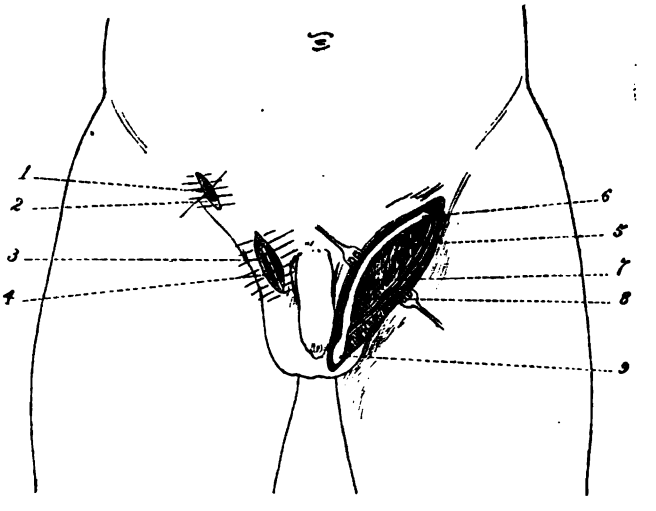

FIG. 1.—Showing on Right Side Relative Position of Incision, etc., with Complicated Hernia on the Left. 1, Divided layers of coverings, iliac incision; 2, free loops of ligature; 3, inguinal incision; 4, neck of sac; 5, vas deferens; 6, spermatic nerve; 7, spermatic artery; 8, pampiniform plexus; 9, testis.

out of sight. In others, though just before operation the rupture comes down well into the scrotum on incision, after reduction we will find in some cases that the sac is so far pulled up the inguinal canal that only its tip emerges through the external ring (Fig. 1).

In another, not uncommon, form we will find no fascia propria of the cord.

The peritoneal pouch (Fig. 1) comes down not on our side, under or over it, but directly through its various strands, which cling to its walls with such tenacity that a delicate dissection may be necessary to free them before the sac is divided. After we have reached this and completely insolated it, our next step will be to be positively assured that it is empty of the viscera. If these are adherent to the internal surface we should open the sac and liberate them before division. Now we will pass the index-finger up the inguinal canal and free the spermatic cord from the neck of the sac as far up as the internal ring. While the finger is in the canal the lip is gently pressed against the internal ring until this is somewhat dilated. We are now ready to make the second or iliac incision, which should be situated half an inch posterior and above the upper margin of the inner aperture.

This incision should not be more than one inch in length and should extend down to, but not through, the fascia transversalis. At this site we escape the internal epigastric artery and have nothing to fear from hemorrhage. The index-finger is kept in the canal, pressing the integuments outward and maintaining a support while we divide the tissues directly on it.

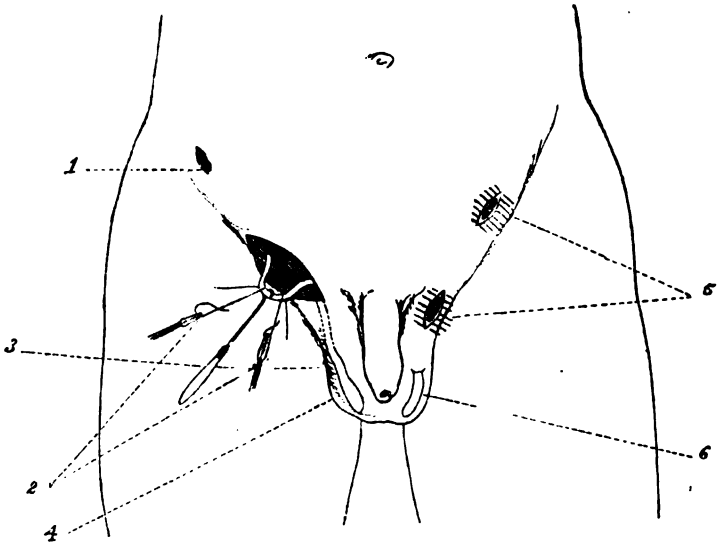

FIG. 2.—Showing the Raised Neck of the Sac, through the Inguinal Incision. 1, Iliac incision; 2, free loops of ligature; 3, collapsed neck of sack; 4, atrophied testis and distended sac; 5, incision; 6, retracted divided sac.

This completes the first stage of the operation. We begin the second by withdrawing the index-finger and raising the sac on a tenaculum (Fig. 2), and making tension from above downward. Then, with a needle carrying a double-looped suture, the neck is transfixed, and its lumen closed by a firm square knot, when tension is made from above and it is cut through with the scissors. The distal end is now drawn immediately downward and lost from sight by its own contraction, while the proximal end rises by contraction up the inguinal canal. Now, with a long needle perforated near its point and fixed in a handle, we carry each loop up separately through the inguinal canal, the internal ring, and out through the iliac incision through the parietal peritoneum. Each of these loops should emerge through the fascia transversalis about three lines apart. In performing this part of the operation we may introduce the needle from above or below (Fig. 3).

After the loops are both well drawn out, through above, and the neck of the sac is wedged in and anchored between the parietal peritoneum and sheath of the transversalis muscle, they are firmly knotted and cut off. We are now ready for the third and last stage.

After all hemorrhage is subdued and the wounds are rendered thoroughly aseptic, we close in both incisions hermetically with continued catgut suture and apply the usual dressings.

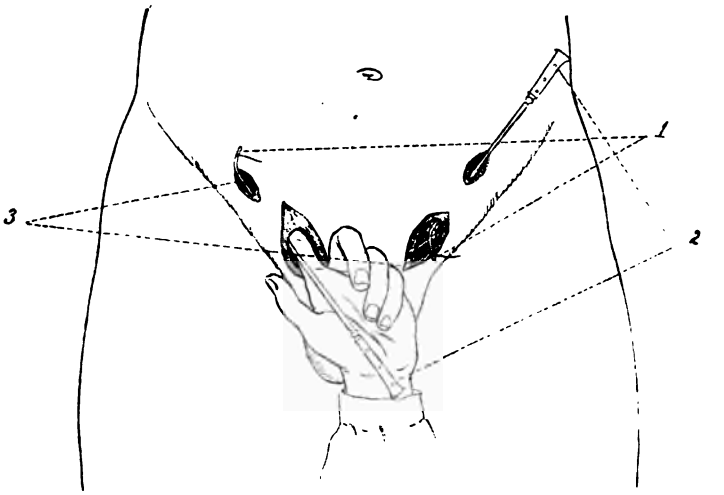

FIG. 3.—Showing the Armed Needle from Above or Below. 1. Free loops of sutures sent up from below, or down from above; 2, needle-handle; 3. emerging armed needles.

In femoral hernia in the male the lower incision is made external to the scroto-femoral fold; the upper, through the conjoined tendon extending down to the peritoneal reflexion, below the course of the internal epigastric artery.

As this species of hernia seldom attains a considerable volume, we will not be obliged to very often vary the position or direction of the incision (Fig. 4). Although no opportunity has yet presented itself to me to apply this method on the female, still it is my conviction that it will prove equally efficient with her.

We will not, in this type, be embarrassed by the presence of the spermatic cord, as in the male; and therefore it should be performed with greater ease and rapidity, without the probabilities of relapse (Fig. 6).

The case illustrated by Fig. 7 was a boy, seven years of age, who since he was three years old had a rupture. For a long time he could wear no description of a truss with comfort, and the protrusion was steadily increasing in size. Although the hernia came well down into the scrotum after reduction, on dissection it was found that the sac was drawn up so far into the inguinal canal that only its conical tip protruded through the external ring. This was

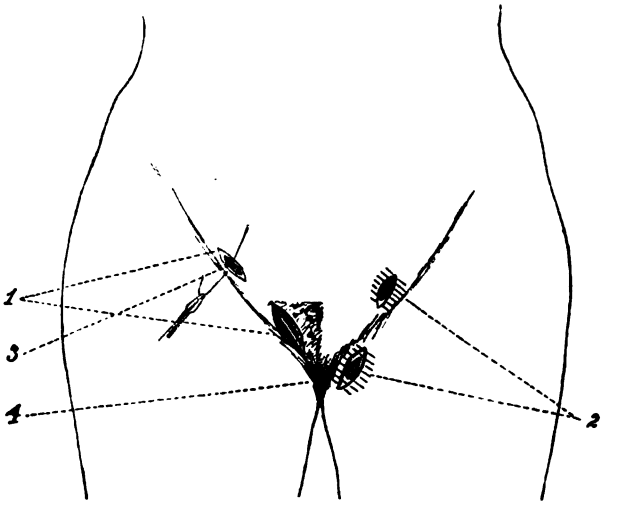

FIG. 4.—Showing Relative Position of Incisions, for Inguinal Hernia—Right Side, Female. Relative Position for Incisions in Femoral Hernia, on Left Side, Female. 1, Incisions for inguinal hernia, in female; incisions for femoral hernia; 2. incisions for femoral hernia, closed; 3, neck of sac, drawn up and lodged; 4, sac.

drawn down, transfixed, and ligated, as though it was placed lower down. This cut is to show the site of

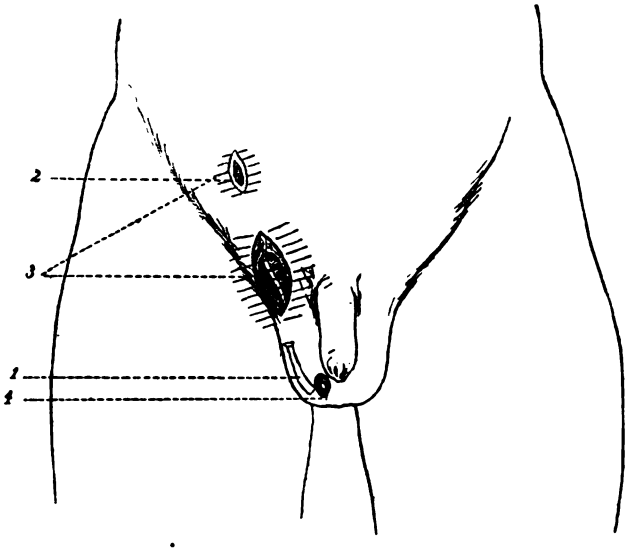

FIG. 5.—Parts Ready to Close In.

the incisions on the living subject, and was photographed the ninth day after operation.

This case shown in Fig. 8 is at the present time under

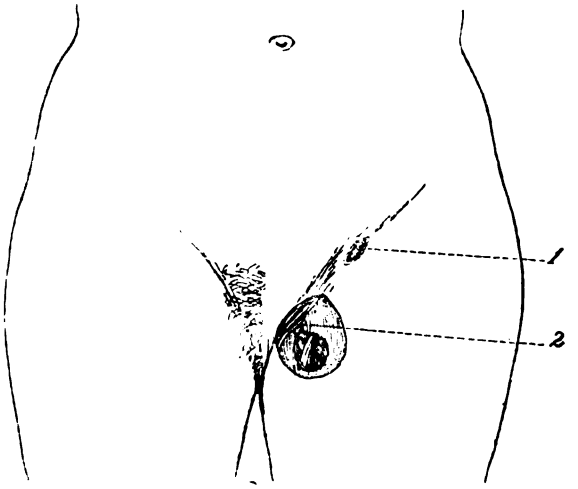

FIG. 6.—Illustrating Position of Incisions, etc., in Femoral Hernia in the Female. 1, Inguinal incision in femoral hernia; 2, vulvar incision, with exposed neck of sac.

my care, having been operated on June 17th, and was photographed the day before. It is included here in order to illustrate, first, an incomplete, indirect, ingui-

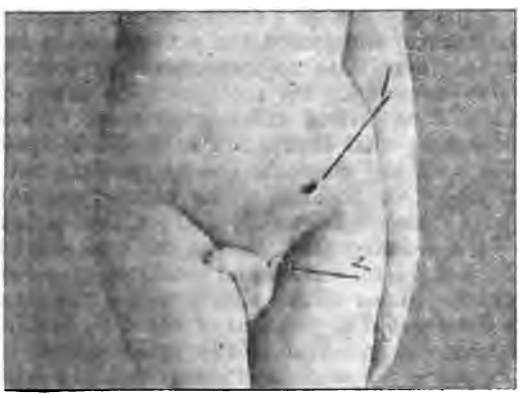

FIG. 7.

nal hernia, with some of the anatomical features of a cystocele of the cord; besides, to note the relative position and direction of the incisions in this type of hernial infirmity.

Fig. 9 is a photograph from a young man who came to me for treatment for rupture. The mass was not a hernia, but malignant disease of the testis, spermatic cord, and the retro-peritoneal tissues, compressing the cava, and thus producing a very varicose dilatation of all

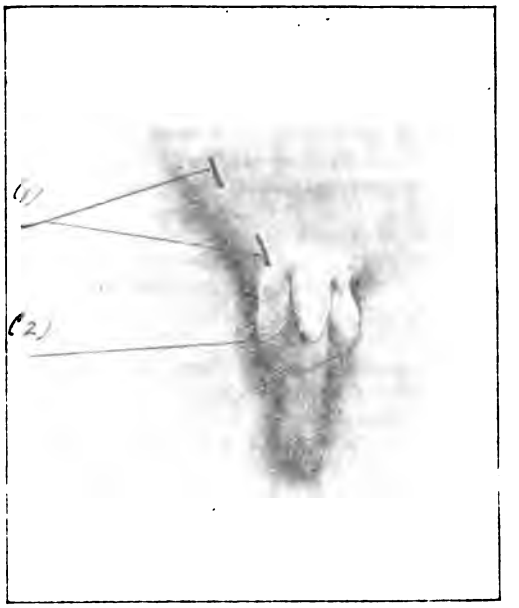

FIG. 8.

the peripheral veinous channels. The disease speedily ended mortally, and was proven to be an adeno-sarcoma.

Conclusions.—From the rudimentary description of the Australian operation and the diagrammatic sketches here inserted, it is hoped that one may be better enabled to comprehend the principles on which it is founded. None, to my knowledge, so highly commends itself, for the many reasons here set forth.

With a procedure of so much promise, and one which has stood the repeated test of application on various types of inguinal hernia, without relapse in a single case yet, there should be a large field for its employ-

FIG. 9.

ment. With time, and perhaps some minor improvements in detail, there should be still better reports from it.

In order to realize the fullest advantages from it, however, caution and discrimination must be exercised in the selection of cases. In operation, rigorous asepsis is the foundation of success, for contamination of the tissues will lead to serious sequelæ that have no legitimate place in the formal operation.

NOTE.—The drawings in this article were made through the kindness of Dr. A. D. Davidow.

115 WEST FORTY-NINTH STREET.

THREE CASES OF ABDOMINAL SECTION FOR EXTRA-UTERINE PREGNANCY, PRESENTING UNUSUAL FEATURES.

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Three of my operations for extra-uterine pregnancy have presented unusually interesting features: the first on account of the long time which elapsed between the date of rupture and that of operation, yet attended with satisfactory results; the second by reason of the peculiar difficulties encountered; the third because the diagnosis and operation were made prior to rupture of the tube.

Laparotomy for Extra-uterine Pregnancy on the Fifteenth Day after Tubal Rupture—Recovery.—On August 16, 1892, I saw Mrs. Belle W——, at her home, four miles south of Hamilton, Mo., in consultation with her physician, Dr. Tinsley Brown. She was forty-two years of age, the mother of two children aged eighteen and fourteen years. She was pregnant a third time in 1888, but miscarried at the fourth month, and never fully regained her health, menstruation being profuse and retroversion so marked and painful as to require frequent local treatment by glycerine tampons, etc. Her last menstruation was a little before June 1st, after which there were some of the usual symptoms of pregnancy. August 2d she was seized with an excruciating pain in the left ovarian region and a sharp hemorrhage occurred from the uterus. This bleeding soon ceased, but the pain continued in a modified degree. She became very weak, and by the time Dr. Brown reached her she was in profound collapse; pulse almost imperceptible; patient nearly unconscious, and the abdomen greatly distended: the usual signs of internal hemorrhage. But under stimulants she rallied, and at the time of my examination she was in fair condition, though the temperature was 101° F. The diagnosis of ruptured tubal pregnancy was positive.

At 9 A.M. next morning, with the assistance of Drs. Brown and Lindley, of Hamilton, I curetted the uterus, removing decidual membrane and decomposing blood-clots—evidently the cause of the elevation of temperature—and packed the uterus with gauze. Then I opened the abdomen and turned out a gallon and a half of fluid and clotted blood mixed with serum from the peritoneum, in which was found the fœtus. The torn ovary and tube were removed and the abdomen and pelvis thoroughly irrigated with boiled water until no more clots came away, as much of the fluid sponged out with aseptic gauze as could be removed without too much irritation of viscera, and the incision closed without drainage, with the usual dressings.

Convalescence was prompt and satisfactory in every respect. The afternoon temperature was 100° F. (the morning register just before operation being 102° F.), and sank a half degree daily until the normal was reached. The sutures were removed on the tenth day and she sat up on the fourteenth. In four weeks she began to do her own housework, and has since that time been in better health than for many years before the operation.

The remarkable features of this case are the rallying after such a serious hemorrhage, the long period that elapsed between the accident and the operation, and the speedy recovery under such circumstances.

I am not in favor of irrigation in most cases of abdominal section; in a case like this, where blood-clots were many and in almost every part of the abdomen, there was nothing else to be done; but the abdomen having been fairly well cleaned and dried, drainage could have but added to the danger.

Ruptured Tubal Pregnancy Complicated by Œdematous Myoma—Laparotomy and Hysterectomy under Difficulties—Death.—May 1, 1892, I was called to see Sarah B——, colored, aged about thirty-eight, who had been married seven years, but never became pregnant, so she supposed. For several years she had suffered from a uterine tumor of large size, for which ergot had been taken with little benefit. She last menstruated in January, 1892, but besides the cessation of menses no signs of pregnancy were noticed, so the ergot was continued vigorously.

April 30th.—In the afternoon labor pains began, and became quite severe in the evening, at which time her physician, Dr. A. L. Hunt, examined her, finding no dilatation of the os and no discharge. Morphine was given. At 6.30 A.M. the patient experienced a sudden, sharp, cutting pain in the right inguinal region and became unconscious. At 8 o'clock she was seen by the doctor, who found her in profound collapse, almost pulseless, and with abdomen distended to farthest possible limits. He diagnosticated ruptured tubal pregnancy, but regarded the patient as dying; however, he gave powerful stimulants—brandy in as large quantities as possible, etc. At 4 P.M., much to his surprise, he found the woman still alive, and so suggested operation. The abdomen was now filled with blood, almost to the point of bursting, it seemed.

At 5 P.M., assisted by Drs. A. H. Cordier and J. C. Maxson, of Kansas City, Dr. Hunt administering the ether, I opened the abdomen. The operation was performed in a lonely negro cabin of two rooms, a hovel, upon a door from an outhouse resting upon two boxes, the instruments occupying the only table. One tin wash-basin, an earthen bowl and plate, a bucket, a boiler of hot water and a quart cup constituted the "facilities" of our operating-room. Fully three quarts of blood gushed from the peritoneal space. A four-months' fœtus and placenta were found under the liver floating in blood which came from a huge rupture in an enlarged tube. As the clots and liquid blood were cleaned out it became evident that active hemorrhage was still going on; so the tube with its extensive tear was brought into the wound and the ovarian artery found bleeding copiously. It was very much enlarged, probably because the whole pelvis and lower abdomen were filled by a large solid tumor of the uterus. The artery having been tied, we next attempted to remove the injured tube, but it was so intimately blended with the tumor, and the tear extended so deeply into the uterine tissue, that this was found impossible. We next tried to pull the tumor forward and stitch the ruptured portion into the lower angle of the abdominal incision; but the tumor was so friable that no such sutures would hold—no matter how deeply they were passed they would at once cut through, just as if the tumor were half decomposed—so this plan had also to be abandoned. There remained nothing to do except to remove the tumor. But here a new difficulty confronted us. No one had anticipated the necessity of a hysterectomy, so there were no instruments at hand save those always found in my emergency operating-case. Means had to be devised as we progressed. I was in favor of making total extirpation as probably speedier and safer with the means at our command; but Dr. Cordier objected, because, 1, the vagina was unprepared, and therefore frightfully foul; 2, the large size of the tumor would greatly prolong the operation, and no rubber constrictor was at hand to control hemorrhage if we cut the tumor away; and, 3, under the circumstances there would be less loss of blood by making a pedicle than by removal of the entire uterus. We therefore pulled the tumor and uterus strongly into the opening, ligated and severed the broad ligament, and began the process of stripping downward to form a pedicle, Dr. Cordier working in front while I attacked the posterior surface. We thus quickly formed a satisfactory pedicle and introduced our "hysterectomy pins," these con-

sisting of the blades of long dressing-forceps thrust through the tissues at right angles to each other. An exceedingly strong silk cord which I happened to possess was thrown around the pedicle below the "pins," and with all our strength we pulled and pulled, and then tied; once more around and another pulling and tying, and we cut away the tumor. Our improvised constrictor acted as well as the most perfect serre-nœud and wire, not a bit of bleeding following; but to be sure of hæmostasis we pulled the two flaps of peritoneum which had been stripped from the tumor upward over the stump and stitched it over and over with catgut, then fastened the stump in the incision in the usual manner, irrigated the belly thoroughly, closed the cut, and applied our dressings. Remarkable as it may seem, the work was completed in forty-five minutes. No blood was lost after the ovarian artery was caught, but the previous hemorrhage was so great that in spite of the most vigorous stimulation she never rallied, death occurring within an hour after the completion of our work.

I have always censured myself that I tried to operate under such conditions. Knowing there was a large uterine tumor present, it would have been better, I am sure, to have used intravenous injections of normal salt solution, and ordered brandy, digitalis, liquid food, etc., waiting a few hours until the patient rallied from the shock and until careful preparation could have been made for hysterectomy with proper instruments. It is doubtful if the patient could have bled much more, as the abdominal walls seemed to have reached their limits. Yet at the time of operation I felt that the patient's only chance was in immediate section—an opinion with which Dr. Cordier coincided. So far as the operative work itself is concerned, I do not believe we could have done it any more quickly or more safely if we had had every instrument and appliance ordinarily at hand for abdominal hysterectomy.

Under more favorable surroundings this patient would, I think, have been better off by total extirpation of the enlarged and useless uterus.

The fœtus bore evidences of being at the fifteenth week of gestation. The membranes were not ruptured.

Tubal Pregnancy—Diagnosis before Rupture—Abdominal Section—Cure.—Mrs. Dora G——, twenty-four years of age, was brought to me March 20, 1894, by her attending physician, Dr. C. Lengel, of Kansas City, Mo. She was married at sixteen, and had a miscarriage at third month at seventeen; no trouble followed. At twenty-two she had prolapsus uteri, cause unknown, which Dr. Lengel cured by local measures, non-operative. Some tubal trouble began in May, 1893—pain, tenderness, and other evidences of salpingitis, with endometritis. These were relieved by glycerine tampons, application of iodine to the cavity of the uterus and vault of the vagina, etc. Menstruation was not interrupted, but continued regularly every twenty-eight days until six weeks before my examination, at which time the usual flow did not appear, nor did it come in another twenty-eight days. Having thus missed two of her periods, and feeling the usual signs of pregnancy—nausea, tenderness of the breasts, etc., she naturally came to the conclusion that she was enciente; but she became very anxious about herself on account of a peculiar sickening pain in the left side and a faintness from time to time. She therefore consulted her physician, who did not share her anxiety until March 18th, when a uterine hemorrhage occurred, not exactly like a menstrual discharge. He suspected tubal pregnancy and so called me into the case.

Examination showed the uterus pushed a little to the right, and (I thought) some enlargement of the left tube; a bloody discharge from the uterus; upon slightly dilating the cervix a small curette was easily introduced and brought away shreds of tissue resembling the decidua vera. There being such evidences of ectopic pregnancy I had the patient placed in St. Joseph's Hospital, where I operated with the assistance of Drs. T. B. Thrush and J. C. Maxson. The left tube was found the seat of pregnancy, neither sac nor tube having yet ruptured; it was readily removed without drainage, and convalescence was rapid.

Now why did I make the diagnosis of tubal pregnancy and operate? Especially why did I have the courage to operate in the face of Lawson Tait's opinion that diagnosis before rupture is almost impossible? In his "Lectures on Ectopic Pregnancy," page 49, Mr. Tait says: "The strangest thing to me is that, in the enormous experience I have now had in tubal pregnancy,[1] I have never but once been called upon to make an examination until the rupture occurred, and in that case there was neither history nor symptoms which enabled me to do more than to determine that there was tubal occlusion. Under these circumstances I think I may be excused for maintaining a somewhat sceptical attitude concerning the correctness of the diagnosis of those gentlemen who speak so confidently of making a certain diagnosis of tubal pregnancy before the period of rupture. The great bulk of the utterances in these directions may stand very well in 'society discussions,' but they will not stand the test of 'bedside experience.'"

But it must be remembered that this was written in 1889, and at a time when the advocates of puncture of the tube and destruction of the fœtus by electrolysis were enthusiastic in pushing their theories, and were antagonizing Mr. Tait's plan of treatment by cœliotomy.

In five years there were great advances in our knowledge of the subject. There was an almost universal adoption of the proposition that the safety of the mother lies only in early operation; and intelligent practitioners everywhere were on the alert for such cases, studying carefully every case of pregnancy in which there was the slightest irregularity. As a consequence of this increased interest and closer study I knew of a number of instances in which a diagnosis had been made prior to rupture[2] and the correctness of the opinion demonstrated at the operation. This was the first point that influenced me in favor of abdominal section.

The second point in favor of operation was that the history and symptoms pointed almost unmistakably to tubal pregnancy, viz., the woman had been once pregnant; there was then a long period of sterility, with the history of a salpingitis—a very important item because Tait says that "ectopic gestation is always caused by destruction of the proper epithelium of the tube by inflammation" (Lectures, p. 5). There was the cessation of menstruation and symptoms of pregnancy; the tube on one side was enlarged; there was no fœtus in the uterus, which was bleeding, but there were evidences of the presence of the decidua vera—not certain, but reasonably sure; and there was the existence of the peculiar pain described by Joseph Price as "a severe, paroxysmal pain—a sickening, pelvic pain which is neither cramp-like nor colicky, though often described by these terms."[3]

The third point was, there was unquestionably some trouble with the left tube, which probably demanded removal; and even if not, there was practically no danger in an exploratory operation if the rules of perfect asepsis were scrupulously followed.

A noteworthy feature of this case is the fact that the tenth week of gestation was passed without the least sign of probable early rupture of the tube or of the fœtal membranes.

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[1] His experience at that time consisted of thirty-nine operations with two deaths.—E. L.

[2] Quite a number of these cases have been reported in Kansas City and St. Louis by men like Crowell, Cordier, and Summa.

[3] Extra-uterine Pregnancy, p. 16.

PAROVARIAN CYST, COMPLICATED BY THE PASSAGE OF RENAL CALCULI, SIMULATING AND DIAGNOSED AS ECTOPIC GESTATION—OPERATION.

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Any pathological condition simulating a trouble of as serious a nature as ectopic gestation should command our attention immediately. It is for this reason that I wish to report the following case:

Mrs. A. H——, aged twenty-eight, is a hard-working farmer woman; mother of two children, the oldest being five years of age, and the youngest one. Has menstruated three times since her last confinement, and always regularly, the flow lasting from five to six days. Her last menstrual period, which occurred about one week previous to the commencement of her trouble, did not last as long, nor was the flow as profuse as on former occasions. While feeling in perfect health, and after having assisted at harvesting during the day, she was suddenly seized with severe pain during the night, wakening her from her sleep. The pain was extremely violent, situated in the right side and accompanied by profound shock. Seeing her about six hours from the commencement of her trouble, I found her covered with clammy perspiration. Hands and feet were cold. She was shivering. Expression of face pinched. Pulse 92, but not especially weak, and temperature below normal. On palpation there was great sensitiveness in the right inguinal and hypogastric region. The vaginal examination was not satisfactory. On account of the extreme tenderness, only an expression of abnormal fulness could be obtained. The vault of the vagina to the left of the cervix contained a number of enlarged and forcibly pulsating arteries, running in a lateral direction. Patient thinks herself pregnant, in spite of having menstruated but a week ago. No urinary symptoms are present. Without making an attempt at an exact diagnosis, the rupture of a blood-vessel in the pelvis was thought probable, and treatment applied accordingly. On account of patient's belief of pregnancy, and considering the previous slight menstrual variation, the enlarged and tortuous arteries in the vault of the vagina, and fulness of the latter, the diagnosis of ectopic gestation was held in reserve, to be verified or disproved, if possible, at a future examination.

The passage of a renal calculus was thought of, but rejected, there being no urinary symptoms of any kind. Instructions, however, were given to watch the urine for the next two or three days. Under rest, cold, and morphine, the pain and sensitiveness gradually subsided after three days, the patient feeling perfectly well. No calculi were discovered. She failed to appear for subsequent examination.

Next month she menstruated in due time, but again not as usual. This time the flow was prolonged, not as free, and interrupted repeatedly. No membrane was passed and no discomfort felt while flowing. The day following the ceasing of the flux she again was seized by an attack exactly like the one four weeks ago. The shock this time was probably not as severe as before. Under similar treatment this also passed off in four days, but recovery did not appear to be as complete as heretofore, slight jars while walking causing uneasiness in lower part of abdomen.

A week later she presented herself for examination. On palpation a fulness and sensitiveness of the right inguinal and hypogastric region could be made out. On bimanual examination a tense, clearly cystic tumor was felt, located almost centrally. It seemed to be the size of an orange, slightly movable, lying close to the left of the uterus, very sensitive to pressure, and was coursed by large tortuous arteries at its lower presentation. The uterus was slightly enlarged and its fundus pushed well into the right inguinal region.

Considering the paroxysmal and tearing nature of the pain, the presence of a tumor, the tortuous blood-vessels, the enlarged uterus, and the slight menstrual disturbances, ectopic gestation was thought highly probable and an operation urged.

A week later she came to St. Joseph's Hospital, and assisted by Drs. Lathrop and Budge I opened the abdomen, and a cyst about the size of an orange was found. It was coursed by numerous blood-vessels. Its walls were thin and transparent, showing dark and bloody contents. It proved to be a parovarian cyst. While trying to shell it out from its serous covering it broke. A smart hemorrhage followed, which was readily controlled by clamping its base. Three or four smaller cysts were seen and removed with it. The left and right tubes were healthy. The cyst wall after excision showed a dark bloody spot, about the size of a twenty-five cent piece, where undoubtedly a rupture of a blood-vessel had taken place, thus accounting for the bloody contents.

The findings certainly disproved our diagnosis of ectopic gestation. On the other hand, they did not offer a quite satisfactory explanation as to the exact cause of her two previous attacks. Even with the undoubted fact that hemorrhage had taken place into the cyst, and assuming the woman to be of a highly sensitive disposition, it was not probable that so severe a pain and signs of collapse should be caused by a slight intra-cystic hemorrhage.

The woman made an uninterrupted recovery. She was to leave the hospital on the twenty-first day. The evening before her expected departure she expressed to one of the nurses a desire to stay in the hospital a little longer, her home environments not being quite as cheerful as could be. Two hours later she began to complain of severe and darting pains, similar to those of her previous attacks, only situated a little higher, just below the ribs. There was again the same collapse and the same cold perspiration, though not as severe as formerly. Morphine quieted her, and she was better the next morning. No urinary symptoms, except a moderate frequency of micturition on the day previous to the attack, had been observed. The immediate result, however, was that she stayed in the hospital a little longer. Since that day, however, I regarded her very sceptically, believing her hysterical and simulating the attacks. After one week she left the hospital, and expressed herself as feeling well, with neither pain nor tenderness.

About three weeks later her husband entered my office one morning and presented me, at the request of his wife, with something that she evacuated from her bladder about a week previous. It had been passed with considerable pain and much straining. I beheld a typical vesicular calculus, not quite round, a little larger than a lemon-seed. It was white in color, and from its surface were seen protruding three smaller calculi, evidently renal in origin, about the size of a hemp-seed each, and yellowish brown in appearance. This little stone to me told quite a story. Whatever had been doubtful and mysterious about the case was certainly now as clear as day. We had a case of parovarian cyst complicated by the passage of renal calculi.

As regards the tardy appearance of these calculi we have two possibilities: 1. The calculi of the first two attacks may have been passed unnoticed. Those of the third attack, *i.e.*, after the operation, there being several in number, were retained in the bladder, because the woman always occupied a recumbent posture and used a bedpan for urinating. Under these circumstances the calculi would not be very apt to pass, gravitating as they would to the posterior part of the bladder. Here they came in contact with each other, and were finally encrusted, thus forming a single vesicular calculus, which, after the woman had left her

bed, began to cause trouble and was eventually passed. 2. We may assume the existence of a slight ectasic condition of the bladder. The calculus of each of the three attacks (there being three renal calculi in the specimen) were retained in a little pocket, were encrusted, and finally evacuated as a single object.

We might well ask ourselves how could we have avoided our error before and how after the operation? Before the operation, there being a complete absence of all urinary symptoms, the probability certainly pointed very strongly toward ectopic gestation. After the operation the discrepancy between the small cystic hemorrhage, which in reality caused little or no pain, and the previous stormy paroxysmal attacks, should have put us on our guard, thus preventing the diagnosis of hysteria.

To be just to myself I may state that at the last attack I again did think of calculus, yet dropped that possibility for the more convenient hysteria, the latter certainly offering the easiest way out of the dilemma.

I have reported the above case because in my opinion these coincidences should be thought of in all such cases of supposed ectopic gestation where the symptoms do not make an exact diagnosis possible. Besides their practical value, theoretically, such discriminations are highly satisfactory and pleasing.

RHEUMATISM AS A CAUSE OF APPENDICITIS; POINTS IN ITS MEDICAL TREATMENT.

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THE etiology of appendicitis in many instances is still very obscure, both for physicians and surgeons. It is therefore satisfactory to become convinced, by careful clinical observation, that one has found an obvious and frequent cause of numerous cases of a disease which is frequently fatal.

To my mind this cause is rheumatism. The judgment I now hold definitely about this matter is not an opinion reached rapidly and without carefully weighing the observations and reports of others. After several years of close inquiry into the origin of those cases I have met with or read about, I have not been able to explain apparently inconsequent facts from any other stand-point. I do not remember personally to have seen an attack of acute articular rheumatism either directly precede or follow evident signs of appendicitis, and to be connected with it in such a way that the relation of the two affections was clearly defined. Although this statement is correct of my own experience, it is not true of others. And already more than one such report has been made. When it comes to the milder, and, according to some, perhaps less characteristic symptoms of rheumatism, these I have repeatedly observed in patients who have had one or more attacks of appendicitis. Again, I have seen more than one patient who, subsequent to attacks of appendicitis, have had decided articular manifestations, and, during many years of this rheumatic localization, the appendical region has remained entirely free from any inflammatory disease.

There is really nothing rational to urge against rheumatism as a frequent cause of appendicitis. That rheumatic inflammation should attack this region very often is only what we should expect, if we consider the close relationship of the appendix with the peritoneum; and the fact that this serous membrane, like the pleura or the pericardium, is precisely the structure for which rheumatism, when it leaves the joints, has a special predilection.

The sudden development of many examples of acute appendicitis does not in any degree militate against rheumatism as an efficient and frequent cause of it, since the sudden and rapid development of acute rheumatic inflammation is true of the tonsils, the ovaries, the uterine appendages, and the joints themselves. The rapid progress toward suppuration is no reason to rule aside my explanation, since acute quinsy with suppuration, now well known to be of rheumatic origin—as salpingitis with speedy formation of an abscess cavity of like origin—is no uncommon finding.

No doubt in many cases which I might easily report, exception could be taken by the reader to my diagnosis of the rheumatic cause of appendicitis, in view of possible error of interpretation. Here, again, as in most things medical—particularly where clinical manifestations are seemingly doubtful until repeated experience has corroborated proof—we are forced to apply the touchstone of wise therapeutic interference. In this connection I cannot but affirm that treatment with salicin, or the salicylates, in sufficient and frequently repeated doses, has, in my experience, diminished pain and inflammatory manifestations in the appendical region more frequently than any other routine method of treatment. In many cases, I am now thoroughly convinced, suppuration has by this means been mainly avoided. Not that other remedial measures of a suitable kind should not be instituted. Among these I place as very important liquid, or low diet, and relative rest. In very acute cases, of course, with pronounced fever and vomiting, entire rest in bed, and liquid diet solely, are imperatively required. In these instances, moreover, I would insist in the beginning upon the local application of poultices, or the ice-coil, or ice-bag. I usually prefer repeated poultices, as I believe them more suitable to resolution of rheumatic inflammation. Again, I should rely upon moderately large laxative enemata to free up constipated bowels in those persons who have very marked general reaction. In numerous instances, I am equally satisfied, where the general reaction is not so pronounced, a mercurial in the form of six or eight grains of gray powder, or an equal dose of blue mass, serves a better purpose. I do not believe it increases the danger to the patient, as I do not believe it increases the peristaltic action of the bowels to any appreciable extent, and I am of the opinion that it promotes the flow of bile, which, in more ways than one, is directly useful. Of course, in some cases where pain is very severe, anodynes should be resorted to, and in extreme instances of this kind hypodermic injections of morphine are our final resort. Yet let us bear in mind that like the operation itself, unless obviously called for, it is bad treatment—radically bad—if my belief in regard to the causation of many cases of appendicitis be correct and sustained.

I cannot but think, even as I write, of an opinion held by one of our most eminent surgeons, viz., that in prescribing a drug the same care and knowledge should be exercised as in performing a severe surgical operation. Evidently the thought passing through the mind of this great exponent of his side of the question, was the distinct conviction of the untold harm accomplished by ignorant interference, seemingly trivial in character. Now, morphine, of all drugs, is the one that locks up most rapidly and completely our secretory functions. It is true of the kidneys, the stomach, the bowels, the liver, the respiratory organs, in one way or another. How, then, can it be rational, when we wish, above all things, to promote and further rapid secretion and excretion, to employ, in very active manner and doses, the drug that arrests it all? Pain is present, is the answer, and pain must be subdued. Yes, I reply, but make the attempt first of all, and as long as you should, with drugs that will not be manifestly harmful. Codeine, in frequent and sufficient doses, will often advantageously take the place of morphine. It does not lock up secretions to anything like the same de-

gree; it does not nauseate or constipate much, as a rule. It does mitigate, and sometimes abolish, pain. It allows time to be utilized so as to use the proper remedial drug—viz., salicylate of soda—and thus it guards the patient not infrequently against surgical interference, which is the ruling spirit of the hour. I do not wish to be considered as one of those who object at all to laparotomy in appendical inflammation, when surgical interference is called for. I do wish at this time to point out the medical way in which much that is beneficial may result, and considerable harm may be avoided.

In conclusion, I would add that local depletion with leeches, or wet cups, over the painful region, in patients of full habit, remains at present, as during the past, a proper and judicious abortive treatment of appendicitis.

THE ACTION OF THE DIPHTHERIA ANTITOXIN UPON THE KIDNEYS.

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As is well known, the mortality from diphtheria is exceedingly variable, ranging from about twenty to seventy per cent., according to locality and the character of the epidemic. From time to time new remedies have been asserted to be specifics, only to lose their "specific" qualities with the next succeeding epidemic.

We were rather certain as to the etiology of the disease in question, until some of the opponents of diphtheria antitoxin began to question the causative relation of the Loeffler bacillus. At all events the opponents have shown, and some of the most ardent bacteriologists (Loeffler, Fraenkel, and others) agree, that the Loeffler bacillus is not found in every case of diphtheria; furthermore, that it is found in the throats of healthy individuals. Again, we must admit that, when lower animals are inoculated with this organism, they do not manifest the same anatomical lesions found in persons suffering with true diphtheria. It is true, if we remove the epithelium from the mucous membrane of the vagina of a guinea-pig, and then infect the denuded surface with the Loeffler bacillus, a pseudo-membrane is formed; but it differs from the pseudo-membrane formed in true diphtheria of man in that it remains confined to the seat of inoculation, while in man it spreads rapidly. However, it is not our aim to fully discuss the etiology of diphtheria in this place.

From the voluminous literature upon the treatment of diphtheria with antitoxin, we find that the views of the effect of the serum treatment are vastly different. The statistics of some clinicians show excellent results with this treatment, while others show little or no better results than those obtained without its use. Still others report most excellent results from the employment of other methods. Some of these results are as follows: Baginsky used antitoxin in 303 cases, with 40 deaths; and in 230 cases treated with other remedies there were 110 deaths. Canon treated 44 cases with antitoxin, and 75 per cent. recovered; of 66 cases treated with other remedies, 70 per cent. recovered. Sonnenburg employed serum in 95 cases, with 79.4 per cent. recoveries; and in 116 cases treated by other methods there were 72.4 per cent. recoveries. Guttmann treated 81 cases with pilocarpin, and all recovered. Aufrecht used chlorate of potassium, internally and as a mouth wash, in 264 cases, with but 1 death. With good nourishment and cleansing the mouth, Kust treated 144 cases, with a mortality of 12.

From the vast difference in the virulence of various epidemics, it is plain that the statistics now at hand are not sufficient to warrant any definite conclusion as to the merits of antitoxin in the treatment of diphtheria. Hence we must consider the effects in individual cases. But here, too, we find competent observers reporting very different results. Some have seen the disease vanish as if by magic; others have seen their cases recover gradually; and others, again, have seen little or no effect, or an ill effect.

Nearly all are agreed that there are certain disagreeable results from its use in some cases. Among these complications are erythema, hemorrhages in the skin, heart weakness, pain in the joints with or without swelling, which may last for several days. A few have observed albuminuria more frequently, others less frequently, while still others consider albuminuria an indication for the administration of more antitoxin. Since albuminuria is rather a frequent complication of diphtheria, it is rather difficult to determine whether it is the result of diphtheria or the antitoxin.

To obtain light upon the effect of antitoxin on the kidneys, diphtheria antitoxin, kindly furnished by Dr. Paul Gibier, of this city, was injected into healthy rabbits. Upon the suggestion of Dr. Gibier an effort was made to collect the urine from the animals for examination previous to the experiments. This, however, was not accomplished. Consequently, every animal was accompanied by a control animal. The animals were divided into two series, the first series into two groups of six animals each. The animals used (rabbits) weighed between three and four and a half pounds. In the first group of the first series each animal received an injection of 1 c.c. of antitoxin. In the second group, each animal received 2 c.c. In the second series (three animals) each received 1 c.c. on three consecutive days. In both groups of the first series an animal was killed each day, until the groups were exhausted. In the second series, after the third injection one animal was killed every day until the group was destroyed. As the character of the lesions was the same in all of the animals, varying in intensity with the size of the dose administered, it will not be necessary to give a detailed account of the changes observed in each animal. At the site of injection there was a nodule which extended over a radius of about an inch from the point where the needle had entered. The nodule was slightly painful on pressure, but the general condition of the animals was good so far as could be observed. At the end of the second day the lump began to grow smaller, and was scarcely perceptible on the animals killed on the seventh day after the injection.

On cutting through the nodule the subcutaneous tissue was found to be impregnated with a straw-colored, serous fluid, containing very few leucocytes. Part of this fluid was used for inoculating glycerine agar and gelatine, but at the end of three days no growth had appeared. As time elapsed, the œdema grew less marked, but the fluid was always found to be sterile.

As the object of the investigations was to determine the action of antitoxin upon the kidneys, little attention was paid to other organs, more than to note that the spleen and liver were slightly swollen and redder than normal.

The kidneys of the animals killed twenty-four hours after the injections were very firm, and of a dark-red color. On the cut surface the cortical substance was very much injected, slightly opaque, and a little more prominent than the medullary substance, which was pale in color.

On microscopic examination of fresh sections in 0.6 per cent. salt solution, the Malpighian bodies and capillaries of the cortex were found to be distended with blood. The epithelial cells of the tubules were filled with refractive granules obscuring the nuclei, which were only brought to view by the addition of dilute acetic acid. There were no casts found in the tubules. These conditions were found in all of the

animals, and, as the time after the administration of the antitoxin increased, the injection of the blood-vessels decreased and the cloudy swelling became more prominent.

In the animals of the second series, the only difference discernible was that the injection of the capillaries was more pronounced, and that there were a few slight hemorrhages into the tubules. Fatty metamorphosis of the epithelium was not observed in a single instance. It is highly probable that, had these sections been subjected to fixing by alcohol, or other fixing agents, the cloudy swelling above described would have been overlooked.

Since the doses administered to the rabbits were about equal, or a trifle less, proportionately, than the doses administered to children in cases of diphtheria, it is reasonable to suppose that, approximately, the same changes are brought about in children when antitoxin is administered. Certainly, this is assuming that a pound of rabbit is equivalent to a pound of human subject! Yet, this is no greater assumption than the first use of the remedy was based upon.

Strangely enough, the facts first adduced by Behring, and repeated by Roux, Parks, Biggs, and others, have received very little consideration. These observers, after ascertaining exactly how much antitoxin was required to neutralize a certain amount of toxin, found that if a definite dose of toxin was introduced with a definite dose of antitoxin, the animals suffered very little. If antitoxin was introduced about twelve hours before the toxin, the animals recovered. But if the order was reversed, *i.e.*, the toxin given twelve hours before the antitoxin, recovery was not the rule. The animals generally succumbed to the effects of the toxin. These experiments, carried out by the above-named authors, indicate that antitoxin has a certain antidotal effect when administered with, or very shortly before, the toxin; but after the toxin has once begun to affect the organism, the antitoxin has but slight, if any, power of neutralizing its ill effects. On the contrary, the experiments forming the subject of this paper would indicate that the antitoxin has a harmful influence, in that it impairs the health of the organism and would, consequently, reduce the power to resist the inroads of the disease.

As for the immunizing power, experience thus far has produced very little encouragement. To begin with, any number of persons have had diphtheria with all of its concomitant dangers, and this, too, in as short a time as twenty-four hours after the administration of supposed immunizing dose of antitoxin. Again, all admit that its immunizing powers are of but a transitory nature; indeed, it is of so short duration that, in almost all cases, it ceases long before the diphtheria bacilli disappear from the fauces or lose their virulence. From this it would seem that, if antitoxin is injected a very short while before the patient begins to manifest diphtheria, *i.e.*, before the pseudo-membrane is formed and before the real effect of the toxin becomes apparent, the patient may possibly be benefited; but since a large number of individuals have Loeffler bacilli in their fauces without suffering any embarrassment at any time, it is impossible to determine which of these persons should or should not receive the serum.

Since the injection of serum into rabbits produces a cloudy swelling of the kidneys, or an acute nephritis, as shown above, if all of these persons having virulent diphtheria bacilli in their fauces were treated with antitoxin, many would be injured for an uncertain benefit to a very few. After the disease has made such progress that it can be diagnosed, the toxin has produced such an effect upon the organism that, judging from the experiments of Behring, Biggs, Parks, and others, little benefit is to be expected from antitoxin. And since observing the results of experiments just reported on rabbits, it is highly probable that, instead of reducing the mortality of diphtheria, antitoxin has really increased the death-rate.

244 West 139th Street.

A CASE OF PERFORATIVE APPENDICITIS WITH GENERAL PURULENT PERITONITIS—OPERATION—RECOVERY.[1]

By FRANK D. GRAY, M.D.,

ATTENDING SURGEON TO CHRIST HOSPITAL, JERSEY CITY, N. J.

The time has probably passed when every instance of appendicitis is worthy of special record, but certain interesting and somewhat unusual features of the following case make it, I think, of value to those of the profession who are interested in the subject:

J. E. R——, aged twenty-nine, colored, Pulman porter, applied to me at my office on the evening of April 9, 1895, for relief of severe abdominal pain located just at the right of the umbilicus. He had suffered since early that morning, having felt perfectly well the day before. Being in Washington, D. C., he applied at a pharmacy and was given a dose of castor-oil, which had no effect except to produce emesis. He attended to his duties on the trip from Washington to New York that day, although in much pain and having several attacks of vomiting. There was no history of previous attacks of the kind.

Temperature per orem was normal and pulse 80. There was no tenderness on pressure in either iliac region—in fact, the patient claimed that pressure over the seat of greatest pain relieved instead of aggravating it. Constipation had existed for several days and a hearty meal of rather indigestible food had been eaten the previous evening.

In view of this history I diagnosed intestinal colic, consequent on an acute attack of indigestion; administered one-fourth grain of morphine, hypodermically, and prescribed an active cathartic to be taken on retiring. I saw the patient next morning at his room and found him but little, if any, relieved; the bowels had not moved—the pain still was persistent and of the same character as before, with absence of tenderness; temperature per orem still normal, and pulse about eighty. With the idea that free catharsis would give relief, I ordered drachm doses of magnesia sulphate, to be given hourly until the bowels moved, and hot fomentations applied to the abdomen.

At 8 o'clock that evening I received an urgent call to this case and on my arrival found the patient in a condition of partial collapse, bathed in cold perspiration, pulse rapid and thready, temperature 102.3° F. per rectum, and suffering excruciating pain, with exquisite tenderness over the whole abdomen and considerable tympanites. I at once realized that I now had to deal with a case of intestinal perforation from some cause, most likely perforative appendicitis, and that the only hope for my patient lay in an immediate cœliotomy.

The surroundings at his home being unfavorable for such an operation, I had him transferred at once to Christ Hospital, where he arrived at 10.30 P.M. and at 11 P.M. I operated, having associated with me Dr. G. K. Dickinson, of the surgical staff, Dr. J. M. Rector, and the house staff.

Owing to the uncertainty as to the exact location of the lesion and the great probability of finding general infection of the peritoneum, I adopted a median incision (about three and one-half inches in length). On opening the peritoneal cavity I found the intestines deeply congested, dotted with numerous small patches of adherent lymph, and bathed in a quantity of sero-purulent fluid. The mesenteric glands were already much engorged, in fact all the appearances of a severe

[1] Read before the Hudson County Medical Society June 4, 1895.

general purulent peritonitis were present. I found the appendix only moderately thickened, with but slight adhesions to the adjoining intestine and none to the abdominal wall. It was perforated and contained a concretion closely resembling a date-seed in general appearance. In spite of this very unpromising state of affairs we proceeded with as much care as if we had every reason to expect recovery, though I must confess that we all feared it to be a routine that would be of little use to our patient. The appendix was ligated and removed, its lumen disinfected with ninety per cent. carbolic acid and closed with Lembert sutures, the intestines were thoroughly washed with large quantities of warm sterilized water poured upon them, and the abdominal cavity carefully dried, down to the depths of the pelvis, by sterilized sponges. A large iodoform-gauze drain was introduced, without a tube, well down to the bottom of the pelvis and brought out at the lower angle of the incision. A large portion of the intestinal canal had escaped from the abdominal cavity during the operation and was protected by warm sterilized gauzes. Owing to distention of the bowels this was returned with considerable difficulty and the wound closed with silkworm sutures. The patient rallied well, having but little shock, and rested well through the night, with no vomiting. No nourishment was allowed until 5.30 P.M., when he took and retained a half ounce of peptonized milk every hour.

On the third and fourth days after operation there were occasional attacks of green vomiting accompanied by hiccough, which gave me some anxiety, but these symptoms were readily controlled by hourly doses of calomel, gr. ⅛, and oxalate of cerjium, gr. i. On the occurrence of vomiting an attempt was made to move the bowels by enema, but without success. On the fifth day, however, the bowels responded to hourly doses of magnes. sulph., one drachm, followed by an enema; after this, salts or an enema were administered every second day with good result. For the first few days there was considerable tympanites, which gradually subsided after the introduction of a rectal tube. For the first ten days the patient complained of rather severe pain and tenderness over the entire abdomen, which, however, was controlled by an occasional hypodermic of morphine—usually one dose (never more than two) of one-fourth grain in twenty-four hours.

For the first forty-eight hours the gauze drain brought away a free watery discharge, becoming very scanty by the fourth day, when the wick was removed and replaced by a shorter one. The sutures were all removed on the fourteenth day, patient allowed to sit up on the twentieth day, and discharged cured, May 6th, twenty-six days after operation.

Following is the record of pulse and temperature for first six days—all temperature rectal:

														° F.
1st day	pulse	ranged	from	100	to	120;	temperature,	99	to	100.8
2d	"	"	"	68	"	98;	"	99.4	"	100.2
3d	"	"	"	72	"	88;	"	100	"	101
4th	"	"	"	72	"	80;	"	99.6	"	101.4
5th	"	"	"	72	"	80;	"	100	"	100.2
6th	"	"	"	72	"	80;	"	97.8	"	99.8

After the sixth day, pulse and temperature remained normal.

The points of special interest which I would emphasize in this case are: First, the misleading character of the early symptoms, there being during the first twenty-four hours of the disease absence of fever, if we could believe the record of temperature taken under the tongue (I would remark here, by the way, that I think it is better practice to take the rectal temperature in cases of suspected appendicitis), also absence of that characteristic right iliac tenderness which we usually consider essential to a diagnosis of appendicitis. On the contrary, in this case the pain was apparently relieved somewhat by pressure.

Another point worthy of notice is the unusually rapid progress of the case. Within thirty-six hours after the inception of pain there was perforation of the appendix and general septic peritonitis.

Again note the rapidity with which purulent infection of the peritoneum took place after perforation. The patient says that a decided change in the character of his pain occurred about 7 P.M., it becoming greatly increased in intensity and accompanied by tenderness, cold perspiration, great prostration, etc. It is reasonable to suppose that perforation occurred at that time. Upon opening the peritoneal cavity four hours later we found a large quantity of sero-purulent fluid with beginning lymph exudates—in fact, all the conditions of the worst form of general peritonitis.

Lastly, and to my mind most important of all, is the fact that so desperate a case, to all appearances, should prove so amenable to prompt and thorough surgical measures. The history of this case after operation was no more serious than many an uncomplicated appendicitis; in reality, beyond a few attacks of vomiting and hiccough on the third and fourth days and a moderate degree of pain for the first week or ten days, there were no unfavorable symptoms.

So far as a single instance may go, it shows that we need not despair of the worst cases of this sort so long as we have the resources of prompt surgical interference, thorough cleansing of peritoneal surfaces, and free drainage.

Progress of Medical Science.

Cork Splints for Deflections of the Nasal Septum.—Dr. Berens reports excellent results from the use of a simple device for a splint in cases of fracture or operation for deflected septum nasi. Plugs of cotton or oakum become too readily foul, while the various supports which have been used have many disadvantages, the soft-rubber tubing being too yielding, while the hard rubber or ivory plugs cause too much pressure and pain. Berens makes his splints from corks in the following manner: A selected cork (pint-bottle size), in average length one and a quarter inches, in breadth at its broad end three-quarters of an inch, at its narrow end one-quarter of an inch less, is whittled to the shape of an almond with the point cut off, and flattened on the side that is to lie against the septum; the opposite side near its lower border is slightly grooved for the reception of the inferior turbinated body A nasal burr or trephine is now used to hollow the splint, leaving the shell one and a sixteenth to one-eighth of an inch thick. A rat-tail file, a small-bladed knife or red-hot metal may also be used for this purpose. Sandpaper is used to smooth both the inner and outer surfaces, and the whole splint is then coated with flexible collodion, to which has been added iodoform in the proportion of thirty grains to the fluid ounce, allowed to dry and it is ready for use. The making of the splints requires no especial mechanical skill, and they can be modified with ease to suit the peculiarities of each case. The special advantages of these splints, which are possessed by no other similar device, are the quickness and ease with which they can be made and shaped to fit the peculiarities of each case; their cheapness, lightness, and elasticity combined with sufficient firmness to support the septum; their durability and non-conduction of heat and cold and non-interference with the free circulation of the blood; the ease with which they can be cleaned *in situ* by washing out with peroxide of hydrogen and boric-acid solutions, followed by an oily spray, as benzoinol, and the length of time they can be worn without pain, discomfort, or severe ulceration.—*Boston Medical and Surgical Journal.*

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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THE FUNDAMENTAL DIFFERENCE BETWEEN PLANTS AND ANIMALS.

As our knowledge of biology has progressed, the attempts to distinguish between animal and plant life have become more and more difficult. The commonly accepted distinction was based upon the difference between the synthetic or building-up process in the two biological series. The plant has the power of bringing free nitrogen into combination with other atoms, while the animal does not have this power. Dr. Minot, in an article published in *Science* of March 22d, says, that it is much to be regretted that this method of defining the difference between animals and plants has been so widely accepted, since it is not entirely true, and therefore leads to much perplexity. There are some plants without chlorophyll that cannot bring nitrogen into combination, and there are some animals in which synthetic processes occur. Another distinction often drawn, says Dr. Minot, between animals and plants, is that of the presence in the former of internal digestive organs, but this distinction also does not hold entirely true, for the amœba has no internal digestive organs at all, though it is classed as an animal. Dr. Minot thinks that we can best define the two primary divisions of the living world thus: Animals are organisms which take part of their food in the form of concrete particles which are lodged in the cell protoplasm by the activity of the protoplasm itself. Plants are organisms which obtain all their food in either the liquid or gaseous form by osmosis or diffusion. The writer admits that there are a few examples which somewhat militate against the acceptation of this distinction. The only class which he distinctly cites as an exception, however, is the myxocytes, and these, he suggests, form a link between animal and plant life. The tape-worm, he admits, might be considered an example of an animal that lives by osmosis, but this animal may perhaps also take part of its food by the absorption of the concrete particles.

An animal, then, according to Dr. Minot, is an organism which takes its food in a solid form; a plant, one which takes it in a liquid or gaseous form. The animal lives through the vital activity of its protoplasm, stretching out its substance and enveloping the particles of food. Only in this way, by getting the concrete substance into its meshes, is the animal able to live. The plant, however, lives by osmosis or diffusion alone. Of course the animal also absorbs liquids and gases by this same process, and therefore includes in its vital functions some of those which are peculiar to the plant.

Dr. Minot elaborates his view of the essential characteristic of the animal in an ingenious way, showing that, owing to the fact that animal life depends upon the activity of its protoplasm, the animal is therefore compelled to exert itself. Its protoplasm is obliged to be kept in a state of activity, and hence the gradual development of the cells of the body into organs which help the animal in its pursuit of food and in the propagation of its species. In other words, it is harder to live on solid food than on a gaseous diet, since the former requires an active and positive effort on the part of the organism.

RAILWAY HOSPITALS FOR THE EAST.

THE International Medico-Legal Congress which met recently in this city was not productive of very great results, yet there were some rather interesting papers read.

Dr. George Chaffee, of Brooklyn, presented a communication entitled "Is the Railway Hospital System an Economy?" and he made a very strong and interesting plea in behalf of the extension of the railway hospital system to the lines in the East. Dr. Chaffee states that the hospital system, which is already so popular in the South and West, is now being seriously considered by the officials of some of the leading Eastern roads. He himself has been directing his efforts toward securing the adoption of this system in the East. Dr. Chaffee asserts that the hospital system is economical, practical, and self-supporting, and he presents some facts and figures to bear out this view.

It is objected that, in the East, such a system is hardly necessary, since all our large and even small towns are now well equipped with good hospitals; but to this he replies that the system by which railroads own and control hospitals is one which secures the immediate services of specially trained surgeons for the benefit of those injured in the employ of the railroads. The employees practically own and control the hospitals, and support them by small assessments which are paid pro rata by every individual in the employ of the company. The system, he believes, tends to lessen the amount of litigation connected with railroads, and also prevents many of the disastrous effects of railroad injuries. Particularizing the system still more, Dr. Chaffee makes these three statements:

1. "It does not cost the corporation one cent; the system is established and maintained by light monthly assessments upon the employees—from the President down.

2. "It favors compromise and prevents much litigation, a saving of thousand of dollars annually.

3. "Not only employees, but injured patrons as well, are cared for in the railway hospital without cost to the corporation, and are thus kept in the family circle instead of being placed—as is the case in many instances—directly in the hands of the enemy at their homes."

We have presented the claims made in behalf of the railway hospital system, and we find no record of any discussion in which such a system is opposed. It would be well, however, before the medical employees of the railroads of the East give their approval to such a system, to consider both sides of the question. Already we have great complaints about the evils of the contract doctor system, and Western journals contain a great deal of acrimonious discussion as to the rights of private practitioners and the encroachment upon them by the servants of the corporations. The establishment of the railway hospital system means an additional step in the syndicating of medical service. It means that a large number of medical men will become employees and practically clerks of great corporations. It means that such a class of men will lose, to a large extent, independence of spirit, and that the kind of work that they do will be classed more and more, not as professional services, but as a species of skilled workmanship, like that of a high-class mechanic. We do not say that all these disadvantages will outweigh the arguments that can be brought forward to sustain the other side, but we feel sure that the railway hospital system is one that is not quite so free from blemishes as the enthusiasm of Dr. Chaffee would make us think.

THE WEIGHT OF THE BRAIN IN THE SANE AND INSANE.

It would seem to be a rather easy thing to get at the facts regarding the weight of the human brain and its significance. This, however, has not proved to be the case, and even now, despite years of weighing and careful collecting of statistics, observers have hardly yet reached a certainty upon any of the facts connected with the volume of the human brain. Consequently a fresh contribution to this subject by Dr. A. Mercier is interesting and welcome. The title of his monograph is "The Diminution of the Weight of the Brain in General Paralysis." The author, however, gives more in his article than would be inferred from its title. He, in the first place, collects the statistics of brain-weights that have been furnished by other observers and says that, as a result of the study of the data thus collected, the weight of the brain of a normal European adult is 1,375 grammes for a man, and 1,245 grammes for a woman. He, however, adopts as the safer average the figures given by Weichselbaum and Pleger, viz., 1,353 for man and 1,200 for woman. The next point which Dr. Mercier takes up is the relative weight of the brain as a whole to that of the brain mantle. By this is meant the brain minus the cerebellum, pons, and brain-axis, these parts being carefully removed by a method specially described by the late Professor Meynart. It is found that, assuming the weight of the male brain to be 1,353 grammes, that of the mantle is 1,070. This is for the male brain. In the brain of an average woman weighing 1,200 grammes, the mantle would weigh 943 grammes. Using these figures as a basis, the author proceeds to compare the statistics of brain-weights in the insane, and then gives the result of his own investigation as to the weight of brains of this class. Dr. Mercier's figures include 330 brains. Of these, 234 were from men, 96 were from women. The brains included in part cases of general paralysis, and in part cases of insane due to other causes, excluding, however, in all instances the brains of senile dements.

The author concludes that the brain-weight of man is greater than that of woman, and that in man the brain mantle is proportionately larger. In women, on the other hand, the cerebellum and brain-axis are proportionately larger than the rest of the brain. In general paralysis he finds that the weight of the brain is decidedly less on an average than the weight of a normal brain. This loss of weight affects especially the mantle. It furthermore affects especially the frontal lobes and, still further, it affects the left cerebral hemisphere more than the right. He finds also that in general paralysis there is a greater loss of brain-weight than in insanity due to other causes, leaving aside senile dementia. The average weight of the brain of the insane is not, in fact, very much less than that of the healthy man, leaving out of consideration the forms of insanity just referred to. The diminution of the weight of the brain in general paralysis shows its effect more strikingly in the brains of women than in those of men.

A LAYMAN'S IDEA OF EUTHANASIA.

Mr. Albert Bach, a lawyer and vice-president of the Medico-Legal Society, seems to have definite opinions as to the right of a man to take his own or another's life—opinions which, we trust, are not shared by the majority of his fellow-members of the Medico-Legal Society. At the recent congress, held in this city, there was quite a discussion upon suicide, in the course of which Mr. Bach ventured the assertion that a man has a right to kill himself under certain circumstances, just as a physician has the right to administer drugs to end the agony of a patient. He held that a physician has the moral right to end human life under these circumstances. Mr. Bach is, of course, at liberty to hold what views he will as to the taking of human life, so long as he does not attempt to carry them out in practice; but he unwisely goes further and says, not only that physicians may end life in order to cut short suffering, but that he knows they do.

That physicians give drugs to ease the agony of a dying person is true, for it is part of their mission to relieve pain and to rob death of its terrors, as far as they may, when they cannot avert it. But to argue from this that the physician kills his patient in order to relieve his sufferings, betrays a curious lack of reasoning power or a wilful abuse of it. To promote euthanasia is the right and the duty of the physician; to take the life of a dying man or to hasten his dissolution by the administration of drugs is no more justifiable in the physician than would be the ending of the patient's life by the stiletto or the pistol, or than poisoning is at the hands of some expectant heir or avowed enemy.

If Mr. Bach knows of any specific instances of the killing of patients he should give them, but he has no right to libel an entire profession and to misconstrue an act of mercy into what would be accounted a crime by all but those of his own way of thinking.

ST. LOUIS AND FREE DISPENSARIES.

ST. LOUIS, having been greatly worried by the number of its medical colleges, and after having become greatly embittered through the strife between its medical societies, is having an interesting set-to between two of its journalists. Lest, even with all these things, life should still become stale and monotonous, the *Medical Review* has begun to lament the excessive number of its city dispensaries. The newly appointed health commissioner of the State, Dr. Starkloff, is, we are told, a very energetic gentleman, who is ambitious to have the city treat more people for nothing. He has consequently established four new city dispensaries. When these four new dispensaries are added to the eleven or thirteen medical colleges, and the private free clinics and free dispensaries connected with the hospitals, the sum total is alarming, and the *Medical Review* feels justly disposed to criticise the unnecessary zeal of the new health commissioner.

News of the Week.

The American Public Health Association.—The twenty-third annual meeting of this Association will be held at Denver, Col., on October 1, 2, 3, and 4, 1895. The headquarters for the meeting will be at the Brown Palace Hotel. The officers of the Association are: *President*, Dr. William Bailey, of Louisville, Ky.; *First Vice-President*, Dr. Granville P. Conn, of Concord, N. H.; *Second Vice-President*, Dr. Gregorio Mendizabal, of Orizaba, Vera Cruz, Mexico; *Secretary*, Dr. Irving A. Watson, of Concord, N. H.; *Treasurer*, Dr. Henry D. Holton, of Brattleboro, Vt. The following subjects have been proposed for discussion: 1, "The Pollution of Water-supplies;" 2, "The Disposal of Garbage and Refuse;" 3, "Animal Diseases and Animal Food;" 4, "The Nomenclature of Diseases and Forms of Statistics;" 5, "Protective Inoculations in Infectious Diseases;" 6, "National Health Legislation;" 7, "The Cause and Prevention of Diphtheria;" 8, "Causes and Prevention of Infant Mortality;" 9, "The Restriction and Prevention of Tuberculosis;" 10, "Car Sanitation;" 11, "The Prevention of the Spread of Yellow Fever;" 12, "Steamship and Steamboat Sanitation;" 13, "Transportation of the Dead;" 14, "The Disposal of the Dead;" 15, "The Abuse of Alcoholic Drinks from a Sanitary Standpoint." This Association is one composed of earnest workers in the cause of sanitation, who discuss much that might be of service to the community; but its usefulness is seriously impaired by a rule which forbids members to publish, in whole or in abstract, any paper read before the Association until after its publication in the official transactions. Very few people other than members of the Association see its volume of transactions, and the papers are therefore buried and practically useless.

An International Congress for the Study of Alcohol was recently held at Basle, Switzerland. Its membership was composed very largely of advocates of total abstinence, and all its conclusions were adverse to the use of alcoholic beverages. The next congress will be held in Brussels.

A Quarantine Brutality.—A man suffering from smallpox was recently expelled from Arkansas and refused admittance into Mississippi. As he could not well remain in or on the Mississippi River until the disease ran its course, he attempted to evade the quarantine and land on the river bank in the latter State, but was shot and killed by one of the quarantine officers.

A Pension of £200 a year has been granted to the widow of the late Professor Huxley.

The Morphine Habit in China.—According to an English contemporary the British consuls in China have repeatedly drawn attention to the increasing prevalence in several ports of the pernicious habit of injecting preparations of morphine, practised by unqualified persons among the natives. This custom was originally introduced as a cure for opium smoking, but it is a case in which the remedy is worse than the disease. Those who sell morphine and make the injections procure a profit of from two hundred to four hundred per cent. The charge for smoking an injection is one cent. One of the victims of the practice said: "It is much cheaper than opium smoking, and I get the same satisfaction out of it. I know of ten Chinese doctors, each of whom treats fifty to one hundred men daily with this medicine."

The Late Dr. Wollmann.—At a meeting of the Medical Board of the Beth Israel Hospital held August 28, 1895, the following resolutions were adopted:

Whereas, Our respected colleague and colladorator in the charitable work of the Beth Israel Hospital, Dr. Marcus Wollmann, has been removed from us by death;

Resolved, That we deeply feel and mourn the loss of an esteemed friend as well as member of our Board, whose career was so sadly cut short during the best period of his life; and that we tender to his sorrowing widow and family our sincere sympathy and condolence in their affliction. And be it further

Resolved, That a copy of these resolutions be spread on the minutes of this Board, and that a copy be sent to the bereaved family. Also that copies be sent to the medical press for publication.

A. E. ISAACS, M.D., *President.*
D. ROBINSON, M.D., *Secretary.*

Obituary Notes.—DR. JOHN SYER BRISTOWE died at Dixton Vicarage, Monmouth, England, on August 20th, aged sixty-eight. He had been out of health for some time, but the precise nature of his illness was not clearly understood. Dr. Bristowe was known in this country chiefly through his "Treatise on the Theory and Practice of Medicine," published in 1876. In 1888 he published a work on "Diseases of the Nervous System." He was also a frequent contributor of articles on various subjects to periodical literature. He delivered the Lumleian Lectures in 1879, on the "Pathological Relation of Voice and Speech;" the Lettsomian Lectures, on "Syphilis of the Nervous System;" and the Croonian Lectures, on "Disease and its Medical Treatment." Dr. Bristowe's father and grand-

father were physicians, and one of his sons is a practitioner and another a student of medicine.—Dr. Ernst Hoppe-Seyler, Professor of Physiological and Pathological Chemistry at the Kaiser Wilhelm University in Strassburg, died of apoplexy on August 10th, at his summer residence on the Bodensee. He was born in 1825 in Freiburg, in Thüringen. He began practice in Berlin in 1852, was then privat docent at Greifswald for two years, when he returned to Berlin. In 1861 he went to Tübingen and in 1872 to Strassburg, where he remained the rest of his life.—Dr. Joannes Ch. Bambas, editor of *Galenos*, died in Athens on August 1st. He was born in 1849, and after being graduated from the medical department of the National University at Athens, spent some time in study in Paris, Berlin, and Vienna. A few years after his return to Athens he was appointed Professor of Hygiene in the National University.—Dr. William S. Layman, of Schoharie, died at his home on September 5th, at the age of sixty-four years. He was a graduate of the Albany Medical College in the class of 1857.

The Lectures at the London College of Physicians for the coming year will be delivered as follows: The Bradshaw lecture by Dr. Bradbury; the Lumleian lectures by Sir Dyce Duckworth; the Gulstonian lecture by Dr. Mason; and the Croonian lecture by Dr. Oliver.

The Mississippi Valley Medical Association, at its recent meeting in Detroit, elected Dr. H. O. Walker, of that city, president for the ensuing year. The next meeting of the Association will be held in Minneapolis.

Wisconsin's Cholera Fund.—The Legislature of Wisconsin has appropriated $50,000 as a contingent fund to be used by the Health Board, if necessary at any time during the next two years, to prevent the introduction of cholera.

The American Social Science Association held its annual meeting at Saratoga during the first week in September. In the Health Department papers were read by the chairman, Dr. Frederick Peterson, of New York, on "The Craig Colony for Epileptics;" by Dr. L. Duncan Bulkley, of New York, on "A Plea for the Legal Control of Certain Dangerous Communicable Diseases;" and by Dr. Grace Peckham Murray, of New York, on "The Relation of Education to the Cerebral Development of the Child." Dr. T. W. Cheesman, of New York, delivered an address on "The Bacteria: What They Are; What They Do; How We Study Them." The lecture was illustrated with stereopticon views.

The following officers were elected for the ensuing year: *President*, F. J. Kingsbury, of Waterbury, Conn.; *First Vice-President*, H. L. Wayland, of Philadelphia; *General Secretary*, F. B. Sanborn, of Concord, Mass.; *Treasurer*, Anson Phelps Stokes, of New York.

The National Wholesale Druggists' Association will hold its next annual meeting in Philadelphia.

Cholera is reported to have broken out at Brusa, a town in Asiatic Turkey, about sixty miles from Constantinople, and a quarantine cordon has been drawn around the place to prevent the spread of the disease to the capital. The province of Podolia in Russia has been officially declared infected. The disease prevails also to some extent in Tangier. A correspondent of the *Novoe Vremya*, of St. Petersburg, sends the startling, but doubtless incorrect, information that there are over two thousand deaths a day from cholera in Pekin. Every precaution is being taken to prevent the introduction of the disease into the Pacific coast ports of this country, and the Treasury Department has ordered, upon the recommendation of the Marine Hospital Service, that the baggage of passengers arriving at any port on the Pacific coast from China, Japan, or Hawaii be disinfected before being landed. A despatch from New Zealand says that there is no cholera at Honolulu, the report of an outbreak there having been started by the death of some Chinamen after eating some poisonous food.

Clinical Instruction at Bellevue Hospital.—At the request of the Commissioners of Public Charities and Correction the members of the Fourth Division of Bellevue Hospital have decided to form an organization for the purpose of giving instruction to graduates and third-year students. The medical staff of the Fourth Division consists of Drs. C. L. Dana, George B. Fowler, and Alexander Lambert. The surgical staff consists of Drs. J. W. S. Gouley, Charles Phelps, and W. F. Fluhrer. The gynecologist is Dr. W. Gill Wylie. The clinics will begin about October 1st. Each course of instruction will continue six weeks, and at least five such courses will be given during the year.

The American Climatological Association will hold its next annual meeting in Lakewood, N. J., in May, 1896. The president of the Association is Dr. James B. Walker, and the secretary Dr. Guy Hinsdale, both of Philadelphia.

The Idaho State Medical Society held its third annual meeting at Boise City on Monday, Tuesday, and Wednesday of this week. The officers for this meeting were Dr. I. H. Moore, of Pocatello, *President;* Dr. E. L. Perrault, of Boise City, *Vice-President;* Dr. C. L. Sweet, of Boise City, *Secretary and Treasurer.*

Suprarenal Extract in Addison's Disease.—Dr. E. Lloyd Jones reports in the *British Medical Journal* of August 24, 1895, a case of Addison's disease treated by extract of suprarenal body. The case was that of a married woman who had been complaining of frequent nausea and vomiting, great weakness, and discoloration of the skin. The first symptoms had appeared about two years before, and consisted in acute pain in the back, diarrhœa, and vomiting. She was placed upon suprarenal extract, and in five days was reported much better, no longer suffering with nausea. At the end of three months Dr. Jones said that she had had no vomiting for a month, she could eat almost any food, the excessive pigmentation had quite disappeared, and she appeared to be practically well.

Vaccination a Preliminary to Marriage.—Couples living in the Scandinavian Peninsula who desire to be married must produce certificates showing that they have been successfully vaccinated, as well as baptized, before the ceremony can be legally performed.

Clinical Department.

CASE OF TRAUMATIC TETANUS WITH URETHRAL SPASM.

By HUGO E. WANGELIN, M.D.,

BELLEVILLE, ILL.

On September 1, 1894, Jacob N——, aged fifty-two, colored, was admitted to the St. Clair County Farm suffering from a nail-thrust in the right foot. About ten days before admittance he stepped on a rusty wire-nail, which penetrated his heavy shoe sole and entered his foot about two inches from the toe and three-quarters of an inch from the medial line of the foot, penetrating to a depth of about an inch. When admitted to the farm he was in fairly good shape. The next day, September 2d, I noticed a jerking of the extensors of the foot and a slight stiffness of the muscles of the jaw. Before night these symptoms became worse, and by the following day had extended to all the extensors of the body, and the jaw was set during the convulsions with the typical *risus sardonicus*. The spasms after the fourth day of admittance were at their height. The slightest touch or breeze blowing over him was enough to bring on the spasms, which recurred spontaneously every five to eight minutes. His whole body was as stiff as a log. He could not bend his arms or his legs. This condition remained several days, and as he was unable to swallow anything, all nourishment was given per rectum. At one time death was expected, but he was safely bridged over by big injections of whiskey.

The second day after admission he was troubled with retention of urine, and I attempted to use the catheter on him. After the metal catheter had entered the urethra about one-half inch it was obstructed in its passage, and no amount of force could introduce it any further. This manipulation caused a convulsion, and when the spasm passed off, the catheter slipped into the bladder very easily. While the catheter was still in the bladder a spasm occurred and so powerfully was the catheter held that it could not be withdrawn. I next attempted to introduce the soft rubber catheter and met with the same results. Waiting till the opportunity offered, I introduced it very easily. While this catheter was in the bladder there was a flow of urine. The spasm was again excited, and the constriction was so great as to stop the flow of urine. This procedure was accompanied with little or no pain, and in fact the only pain the patient complained of was a pressing pain over the region of the stomach. The catheterization was made every day for a week, and each time it was tedious work, but as the case progressed it became easier. In passing the catheter I could detect five distinct points where the instrument would not pass during the spasm. After recovery the catheter would pass easily, and with no amount of search could I find any point along the urethral track where there was an obstruction. Why should this disease act so on the urethra and not on the œsophagus, through which a feeding-tube can be passed even during the spasm?

The first thing done in the treatment of this case was the entire excision of the wound made by the nail and a large crucial incision across the seat of injury. Every two hours the wound was washed out with a very hot solution of 1 to 1000 corrosive sublimate solution, and then packed with corrosive gauze. The internal remedies used were morphia sulph., ½; bromide potass., grain xx; chloral hydrate, grain xx. This dose was repeated every three hours. When the spasms were great, chloroform was used; during the climax nitroglycerine and whiskey, hypodermically. After he began to mend, the morphia mixture was gradually decreased. At the end of the seventeenth day he was able to leave the ward and was discharged on September 29th as cured.

LOOSE BODY IN THE KNEE-JOINT.

By R. P. MYERS, M.D.,

HONOLULU, H. I.

There appeared in the Medical Record of March 9, 1895, by Dr. Wingelin, an article on "Loose Bone in the Knee-joint." The similarity of the case reported by him to one occurring in my practice in the winter of 1891, in Colorado, U. S., causes me to make the following report:

Mr. C——, a gentleman of leisure, having lived in London some nineteen years, self-indulgent in his appetites, and of a rheumatic diathesis, florid and inert to a degree, occupied all of his time in reading. He told me for some two years he had been suffering much pain in left knee when in motion from having struck the joint; but at the time only suffered slight discomfort. On examination, found no redness, heat, pain or swelling. Upon manipulation, found a loose body floating, as it were, on outside of joint. It was movable to all parts, and at times I would lose it. It would slip several inches above the patella and then I could not find it. I started to operate once and lost it; was not sorry, for I found he could not take chloroform or ether, so I used salt and ice. Located the body, had an assistant apply the "freezing," and arranged to operate, when lo! I found the parts frozen hard and of some whiteness. My chance was gone, and I was annoyed at the condition of the frozen point, and feared results. Some hours passed before the parts regained their normal condition. I kept him in bed the rest of the day, and the following he got up, well rid of his trouble. From that day to the day of his death, which occurred some months after, the floating body could not be found. Could Mr. C—— have knocked off a piece of cartilage when he struck the knee? Through the thin skin it felt smooth and almost compressible. What became of the foreign substance? Did the freezing cause its absorption?

PERIOSTITIS AND NECROSIS OF THE RIBS FOLLOWING TYPHOID FEVER.

By A. S. GRIMM, M.D.,

ST. MARY'S, W. VA.

I was called to see Mr. H—— October 4, 1892, and found him suffering from typhoid fever of a pronounced although not an unusually severe type. There was nothing peculiar about the case until about the end of the third week, when he complained of pain over the sixth rib at the junction of the rib proper with the cartilage. This pain continued, and in a few days a redness with some tenderness was observed over the seat of the trouble, and finally a swelling was distinctly noticed. These symptoms were still present after he was convalescent and able to go around, and after fluctuation appeared (which was two or three months after his recovery from fever) I lanced the tumor and it discharged pus rather freely, which it continued to do for more than a year afterward. After trying in vain to heal the cavity by injecting disinfecting and absorbent washes, I advised an operation, to which he consented, and which I performed as follows:

I made a longitudinal incision over the seat of trouble, and the rib being found necrosed it was excised. It was ascertained that the fifth and seventh ribs were also affected, so the wound was enlarged, and all necrosed tissues were removed by the bone scoop. The wound was closed and dressed with gauze and was not disturbed for several days, when it was dressed again

as before. This was repeated several times until the wound healed throughout the greater part of its length; but it continued to have a small discharge for a considerable time after the operation, which I believe came from the under side of the sternum, as I feared to remove so much of it, although the diseased part appeared to be all removed.

The wound finally healed entirely and the patient (a carpenter) has resumed his work, and is now an able-bodied man.

CONTUSION AND LACERATION OF THE ANTERIOR VAGINAL WALL AND URETHRA.

By FRANK OVERTON, A.M., M.D.,

PATCHOGUE, N. Y.

LATE HOUSE SURGEON, CITY HOSPITAL, NEW YORK.

THE literature concerning traumatic injuries of the vagina and urethra of external origin is very scanty. In Keating and Coe's "Clinical Gynecology," page 262, occurs this statement: "The vagina, from its location, is rarely subject to injuries from external violence. There are a few recorded cases in which women have fallen upon stakes that have deeply penetrated the parts, but such cases are very rare." Hence a special interest is attached to a report of the following case involving lacerations of both the vagina and the urethra, with acute distention of the bladder, ending in complete recovery of function.

On February 11, 1895, Mrs. L——, a short, stout Italian, weighing one hundred and seventy-five pounds, aged thirty-two, married, and six months pregnant, fell through a hatchway in the ceiling, striking astride a low bed-post. When seen three hours later the sheets were saturated with blood and she was still bleeding copiously and suffering considerable pain, but there were no signs of shock.

A vaginal examination revealed a soft fluctuating mass bulging the anterior vaginal wall and extending upward as far as the finger could reach. The cervix could not be felt. On everting the labiæ a transverse tear in the anterior vaginal wall was noticed for the first time. This tear split the meatus of the urethra, and extended on each side as far as the posterior limits of the labiæ minoræ. The urethra and the anterior vaginal wall were pushed upward and backward, entirely denuding the symphysis and an inch of each pubic bone. There were no external marks whatever. A speculum and depressor showed the cervix exceedingly high up and normal in appearance. After an hour's attempt at catheterization the urethra was recognized by its cord-like feel, and a soft catheter was finally introduced and over a quart of urine drawn with immediate disappearance of the tumor in the anterior vaginal wall and descent of the cervix.

With only the assistance of half a dozen excited female friends of the patient, and only one basin of a one-per-cent. solution of lysol for the instruments and for antisepsis, the vaginal flap was sewed in place by a continuous catgut suture, and a silkworm-gut suture was inserted in the orifice of the urethra, the end of which was lacerated beyond recognition. The soft-rubber catheter was left in the urethra.

On the next day swelling and ecchymosis appeared in both labiæ and buttocks, which soon became extreme and threatened gangrene. Yet it almost entirely disappeared at the end of ten days without special treatment. The wound was irrigated twice a day with a one-per-cent. lysol solution. Union occurred by first intention without rise of temperature.

Some cystitis developed, and under irrigations of one-half-per-cent. lysol solutions it only increased. The catheter was expelled on the sixth day during an attack of tenesmus, which, however, was not troublesome during convalescence. The cystitis soon subsided and urine was passed about every two hours. At first its flow could not be controlled, but the intervals between urination gradually lengthened until within a month she had recovered almost full control of the bladder.

On May 9, 1895, she was delivered of a fine boy weighing seven and one-half pounds. The scar prolapsed out the way of pressure against the pubic bone, and convalescence was normal.

On July 8th an examination showed only slight remains of the scar. The orifice of the urethra was at the bottom of a slight conical depression surrounded by some small tabs. There were no signs of a stricture of the urethra, and a soft catheter drew off one-half an ounce of urine when introduced an inch. The patient stated that she arose once in the night to urinate, and during the day she urinated about every four hours. She could control the desire to urinate for about ten minutes. The only remaining symptom of the fall was tenderness of the coccyx.

ACUTE TRAUMATIC TETANUS—CHOPART'S OPERATION—DEATH.

By JOSEPH N. BARNEY, JR., M.D.,

WOODSTOCK, VA.

ON Thursday, July 11, 1895, Nettie D——, white, aged twelve, while playing about the kitchen, pierced the ball of the right foot along the axis of first metatarsal bone with a fragment of wood. The splinter was three-fourths of an inch long and slender. She pulled it out and continued running around barefoot. In the evening an elder sister opened a very small abscess at place of puncture, allowing a single drop of pus to escape. This was repeated on Friday and Saturday following. At no time was more than a single drop of pus obtained, and there was almost no pain. Sunday morning the patient found, upon putting on the right shoe, that the ball of the foot was rather tender. For that reason she did not go to Sunday-school, but played around all day. At dinner, Sunday, she complained several times of slight difficulty in mastication. Early upon the morning of Monday, July 15th, she awoke with a feeling of stiffness in the muscles of the neck and difficulty in opening the mouth wide. Upon getting out of bed to go to another room she could only hold the head far back with comfort.

I was summoned at 4.30 A.M., and reached the patient, two miles away, at 6. I found a very stout, well-developed subject; pulse, 90; temperature, 99° F.; respiration, 20. No pain; swallowing good, as regards liquids. Slight convulsive movements of the masseters and temporals; no opisthotonos. The wound of the foot was almost imperceptible and was only slightly tender upon hard pressure. I ordered ten grains chloral hydrate and ten grains sodium bromide every two hours, which was taken with little difficulty.

At 5 P.M. same day returned with my partner, Dr. D. D. Carter, and found the patient had been subject to tetanic spasms since noon. Swallowing was still good. There was marked opisthotonos. The spasms were almost continuous. The patient was perfectly rational and complained of no pain, except a "tired feeling" in the back.

At 6.30 P.M., assisted by Drs. Carter, Boyer, and Ott, Chopart's operation was performed. Some time was occupied in finding and ligating the plantar artery. Time of the operation was fifteen minutes. No exceptional appearance of foot except venous stasis and very dark blood. The patient rallied well, less than one ounce of chloroform having been administered, and never knew up to her death that the operation had been performed, having no pain.

The tetanic seizures recommenced about 8 P.M., and at 2 A.M. Tuesday morning, when I returned, were al-

most continuous. Chloroform had been administered in the interim to the extent of two ounces. Pulse, 150; temperature, 101° F.; respiration, 65. Chloral was increased to 20 grains, and probably five minutes of rest was secured. The condition remained unchanged until 7 A.M., when the laryngeal muscles were tetanized for fully sixty-nine seconds. Under stimulation with brandy she reacted, and shortly after the pulse was 160; temperature, 101° F.; respiration, 90. At 7.20 A.M. she called for water, swallowing with some effort, and said she had no pain. At 7.30 A.M. a tonic spasm of the laryngeal muscle closed the scene, the radial artery pulsating for one and a half minutes after respiration had entirely ceased, and after the pulse had ceased the flexor tendons continued to quiver for thirty seconds. No post mortem was obtained.

CANCER IN HUSBAND AND WIFE.

By E. H. SMITH, M.D.,

SANTA CLARA, CAL.

MRS. P—— was sixty-eight years of age when I first saw her. Stout and florid. Had always lived very plainly and temperately. She was suffering from the effects of a previous paralytic stroke, which, I have no doubt, was due to an embolus, as there was an organic lesion of the aortic valves. The patient was suffering from gastro-enteric catarrh. She was peculiar, and I could get no history from her except by piecemeal. Last September, nearly a year and a half after first seeing her, I was asked to examine her right breast, and found a very large carcinomatous mass. She had had three abortions, no children at term, and had never had any inflammatory trouble with her breasts. No history of anything specific. This breast broke down, sloughed, and ended in the death of the patient in July.

Mr. E. N. P——, husband of this patient, has for years complained of colic pains in the abdomen. He is by occupation a farmer; has always been temperate and has lived a very quiet life. Within the last six months he has developed all the characteristic signs of cancer of the stomach with secondary infiltration of the liver. He has pain and soreness over the stomach and liver; vomits blood and grumous-looking material, and passes bloody mucus from the bowel. The liver is enlarged, extending nearly to the umbilicus, nodular, and tender. The patient is emaciated and very weak; cannot live long. The man is an Irish-American, the woman was a native of Ireland. They were in no way related. No history of heredity on either side can be obtained.

THE ELECTRO-MAGNET FOR THE REMOVAL OF IRON PARTICLES FROM THE EYE.

By S. MITCHELL, M.D.,

HORNELLSVILLE, N. Y.

UNDER the heading "Accidents to the Eye while Chopping with a Hoe" Dr. W. L. Bullard, of Columbus, Ga., reports three cases where pieces of steel were extracted from the anterior chamber of the eye with iridectomy, and two cases without iridectomy. Also two cases where the foreign body (a particle of steel in both cases) was found in the vitreous after enucleation.

The doctor certainly seems to have met with good success in removing fragments of steel from the anterior chamber by means of forceps. But I should not feel that I was prepared to deal with these cases unless an electro-magnet was a part of my armamentarium, and by its use perhaps save performing an iridectomy as well as removing the offender with greater ease. In those cases where there are strong probabilities that a piece of steel or iron is lodged in the vitreous chamber, a search with the electro-magnet is often rewarded by the removal of the particle and the saving of the globe. And although there may remain no useful vision, it is much better than an artificial eye, and the prospects that it will become a dangerous companion are very slight.

I am now using the Edison incandescent light circuit in my office, and by means of a converter, manufactured by a mechanic in this city, I am able to use it for all kinds of galvano-cautery work. To this converter I attach my electro-magnet and find that it has a much stronger attractive force than with any storage battery that I have ever used.

The electro-magnet is the most useful of all instruments where particles of steel or iron are to be removed from the interior of the globe.

A FAMILY HISTORY OF HYDROCELE.

By R. CADWALLADER, M.D.,

FALL RIVER MILLS, CAL.

IT is so rare to find any certain cause for hydrocele of the tunica vaginitis testis that the following family history is worthy of note:

On February 11, 1895, I operated on a double hydrocele in a young man aged twenty-eight. He told me that his elder brother had been treated for the same trouble. On June 12, 1885, I operated on his father for the same thing, limited to the right side, and from him learned the family history.

His father suffered from it for years prior to his death, and of three sons in the second generation two had the trouble. He himself only became afflicted about the time of his discharge from the army in 1865. Of his six sons, two died at nineteen months and three years and six months, apparently free. The third son began to be troubled at fifteen years of age; the fourth son, upon whom I first operated, at sixteen years of age. The fifth son, now seventeen years of age, is apparently free, but a sixth son, who died in infancy, showed a well-marked tumor before his decease. Of the six sons born in the third generation two infants and one adult were normal, while one infant and two adults suffered.

In both cases I opened and excised a large part of the greatly thickened and redundant sac. My experience has taught me not to temporize with injections or tapping.

In cases where the testicle must be removed, and after all castrations, I am in the habit of passing two or three heavy gut sutures, using a full curved needle, from above downward, taking in the layers of fascia forming the canal and the chord, so as to close it for all time. This prevents hernia ever taking place there and controls all hemorrhage from that point. To prevent non-union from the vermicular movements of the scrotum I find continued sutures are better than interrupted ones. Torsion is quicker and better than ligation also when dissecting out the hypertrophied tunica.

Creosote in Pulmonary Tuberculosis.—My own experiments, as also those of Dr. Albu, at the Moabit Hospital, in Berlin, and of others, have conclusively shown that the remedy has no influence upon the disease, and particularly not upon the growth and virulency of the specific germ. Apart from its influence upon the bronchial catarrh, creosote has a value in certain gastro-intestinal derangements, but the considerations for its preference are the same as they would be if the patient were not tubercular at all.—KARL VON RUCK.

If Patients who abort regularly, and generally before the fourth month, pass the fourth month successfully they will generally go to term.—PARVIN.

Society Reports.

THE CANADIAN MEDICAL ASSOCIATION.

Twenty-eighth Annual Meeting, held in Kingston, Ont., August 27, 28, 29, and 30, 1895.

(Special Report for the MEDICAL RECORD.)

Diagnosis and Treatment of Retro-displacements of the Uterus.—DR. A. LAPTHORN SMITH, of Montreal, read a paper with this title. It should be remembered that this condition occurred in single as well as married women; and the condition was not a rare one. It was more common in women who had miscarried. It occurred often among working-girls from overlifting, the bowels being forced between the anterior surface of the uterus and the abdominal wall. Another cause was a fall on the back. The uterus might or might not be held down by adhesions; it often was merely locked down by the prominence of the sacrum. The symptoms sometimes simulated peritonitis, the patient suffering acute pain in the pelvis and back and being unable to pass water, the abdomen being distended and tender; all of which would be relieved by replacement. The doctor then pointed out that the round ligaments contained muscular fibres, and he drew attention to their nerve-supply and functions. During muscular efforts they drew the uterus forward and prevented the intestines from descending in front of it. In women run down in health these little muscles suffered in common with the general muscular system and allowed too much motility of the organ, thus predisposing to the displacement. Other pathological conditions were found associated with this condition—engorgement of the organ due to obstruction of the venous outflow; adhesions, diseased and displaced ovaries and tubes. The patient often suffered much on locomotion and the uterus was tender and painful. Besides miscarriages and abnormal labors as a factor in the causation, the reader of the paper added the use of the pad and binder after labor. The diagnosis was usually easy in emaciated women. The points in the differential diagnosis were alluded to. In an uncomplicated case, by placing the woman in the knee-chest position and introducing a Sims speculum, replacement would follow. If the fundus was locked under the prominence of the sacrum, the anterior lip of the cervix should be grasped and drawn downward and backward; this would free it if there were no adhesions. In cases where adhesions were present he advised the application of Churchill's tincture of iodine to the vault of the vagina and tampons of boro-glycerine. After replacement, the organ may be held in place by a soft-rubber pessary with a special spring. This should be cleansed frequently. The speaker then detailed at length Alexander's operation and that of ventro-fixation for the maintenance of the organ in the correct position, the first being applicable to those cases where the uterus was free, the second to those where adhesions were present.

DR. EDWARD FARRELL, of Halifax, said that in operating for ventro-fixation he had an assistant who held the uterus up with a sound: by doing this a smaller incision would do. In a case he had operated on, four days after the operation she showed signs of intestinal obstruction. The patient was placed in the Trendelenburg position and the hips shaken strongly, when a severe pain announced that the obstruction had disappeared. The bowel was probably pressed between the anterior wall of the uterus and the abdominal wall.

SIR WILLIAM HINGSTON said that in these cases it was not often necessary to resort to an Alexander operation or the operation of ventro-fixation, if patience were exercised. He favored the use of the stem pessary; he preferred the ventro-fixation to the Alexander operation.

Experimental Cachexia Strumipriva.—DR. WESLEY MILLS read a paper on this subject. Before presenting his paper he showed two cats from which he had removed the thyroid glands and a dog from which he had removed one-half the gland. Although the operation on the cats had been done at the same time, yet one showed more advanced symptoms than the other, the latter exhibiting the most resisting power. The cats seemed to be in a sort of stupor, were very much emaciated, although they had been operated on but forty-eight hours before; one of them refused food; in each was seen a tonic spasm when it attempted to perform any muscular exertion; there was considerable dyspnœa, considerable facial movement being noticed at each inspiration. The dog had not suffered nearly so severely and was recovering. The doctor's paper dealt with the various theories given as to the function of the thyroid gland. He dwelt on the difficulty of ascertaining just the exact importance any gland was in its effects upon the blood, on account of the complex composition of the blood. The thyroid had evidently to do with the blood formation; that seemed to be apparent from the fact that the blood became poor in red corpuscles and unduly rich in white ones after the removal of the gland. There was probably a great change in the plasma as well. Recent investigations had shown that the plasma was something more than a fluid in which the corpuscles floated. It had been suggested that the pituitary body, on account of its similarity, had something of the same function as the thyroid; but it was a mistake to suppose that, because they were anatomically similar, their functions were the same. The speaker pointed out that the carnivora were most affected by the removal of the thyroid, the herbivora less, and the rodents not affected at all. Total extirpations in man were rare; in man and in the monkey the result of removal was myxœdema.

Presidential Address.—DR. WILLIAM BAYARD, of St. John, N. B., in his address thanked them for giving him the presidency. The physician's profession, he said, was one of the highest, and instead of its being named last in the learned professions—divinity, law, medicine—it should come second.

When a hospital was a State institution, the doctors should be paid the same as other officials. Every properly organized hospital board should have one or more medical men on it. The philanthropic work of the profession did not stop with the free work it did. It was estimated that sanitary measures in England saved the lives of seventy thousand per year.

In referring to the "cramming" system in schools, he said education should not be pressed to the sacrifice of health. He recommended an investigation into the schools where "cramming" of scholars was carried on. He also said he regarded the use of alcohol as the greatest curse of the age. He pointed out that the medical profession had no representation in Parliament, which was a sad lack to the country as well as to the profession.

In ending a most interesting address, the President recommended the establishment of an institution for inebriates, to be supported by the government, as it obtained the profit from the traffic which caused them.

SIR JAMES GRANT moved the adoption of the address. He said that if the medical profession gave their service to the charitable institutions gratuitously, those who were able to pay should not be allowed to get free doctors at the hospitals. The government should employ someone to carry on the science of bacteriology for the protection of the public. He said that the idea of educating the public up to an university standard, for which they were never intended, was wrong, and that there was too great a tendency at the present age for young farmers to work into the city and

fill up the workshops and professions. Sir James also claimed that the abuse of alcohol could only be banished by education.

Physical Training and Development as a Therapeutic Measure.—Dr. B. E. McKenzie, of Toronto, read a paper with this title. He drew a strong distinction between "athletics," an exercise for sport, and "gymnastics" combined with "massage," being an exercise not only for the development of muscular strength and proficiency in certain lines, but for the improvement in, and often obliteration of, serious deformities. He spoke mostly with regard to the physical training of women, especially those who suffered from muscular or osseous abnormalities. He claimed that the woman of modern times is not to be compared with her ancestor of ancient times in the matter of physical development, and that want practically arose from the evils of modern dress. The speaker asserted that by careful physical training, even those afflicted with spinal curvature may be helped materially, and perhaps entirely cured. He strongly advocated a system of training (by classes, if possible). The patient was to be placed before a mirror, and those muscles upon which the deformities depend are to be brought into forced action according to a graduated system prescribed by the trainer, and the proper position taken. He further said that such treatment invariably tended to aid the functions of all the vital organs, to improve appetite, mental capacity, and all the physiological functions of the body, at the same time increasing the chest measure, height, and weight.

Dr. McKenzie then gave the history of one or two cases treated by gymnastics, one being of a girl of twenty-two with spinal curvature accompanied with pain, in which the treatment was entirely successful; and another of a boy of seven years, with rota-lateral curvature, accompanied by chorea. Complete control of the muscles was gained in less than a week, and entire recovery ensued. He quoted Dr. Crighton Browne as a strong advocate of physical training in muscular abnormalities, who claims that the system is also of benefit to criminals and imbeciles. The speaker concluded with the assertion that the medical profession did not pay enough attention to this subject; that modern methods of living render it imperative, and that the treatment must be used in connection with current approved methods. He also recommended that physical training should be carried on in all schools.

Dr. Louis A. Sayre, of New York, said that the subject of physical training was one of the greatest importance that could be brought before the profession. He was glad to see that it was receiving more recognition than formerly. Physical training was one of the principal elements in the sustenance of a nation. It had a marked effect on the mental and moral force of a people. A good mental condition was dependent on proper nutrition and exercise. The training, he said, must be systematic. He then spoke of the causes of lateral curvature and commended the treatment that Dr. McKenzie had advocated—of mental and physical training, using no instruments, no machinery of any kind, plaster of Paris supports, or splints of any sort. A judicious teacher was necessary to train the children in these exercises. He related the history of a case that had come under his attention, in which the patient, a small boy, weak and frail in body, was mentally an imbecile. Under the treatment the progress, both physical and mental, was exceedingly gratifying. By continuance of the treatment he was sure that the boy would make a useful man.

Dr. Reginald H. Sayre, of New York, said that under this treatment he had found that the life of a child was changed from that of a mere animal to that of a rational human being. To those who had not witnessed the results of the treatment it would be a revelation. He spoke more particularly of the effects of training in certain form of rickets. To properly treat these cases it was absolutely necessary that the physician exercise a very great deal of patience and perseverance. This system of treatment had suffered because of the great numbers of people who had gone into the business who understood little or nothing about it. The effects of proper treatment were particularly noticeable on the muscular, nervous, and circulatory systems. In certain advanced cases where the bones were deformed so that walking was difficult, he advised the use of supports until the muscles, unaided, were strong enough to support the patient. He then referred to the necessity of improvement in school in regard to exercises and gymnastics. He also pointed out the danger of over-training, as was seen in those training for athletic contests.

Dr. Roddick, of Montreal, gave his experience with these cases. In certain cases he had found that, in addition to the training, supports were needed, especially in the intervals between the exercises. He had secured a competent instructress. It was absolutely necessary that this training should be relegated to someone who would perform the duties intelligently. He could speak in the highest terms of this line of treatment in these spinal cases. He said that in the less pronounced cases a cure could certainly be promised. The speaker then entered into a classification of these cases, and dealt with the appropriate form of treatment for each. He said the mistake was often made of developing the muscles on the strong side overmuch and thus aggravating the mischief. He referred to recent observations he had made in Egypt in regard to spinal deformity. He was surprised to learn that they had no cases of this sort there. He believed this was due to the fact that they were in the habit of having the girls carry water-bottles on the head; in this way the muscles of the head and trunk were strengthened. He had introduced this principle in his classes—of having those under training carry weights on their heads as a part of the exercises they perform for the correction of their deformity.

Surgery of the Brain.—Mr. I. H. Cameron, of Toronto, read the address in surgery, taking for his subject "The Present Status of Cerebral Surgery." He pointed out the great strides that had been made in this department of surgery during the past twenty years. He commented particularly on the work of McKeowen. The speaker dealt first with the matter of fractures and their surgical treatment; then with the question of hemorrhage, meningeal and cerebral, and its treatment. The subject of tumors, cysts, and abscesses was then taken up. Some references were then made to the application of surgery to diseased states of the brain.

Sarcoma of the Medulla.—Dr. J. E. Graham, of Toronto, read a paper giving the history of a case of sarcomatous tumor of the medulla oblongata. The patient, a man fifty-two years of age, in active life, contracted typhoid fever, and subsequently la grippe, about a year before the doctor saw him, recovery ensuing in about three months. Some time later, on returning home earlier than usual, he fell on entering the house, bruising his head over the occipital protuberance. There was slight nausea, but ultimate recovery. At a later date the patient showed symptoms of nervousness, irritability, disturbed sleep, failing eye-sight, and an inability to stand alone. The sexual functions were normal. In walking he turned to the left side. His thirst was considerable at times. Still later he experienced numbness of left side of face, neck, and arm, sudden vomiting, hesitation of speech, etc. His sense of touch was normal, as was also his pulse and temperature. There was no muscular atrophy. He complained of headache in the occipital region and pain in the thorax. The treatment consisted in the administration of potassium iodide and artificial foods. Pneumonic symptoms set in at the last, with a rapid consolidation of both

lungs, the temperature rising to 102° F. Death ensued. On post-mortem examination a sarcomatous tumor was found in connection with the restiform body, 5 mm. by 15 mm. in size. The tumor consisted mostly of round cells, with a few spindle-shaped ones interspersed, and was plentifully supplied with blood-vessels.

Dr. Graham quoted many authorities describing somewhat the same condition, showing that the case in question was almost unique. He also showed charts of the position of the tumor.

Removal of the Membrana Tympani and the Ossicles.—This was the title of a paper by DR. F. BULLER, of Montreal. This surgical procedure for the relief of chronic otitis of the middle ear, he said, since its introduction in 1873, had been brought prominently before the profession. It had proved to be a means of benefit in the obstinate cases. He pointed out the difficulties in handling these cases, particularly when the bony structures had become involved in the inflammatory process. The essayist referred to the other methods that had been adopted for the treatment of this condition, particularly to that of clearing out the tympanum through the mastoid. By removal through the external meatus, the method was comparatively easy, and the patient able to go about his work the next day. Even when the discharge recurred there was a much better chance for drainage than before. Antiseptic cleansing measures would be more efficient. Marked improvement in the hearing usually followed this form of treatment, especially where there was no labyrinthine complication. The thickened tympanic structures had become functionless and were better out of the way. The great object in operating was to free the patient from a constant menace to life. The general practitioner and the public were not sufficiently aware of the gravity of this condition. Meningitis often followed the neglect of treatment, and the patient was often mistakenly said to have succumbed from typhoid fever. The doctor then gave the outlines of a few cases showing the beneficial results of this operation.

Skin Clinic.—A skin clinic was conducted by DRS. J. E. GRAHAM, of Toronto, A. R. ROBINSON and L. DUNCAN BULKLEY, of New York. The first patient was a woman whose hair had fallen out in the spring of 1890, commencing in small areas, and extending. She had consulted a physician who applied croton oil; she was bald for two months. The hair grew again for three months and she had quite a crop; but it fell out again. Various forms of treatment had been adopted, but without avail. During the last year her head was hot at times and covered with perspiration. In his remarks, the speaker said that all the typical signs of alopecia areata were not seen in this case. The diagnostic points he then cited. It appeared to him that there were two classes of cases—the parasitic and the non-parasitic; for he had known of several cases occurring in one household. The pathology was then dealt with. As to treatment, tonics internally; and crysophanic acid and the mercurial ointments were recommended externally.

Dr. Robinson ascertained from the patient that the hair had begun falling out in a small spot, increasing in area by peripheral extension till it reached a diameter of two or three inches. This was characteristic. Examining the scalp with the naked eye, little or no change could be seen. He leaned to the parasitic theory as to causation. Examining the individual hair microscopically, it would be seen to be atrophied. The skin would also be seen to contain inflammatory products, to be seen in the subpapillary layer, and to a limited extent in the epidermis. If a large number of spots was seen, it was an indication that a large amount of scalp was involved, and that cure would not be effected until all the hair had fallen out. Keeping in mind the causation, he believed in bringing the leucocytes into play. Applications of croton oil, fifty per cent., would give a good migration.

Dr. Bulkley, examining the head with a lens, said that small points could be seen, which were broken hairs; these were to be seen among the small finer hairs present. He considered the cause to be trophoneurotic. It might be due to a micro-organism, but not to a parasite; for the patient might rub her head against any other without fear of communicating the disease. With the microscope the diagnosis from tinea tonsurans could be easily made out. Certain forms of seborrhœa attacked the hair similarly, but the absence of inflammation excluded that diagnosis. The prognosis was hopeful, if treatment was continued long enough. With the neurotic theory in mind, he would give nerve tonics—phosphorus, strychnia internally. In addition, he would correct errors in diet, and recommend foods containing fats and phosphorus to supply nutriment to the hairs. Externally he had found application of a saturated carbolic acid solution produce a crop.

A clinic on psoriasis and eczema seborrhœacum was continued, the same three gentlemen contributing.

The Cold Bath in Typhoid Fever.—DR. WILLIAM OSLER, of Baltimore, read a paper on "Five Years' Experience with the Cold. Bath Treatment of Typhoid Fever." He quoted statistics, showing the death-rate to be 6.3 per cent. under this form of treatment, which was considerably less than that obtained from any other method of treatment. Statistics from other hospitals throughout the world agreed with his. The Brandt system he confessed he had not followed fully: Markedly asthenic cases; patients with very high temperature, rapid pulse, meteorism; cases in which severe complications, such as hemorrhage, perforation, pneumonia were present; cases in which the temperature remained under 102½° F.; and mild cases—all of these did not receive the cold bath. In these—fifty-eight cases—the death-rate was 10.2. The effects of the cold bath were not only antipyretic, but beneficial to the system in many ways. The dietary consisted wholly of milk, broths, and egg albumin. The essayist then referred to particular cases, pointing out any special features in the way of symptoms or complications. He outlined, in reply to question, the way in which the baths were given. Many cases of typhoid, he believed, died from over-medication—from too active antipyretic treatment, from too much digitalis, or too much nitroglycerine, or too many doctors.

DR. W. S. MUIR, of Truro, N. S., said that in Truro they had two natural water-courses that had been closed up since the town had been incorporated. But during the fall freshets they had overflowed for three or four days. They rarely had spring typhoid, but in August, following the freshets, they always had an epidemic of typhoid. In every case that had occurred since 1890 he had marked on a map the houses in which the cases had occurred. It was curious to note the line which the typhoid had taken. From that time up till August of this year he had had 159 cases, with a death-rate of 8.1 per cent. In only one single instance could he trace the typhoid to the water-supply. The private practitioner got his cases earlier than his hospital confrère, and thus had a better chance to cope with the disease. He strongly condemned the use of antipyretics. In his experience it was safer to watch the pulse than the temperature. His cases with bad pulses died. He had not yet seen a case of hemorrhage of the bowels die, when the hemorrhage came on early in the second week. Invariably the fatal hemorrhages came on during the third or fourth week.

Operative Treatment of Injuries to the Head.—DR. MCCOSH, of New York, read a paper on this subject. The paper dealt first with fractures and their complications, the diagnosis, and appropriate surgical treatment. The technique of the operations was outlined and some interesting cases reported.

DR. JAMES SILL, of Montreal, spoke of the necessity of early interference in those cases where pressure

symptoms were present. To open the cranium was a comparatively safe operation. It was far safer to operate than not to. Strict asepsis was of the utmost importance.

Dr. George A. Peters, of Toronto, pointed out the necessity of enlarging the wound in cases of punctured fractures, to ascertain whether or not there were any spicules of bone impinging on the brain substance. If the surgeon kept the wound aseptic there was little danger of hernia cerebri. He thought it wise to retain the dura mater wherever possible.

Dr. W. W. White, of St. John, N. B., related the history of several cases that had come under his notice. The first was an operation for depressed bone in a coal-heaver who had been struck with a piece of coal. The doctor used a chisel and mallet in operating. Perfect recovery ensued. He also related the case of a child that had received a fall followed by paralysis of the right side, accompanied with loss of speech, the dumbness lasting six months. Relief followed the absorption of the clot.

Address in Medicine.—Dr. Edward Farrell, of Halifax, delivered the address in medicine. The address dealt with the wonderful advancement that had been made in recent years in the various departments of medicine. He outlined the advances that had been made in clinical medicine and morbid pathology, as well as in the more recent study of bacteriology. He pointed out the immense saving of life effected by the study of sanitary science. He spoke particularly of the names of men eminent in medicine who had worked all their lives in the investigation of epidemic diseases, and through whose influences these scourges of the human race were becoming things of the past. He held that states were not lavish enough with grants for the furtherance of scientific research, particularly those of English-speaking peoples.

New Remedies in Dermatology.—Dr. L. Duncan Bulkley, of New York, read a paper on the newer remedies in skin diseases. Among those used in local treatment he referred more particularly to the value of resorcin, ichthyol, europhen, aristol.

Mechanical Dysmenorrhœa.—Dr. J. Campbell, of Seaforth, read a paper on dysmenorrhœa, accompanied by anteversion of the uterus and stenosis of the os internum. He outlined the treatment as being first, rapid dilatation with applications to the endometrium, afterward with galvanism, followed by laparotomy with extirpation of both tubes and ovaries; a complete cure resulting. The ovaries on removal showed a cystic condition which seemed to be the only element to account for the symptoms of the dysmenorrhœa which persisted after the dilatation.

Early Treatment of Skin Cancer.—Dr. A. R. Robinson, of New York, read a paper on "The Importance of Early Treatment in Cutaneous Cancer." The doctor pointed out and illustrated with drawings the pathological condition present in the varied classes of epithelial growths, and showed the relation the progress of the clinical symptoms bore to the pathological condition, from a study of which rational treatment could be decided upon. Cancer was, he contended, at first purely a local disease and quite amenable to cure if removed before the deeper structures were involved. In the cure of these cases the essayist said that he never used the knife. He condemned strongly the usage of applications of nitrate of silver to small growths of a suspicious character. This often only aggravated the mischief.

Thyroid Feeding in Stupor.—Dr. C. K. Clarke, of Kingston, read a paper on this subject. He had observed, as had been done before, the effects of acute disease on these cases of stupor, how that it benefited them—in some cases effecting a complete cure. In the first case reported the patient was almost a hopeless dement. Upon the administration of the thyroid extract improvement began, which gradually progressed until the cure seemed to be next to complete; when suddenly the patient, without apparent cause, relapsed back completely into his former condition. In several other cases which the doctor reported the effects were well marked, a permanent cure resulting. The doses given went as high as twenty grains.

Hip-joint Disease.—Dr. Lewis A. Sayre, of New York, then gave a clinic on "Hip-joint Disease." Two patients were shown. Dr. Sayre showed how he conducted the examination of a patient suffering from this trouble. The patient was completely stripped from the chest downward, and two tapes were applied to the front of the body, the one reaching from the ensiform cartilage to the pubis, the other joining the anterior superior spinous processes. These had to be kept at right angles. It was found that, with the spine held well down to the hard table, that the sound leg could be tilted and turned in any direction without tilting the pelvis, the sick limb being held flexed to such a degree as to allow the back to be kept flat. Upon then attempting to straighten the leg the diseased side of the pelvis would tilt up. It was shown that while slight traction was made in the line in which the limb was, when flexed to be comfortable, that ease was at once experienced. This indicated the line of treatment—to fix the joint so that the leg would be held in this position and to make slight traction. Then to gradually straighten while the child remained on his back. At the end of two or three weeks, when the limb was straight, a fixation splint could be applied and the child allowed to get out into the open air. This was the method to pursue if suppuration and abscess had not set in.

Acute Uræmia.—Dr. McPhedran then read a paper on "Acute Uræmia, Followed by Gangrenous Abscess of the Lung." The patient, a man aged fifty-eight, had for some time been failing in health, the manifestations of the decline being shown by vertigo, frequency of micturition, constipation, disagreeable taste in the mouth, hard pulse, etc. He had a convulsion, sudden in its onset and severe in character. It was followed by prolonged coma. The second week after it was noticed that his breath was very foul, and his sputum showed the presence of elastic fibres. Albumin was present in large quantity in the urine. Signs of change in the lung were noted by physical examination. There were recurring attacks of hemorrhage, and at three distinct periods the breath smelled gangrenous. Under treatment improvement took place, followed by recovery. The condition of the lung the reader believed to be due to degeneration of the pulmonary artery primarily. Beside the hygienic treatment diuretin was administered in 15-grain doses every four hours.

Ophthalmometry.—Dr. R. A. Reeve read a paper in which he pointed out the great value of the ophthalmometer in ascertaining the presence of astigmatism and other refractive errors. He showed the superiority of this instrument over other appliances formerly used. By means of a photograph he demonstrated the parts of which it was composed.

Tumor of the Brain.—Dr. J. Webster, of Kingston, read the notes of a case of brain tumor, with an account of its removal. The interesting features of the case were that the woman was admitted for insanity to the asylum, the symptoms being traceable to the presence of the tumor. The localization of the tumor was exactly made out by the appearance of paralyses of muscles of the upper limb. Owing to the weakness of the patient under the anæsthetic, the operation was done in two sittings. The tumor was a small round-celled sarcoma, very vascular. Hernia cerebri followed and was pared off as it appeared and reappeared.

Placental Hydatids.—Dr. A. Bethune, of Seaforth, related the history of a woman whose first labor was normal. Her second pregnancy had advanced to the sixth month when flowing began—a discharge of water,

mucus, and blood. About three weeks after labor came on. The uterus was almost entirely filled with a spongy, friable placenta, which was removed piece-meal. Several of the pores contained hydatids. The fœtus was dead and crushed flat. The woman made a good recovery.

Hernia of the Appendix.—Dr. R. W. Garratt, of Kingston, related the history of a case of hernia of the vermiform appendix. The condition occurred in a green-grocer who had much heavy lifting. After a heavy lift he had taken some five years previous, he discovered that there was a tumor in the left inguinal region, which gave him considerable pain. He underwent treatment by truss for some time, but without satisfaction. It was thought to be omentum, and an operation was finally decided upon. Upon cutting down on the tumor a bubble of gas was noticed issuing from it, followed by the exudation of about a drachm of stinking pus. The appendix was drawn down and removed. The patient made an excellent recovery.

Nephrectomy.—Dr. Ahern, of Quebec, reported a case of "Transperitoneal Nephrectomy." The operation was done for hydronephrosis. The trouble began by the appearance of a tumor in the left side, which after a few weeks disappeared. It was accompanied by pain. The tumor reformed. The history of the case and the points of the differential diagnosis were pointed out. A distinguishing point in the diagnosis was the palpation of a ribbon-like band over the surface of the tumor—the descending colon. The tumor was removed by an anterior median incision; the condition was found to have been due to a congenital malformation of the ureter. These cases usually occurred on the right side. The essayist referred to the treatment of these cases by aspiration and by nephrectomy.

Dr. C. R. Dickinson, of Toronto, read a paper on "Some Indications for Electrolysis in Angioma and Goitre." He pointed out that by treating angioma by this method the chances of disfigurement were much less than by other measures. Excision was often useless, the cautery was sometimes disappointing, and scarifications, applications, and injections were not free from danger. Small, superficial angiomata called for the negative pole and mild currents. In the cavernous form destruction of tissue might be called for. Histories of cases were given showing the good results following this form of treatment. The doctor also spoke of its application to goitre, one hundred and twenty cases of which he had treated with gratifying success.

The Canadian Militia Medical Service.—A paper was presented by Dr. W. Topin, of Halifax, on changes which he proposed in the Canadian Militia Medical Service, the substance of which was that, in the speaker's opinion, instruction in military surgery should be given to militia medical officers. He also held that the ambulance system should be reinforced by bearer companies, where it was possible, on the basis laid down by the Deputy Surgeon-General to render first aid to the wounded and assist in field hospitals.

Piperazin in Uric Acid Diathesis.—1. Piperazin in small doses increases the urine; urine becomes clear and lowered specific gravity. 2. Diminishes acidity of the urine. 3. Lessens quantity of urea and the percentage of uric acid. 4. Piperazin, in small doses, given for a long time, does not produce albuminuria if kidneys are healthy; if they are diseased, piperazin given in small doses appears to increase albuminuria, and likewise hæmaturia. This ceases upon stopping the piperazin. 5. Digestive troubles not aggravated by small doses. 6. Raises blood pressure. 7. No influence on composition of blood. 8. In three gramme dose daily can be well supported by sick; rarely need for larger doses.—Nojinkoff.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, June 17, 1895.

Samuel B. W. McLeod, M.D., President, in the Chair.

Repeated Intestinal Anastomosis on a Dog.—Dr. Thomas H. Manley presented some specimens from a dog on which, at intervals of about two weeks, he had performed intestinal anastomosis four different times, with complete success.

O'Hara's Operation for Hernia.—Dr. Manley then presented a child with inguinal hernia, and made some remarks upon the radical treatment of this affection by the O'Hara or Australian method. (See p. 366.)

State Medicine: The Physician as a Citizen.—Dr. Douglas H. Stewart read a paper with this title. He thought the medical profession was without influence in public affairs, because, unlike the legal profession, it was not organized to act politically. About the only public office held by physicians related to the Health Board, and even there the law expressly stated that the president should not be a physician. What would the legal profession say of a law which forbade a lawyer being a judge of the Supreme Court? We allowed outsiders to do our thinking for us in public matters, and they rather despised us for allowing them to do it. Our lack of unity made us the mark of caustic sarcasm. But every man would become a giant if it was known that his whole profession was at his back. One for all, and all for one, would win recognition and respect every time and everywhere. Perhaps our most powerful disorganizers were the hospitals and dispensaries outside of the public charity institutions. They made an annual report showing a wonderful number of patients treated, claimed a small death-rate and remarkable results, but there was no mention of the number of dying patients refused admittance or transferred to Bellevue. If the members of the medical profession would decide not to allow their learning and time to be taxed without adequate representation on the Board of Trustees, the medical charity evil would soon be mitigated and the lay trustee would cease his arrogance.

Another field in which a united medical profession could do something to reform abuses, related to the condition of the streets. London and Paris, which had a much larger street area than New York, were kept, by comparison, immaculate. Then our uneven pavements were being constantly dug up and left so for days. The stones were put back loosely, to be sunk immediately far below the surrounding level. The physician was more interested in good roads than the farmer and merchant, as he could not, like them, wait for fair weather. Here railroad magnates still used horses which distributed manure in the streets; they added salt to our slush; they compelled us to hang on a strap. A little agitation for a law, "No seat, no fare," would remedy the latter evil. We were compelled to support the insane of the State while supporting our own. In our public schools many rooms were without seats, and our children had to sit on the floor; in some the seats were too small, causing crooked spines; in some, three children had but two seats between them; others were dark and alongside the elevated railroad and noisy streets; one school for boys was made use of for girls, and as the urinals were inconvenient, the ingenious janitor bored holes into the floor and allowed the cellar to become flooded. There were many schools without sewer connections.

In our progressive city the sick were prescribed for by a newspaper doctor who never saw them. Our Street Cleaning Department seemed on the eve of adopting the reduction process for the disposal of refuse, a method which had been tried at great ex-

pense in Cincinnati, St. Louis, New Orleans, and various other cities, and found to give off such a horrible stink for many blocks around that it had to be abandoned. Here they had put up a temporary, most defective incineration plant on trial, and had condemned it, when the method properly carried out in other cities had given the highest degree of success. Other cities put such matters into the hands of the Health Board. Physicians were so far from being united that they would go into court, at the instigation of some shyster lawyer, and testify against one another. Let us act together. Let us back a man sometimes, because he is a brother. Carry this fact in mind, that not fifty-five per cent. of medical service in this city is paid for. Let us do what we can to take our city out from under the heavy rule of Albany.

The paper was discussed by DRS. A. B. DEYNARD, FRANK VAN FLEET, G. D. MCGAURAN, C. B. WHITE, BROTHERS, T. H. MANLEY, NYE, and the discussion was closed by the author. They spoke warmly against the abuses mentioned, as well as others, and advocated greater unity in the profession, and participation in public affairs.

Living Greek: The Language of Physicians and Scholars; a Language Easily Acquired.—DR. ACHILLES ROSE read the paper. Since the establishment of the American school at Athens, founded in 1892 by the American Archæological Institute, supported by contributions from eighteen universities in the United States, there had been a diffusion among cultivated people of a more correct notion of the Greek language, and of the fact that it was a living language. It was generally conceded that a study of the classical languages, and of the Greek especially, was a powerful means of elevating and ennobling the mind and character, and could not be dispensed with. The Greek language was practical as well as ideal. It was easy to learn as a living language, but it was necessary to reform methods of teaching it in the colleges. It was remarkable how it had been calumniated, by claiming that, as spoken by the Greeks to-day, it was mixed with various other languages. As a matter of fact, it had been preserved remarkably pure from ancient times, and for this we were much indebted to the Greek Church. As an example of the ease with which Greek could be learned as a living language, Dr. Rose presented his little daughter, about seven years of age, who recited a piece and sang in Greek. She also spoke a piece in French, showing that during childhood the learning of languages was easy.

DR. FRED. C. VALENTINE thought it would prove far more practical to make Spanish the language of physicians and scholars, for it was already spoken by eighty millions of people, was beautiful, its orthography was phonetic with few exceptions, and one could learn to speak it in as many weeks as were required to learn the Greek alphabet.

THE PRESIDENT had come to the conclusion that the preponderance of evidence was in favor of Greek as the language of scholars, for it was a language of very great beauty, of very great flexibility, and one possessing the power to carry ideas to others as perhaps no other language could.

Behring's Law says that the blood and blood-serum of an individual which has been artificially rendered immune against a certain infectious disease, may be transferred into another individual with the effect to render the latter also immune, no matter how susceptible this animal is to the disease in question.

After Meals.—Irritating drugs—such as salts of arsenic, copper, zinc, and iron—should usually be given directly after food, except where local conditions require their administration in small doses before food.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, Monday Evening, May 17, 1895.

EGBERT H. GRANDIN, M.D., PRESIDENT, IN THE CHAIR.

DR. S. TYNBERG exhibited the case of pygopagus (joined twins) which has been previously described in the MEDICAL RECORD.

Gonorrhœa in Man.—DR. RAMON GUITERAS read a paper on this subject. He said gonorrhœa was derived from γόνος, semen, and ῥέω, to flow; as it was for a long time considered a disease of the secretory apparatus resulting in a flow of semen from the urethra. The more proper name urethritis appeared to be gaining ground. The disease had been prevalent since the earliest days of medicine, mentioned by Hippocrates and Celsus, and considered contagious.

About the last of the fifteenth century syphilis became prevalent in Europe, and was considered related to gonorrhœa and due to the same virus. This idea prevailed until the Revolution, when John Hunter claimed they were two distinct diseases. He inoculated himself with pus from an acute urethritis, but the patient had an unrecognized syphilis at the same time. Hunter contracted it, was convinced that both were the same, and thus the true relation was undiscovered until Ricord's investigations.

Etiology.—Usually due to coitus. Rarely to indirect causes. Two varieties were spoken of which he would call urethritis and pseudo-urethritis. The first embraced the acute running clap due to the gonococcus of Neisser, the latter the so-called "strains" and slight ephemeral discharges. The period of incubation was one to fourteen days, and the discharge was generally noticed about the third day.

Clinical History.—Shortly after a suspicious coitus there was itching sensation about the meatus, followed by pain during micturition, slight moisture, or drop of muco-pus on meatus, which was somewhat congested. These symptoms grew more severe steadily for one or two weeks and gradually subsided. The course of an acute attack was from four to five weeks. When it passed six weeks it was considered chronic.

Diagnosis.—The microscope, or a few days' time, would distinguish between urethritis and pseudo-urethritis. The former grew rapidly worse, the latter rapidly better. The former was more difficult to distinguish from an acute exacerbation of an old condition, where the gonococcus was always present. The history of the cases usually assisted.

The chancroid ulcer and chancre might be confused with urethritis. The former could be recognized by the loss of tissue. In the latter, where there was difficulty in opening the meatus to see, he found a wire nasal speculum an excellent aid.

Pathology.—The gonococcus made its way to the subepithelial tissue and excited an inflammation, there was an exfoliation of the urethral epithelium and increased glandular secretion. Leucocytes attacked the gonococci, carried them to the surface, where they were discharged, and repair took place and the symptoms subsided. Resolution took place slowly in the urethral glands, which continued to discharge some time after the inflammation in the remainder of the urethra had subsided.

Posterior Urethritis.—Dr. Guiteras considered this as an extension of the disease; some thought it occurred in eighty per cent. of the cases, and he thought it occurred at least that often. Often it was not severe enough to cause symptoms and was not noticed. The disease did not travel down the urethra fast, for the mucous membrane was less vascular and almost void of glands and follicles. The patients in whom marked symptoms occurred were those who were physically be-

low par. It might occur any time during the attack, but usually not before the tenth day, and most generally in the third or fourth week. The patient experienced discomfort and a sense of weight in the perineum, increased frequency of urination, and in severe cases urinated every few minutes during the day and often at night. When subacute the Ultzman glass was used for diagnosis.

Chronic Urethritis.—This condition was considered to exist when after six weeks some discharge existed, but so slight that no discharge was noticed during the day and only slight in the morning. "Tripper faden" were usually found, and this was generally due to the presence of granular patches, ulcerations, denudations, localized hyperæmia, or strictures along the urethra.

Experience had taught him the majority of cases were due to strictures with localized congestion posterior to them. The strictures were due to localized inflammation and were soft, resilient, or hard. There was another form, the congenital, which was located near the meatus and was very unyielding.

He examined the patient for chronic urethritis as follows: the meatus for a discharge which would point to anterior inflammation, washed out the anterior urethra with a rubber or glass tube, then let the patient pass his urine in two glasses. If the first glass contained more flakes than the second, he concluded there was posterior urethritis, and if there were no flakes in either it was evident there was no posterior trouble. He then examined the urethra with the acorn bulb bougies for strictures, and then endoscoped the urethra for granular patches, localized congestions, denudations, or ulcerations.

Prognosis.—The disease usually lasted from four to six weeks. It was considered cured when the discharge ceased, but it might remain localized or subacute after this. Some authors held that as long as "Tripper faden" were found the disease was not cured. Dr. Guiteras said he presumed they were right, but he thought they would disappear if the patient abstained from alcoholism and venery for a few weeks. The occurrence of posterior urethritis, complications, or strictures made the prognosis difficult.

Treatment.—Dr. Guiteras said that in his own practice the treatment depended on, 1, the stage of inflammation in which the patient presented himself; 2, the presence or absence of posterior urethritis; 3, the presence or absence of strictures.

If the patient had an acute attack in the first stage with great tenderness, he delayed active treatment for a while and tried to make him comfortable. He gave him a diluent; put him on either cubebs in teaspoonful doses three times a day, or santal midi capsules, beginning with one and running up to four three times a day. He regulated the bowels with Rochelle salts, prescribed two hot sitz-baths a day, and regulated the diet.

This usually took away the congestion in three days, enough to permit of hand astringent injections or hot irrigations. He then began with irrigations given once a day, accompanied by mild slightly astringent hand injection. If the patient were in a hospital he used irrigation twice a day and no hand injection. For irrigation he used permanganate of potash or nitrate of silver. He used to begin with permanganate of potash, and used silver only when the former failed; now he reversed it, for the nitrate of silver seemed to have the best effect. If the permanganate were used he began with one in five thousand and increased to one in two thousand, and if nitrate of silver, he began with one in eight thousand and increased to one in two thousand. The irrigating fluid should be used as hot as could be borne. In posterior urethritis he did not use hand injections, but modified his method of irrigation by increasing the height of the douche jar from two to five feet. If the solution did not overcome the "cut-off" muscle he directed the patient to strain as if to urinate, and then to take a few deep breaths. To his internal treatment he added ten drops of belladonna three times a day to overcome the tenesmus, and sandal-wood oil to modify the urine. Of the latter he began with fifteen drops, and increased five drops a day as long as it was well borne. If irrigation did not benefit he left off the general treatment of the urethra and gave posterior instillations of nitrate of silver every other day by means of the Ultzman syringe, beginning with one grain to the ounce solution and gradually increasing.

In chronic urethritis he examined for strictures with a bulbous sound and endoscoped the urethra. If there were yielding strictures he dilated them by the Oberlander dilator by easy stages, and afterward passed the Otis curve anointed with equal parts of the ointment of the red oxide of mercury and vaseline. If the stricture were unyielding he advised urethrotomy by the Otis method.

Dr. Guiteras said that in closing he wished to call attention to the fact that patients would complain as much of a one to one thousand solution of nitrate of silver by the irrigation method as they would of one in fifty solution by the hand method.

The Treatment of Gonorrhœa in Women.—Dr. William R. Pryor read the paper on this subject. He said that throughout the entire treatment of gonorrhœa in women one principle must govern the physician; the disease must be locally checked and extension prevented. Gonorrhœa produced few destructive lesions when it affected primarily the external genitals, but when it had extended to the pelvic viscera it often destroyed the integrity of the affected organs and chronic invalidism might be induced.

Gonorrhœal Urethritis.—This should be treated from the very first. Internally he administered citrate of potash for the first three days or so, to alkalinize the urine, locally he applied every day nitrate of silver, 10 grains to 1 ounce, and after the urethritis had somewhat subsided the solution might be reduced to 5 grains to 1 ounce, and applied less often. The patient should frequently bathe the vulva with one-half per cent. lysol solution; but no douching was admissible.

Gonorrhœal Cystitis.—Forty to sixty grains of benzoate of soda should be given internally, the bladder should be washed out with super-saturated solution of boracic acid at least twice a day, the bladder being filled and emptied several times at each sitting. The viscus should then be left full of the solution. The accompanying urethritis should be treated with daily application of nitrate of silver, 5 grains to 1 ounce. In washing out the bladder a single catheter should be used.

Gonorrhœal Ureteritis.—If the bladder were affected acutely at the same time, benzoate of soda only should be used, but if the bladder were not very sensitive the ureter might be washed out with boracic-acid solution. When the infection attacked the urinary system it could not be guarded against by antiseptics, but the urine had to be rendered antiseptic and increased in quantity by the use of large amounts of Buffalo Lithia water.

Gonorrhœal Vulvitis.—Nitrate of silver should be applied to every fold of the vulva, meatus urinarius, clitoris, and nymphæ, and every part be painted with a solution of twenty grains to the ounce and allowed to dry. The vagina should be packed with twenty per cent. iodoform gauze wrung out of one to five thousand solution of bichloride of mercury. The woman should bathe the vulva every four hours with a one-half per cent. lysol solution. If the vulvo-vaginal glands became inflamed they should be excised, for it was impossible to attack the infection when it had reached these compound racemose glands.

Gonorrhœal Vaginitis.—The patient should be put in the lithotomy posture, the vagina opened with an anterior and posterior retractor, and the vagina thoroughly painted with nitrate of silver, twenty to thirty grains to the ounce. The vagina was packed with iodoform

gauze, the application repeated every two days for three treatments when the gauze alone could be used.

Gonorrhœal Endocervicitis.—Dr. Pryor said this was about five times as frequent as vaginitis and too much neglected. The mucous membrane of the cervix should be touched with a strong tincture of iodine, repeated every day, and the vagina packed with iodoform gauze. Care should be taken not to pass the internal os, and as the cervix was lined with true mucous membrane it would take quite a little while to cure the patient. As there was no possible way to place a dam between the infected locality and the more important structures above, the only hope was to successfully treat the affection by such means as were efficiently germicidal and still do the least amount of damage to the tissue cells, upon whose resistance to pathological influences depended protection against complications.

Gonorrhœal Endometritis.—Immediate operation was necessary. If the cervix was not dilated, dilate it up to one-half inch, and if this was not possible, incise it. Dilate the uterine canal, wash with boric acid solution, using a large Jirtsch-Bozeman catheter. The cervix was then swabbed with five per cent. carbolic solution, and the uterus thoroughly curetted. All débris was then washed out with the irrigating catheter, but no bichloride, carbolic, or other strong antiseptic should be used, for they would produce sloughing and a nidus for any gonococci which might remain. He did not paint the endometrium with iodine or carbolic acid. He then packed the uterus with iodoform gauze, also the vagina, and the first dressing was made in five days. He based his technique upon the belief that the endometrium was a lymphoid structure, and any agent strong enough to prove germicidal would destroy the living body cells.

Dr. Pryor did not favor palliative treatment of gonorrhœal endometritis. He believed no case of gonorrhœa was cured as long as the gonococcus was found, and it was the physician's duty to impress upon the patient the importance of persistent treatment at his hands. He believed the prevalence of gonorrhœa was due more to the uncured form in women than to the gleet of men. Gonorrhœal salpingitis in the acute form was treated in the same manner as gonorrhœal endometritis, but in the chronic form nothing but extirpation of the tubes would effect a cure.

When to Begin and when to Stop Treatment.—Dr. Herman Goldenberg opened the discussion. He said there were two questions: first, when should treatment be begun, and second, when should it end. It seemed natural to attack the gonococcus so as to kill it. It entered the tissue before the third day, so he did not see how nitrate of silver could cure unless used within a few hours. He had found only one case that yielded to the primary treatment, and he believed most of the cases cured thus were exacerbations. Permanganate of potassium had proved the most satisfactory to him. Posterior urethritis had been considered a complication, but now it was admitted to be an extension, and in thirty per cent. of the cases there was a posterior urethritis by the twelfth day. There were cases that could not be cured, but fortunately they were few. Neisser depended upon a microscopic examination, but he thought in cases where matrimony was contemplated the condition of the prostate should be considered also with that of the urethra.

Chronic Urethritis an Ulcer.—Dr. Ira Van Gieson said when we reflected upon the seriousness of the disease, the infecting of women with all its consequences, and the unsatisfactory state of our knowledge upon the subject, the importance of such papers which contained so much information was apparent. A great deal of damage was done by new treatments of urethritis, especially in the male. The treatment must not be empiric, but founded upon a knowledge of what was going on in the tissue. The gonococcus excited chemotaxis and inflammation, which was not a slight catarrhal one, but a severe form. The urethra might recover after one attack, but after more it never recovered. The whole question of chronic urethritis was summed up in the one word ulcer. This might be microscopic, but situated along the narrow sinus it would exist for a long time. By the thickening of the tissue strictures were formed, but they were rare and seldom found at autopsy. The ulcer would stop the sound and the patient was told that he had an ulcer. Nitrate of silver was used, for it excited a slight inflammation which brought the cells to the surface and the ulcer was reached. He thought it was the exception where posterior urethritis was not found.

A New Culture Medium for the Gonococcus.—Dr. Fred C. Valentine thought the first author erred in thinking the name urethritis was becoming more used than gonorrhœa, and he feared the latter name would be continued. It was strange that Dr. Guiteras would use a wire nasal speculum when he could use Oberlander's urethroscope. Dr. Guiteras had mentioned six weeks as a normal time, but Janet, of Paris, allowed two days, and his own cases lasted five days. He thought Janet's theory, that the permanganate of potassium injection caused an anæmia and prevented a good culture medium for the gonococcus, was the right one. Dr. Valentine said he had found a good culture medium for the gonococcus in sandal oil. There was one thing which could be positively stated, no man should be allowed to marry who could infect the woman. By treating the urethra with nitrate of silver and examining the exudate, it could be determined whether the gonococcus was present or not.

Dr. J. P. McGowan said that at their clinic they used warm solution of permanganate of potassium and gradually increased the solution. The bladder might be filled with the solution. The patient was often relieved in a few hours and showed [illegible] Diluents were uncalled for. The object of the injection was that the [illegible] enough to damage the [illegible] he washed out the affected [illegible] and used sulphate of zinc, [illegible] chloride of mercury did [illegible] In acute anterior urethritis, nitrate of silver was bad, especially if used strong.

Infection in the Puerperal State.—Dr. H. N. Vineberg said he was sorry the writer of the paper did not mention infection during the puerperal period. There was no doubt that cases occurred, and he had seen two such. He thought that as long as a gonorrhœal affection was limited to the cervix, it should be treated in a way that it would not be extended, for the disease would not go beyond the internal os by itself. The reason the disease advanced rapidly sometimes was because some other disease was present, or the treatment extended it instead of stopping it. He approved of the excision of Bartholoni's glands when they were infected, but it was not as easy an operation as might be thought.

Dr. Herman L. Collier said the patients came to the physician at different stages of the disease, and he had to treat them according to the stage. It was possible to cure ten per cent. of the cases in the acute form in two weeks. To render relief, at first cooling lotions were advisable, as opium wash, etc. For the second stage, nitrate of silver was satisfactory. He coated the vagina with a solution of nitrate of silver and the outside with a ten-grain solution. This might be done every day or every other day. Douching every four hours with ammonia solution or some other was important. When the disease extended to the endometrium it was generally the result of carelessness.

Dr. Ramon Guiteras said, in closing, that the reason he used the wire nasal speculum was that he could examine thoroughly and easily the anterior half-inch of the urethra, and that was all he wanted when

he used it. There was a difference of opinion as to the length of the disease. Dr. Finger had said six weeks. He thought ten grains of nitrate of silver to the ounce was too much.

Therapeutic Hints.

Salicylates in Rheumatism.—The salicylate acid must be obtained from the vegetable kingdom; it must be given without an alkali or a base; from forty to eighty grains should be given daily for ten days; the patient's diet should consist of milk and farinaceous food for at least a week; the bowels should be freely opened daily.—LATHAM.

Dyspepsia.—In every case of persistent dyspepsia, careful examination of urine should be made.—LOOMIS.

Constipation in Infants.—

℞. Sodii bicarb ..... 3 j.
Tr. nucis vomicæ..... ♏vj.
Tr. card. comp.,
Syr. simp .....āā f ʒ ij.
Aq. chloroform (Br. P) ..... f ʒ ss.
Aquæ ..... f ʒ ij.
M. Sig.: Teaspoonful every six hours.

—EUSTACE SMITH.

Bronchitis.—

℞. Phenol salicylate,
Terpin hydrate .....āā 3 j.
Codein sulphate..... gr. ij.
M.: Make twenty capsules or pills. One every four hours.

—SOLIS-COHEN.

During Lactation menstruation is absent as a rule, but ovulation may occur. It is not very common for ceased, but it might [illegible] nursing, but if they do, lactathis. Some authors held that [illegible]
were found the disease was n
said he presumed they were ri
would disappear if the patien
ism and venery for a few w ..... āā 3 j.
posterior urethritis, complic ..... ʒ j.
[illegible] is difficult.

—HARE.

Cholera Morbus.—

℞. Acid. sulph. aromat.,
Ex. hæmatoxylon.....āā f ʒ ij.
Spt. chloroform..... f ʒ ss.
Syr. zingiberis ....q. s. ad. f ʒ iij.
M. Sig.: Teaspoonful every two hours.

—HARE.

Acne.—Use superfatted menthol-eucalyptol soap when skin is inflamed.—MACKENZIE.

Neuralgia of Dental Origin.—Give five drops of the tincture of gelsemium three times a day, and increase to ten drops three times a day, till the patient sees double, and then stop the administration of the drug.—DA COSTA.

Stomatitis.—In the herpetic form use:

℞. Distilled water,
Glycerin.....āā f ʒ iiss.
Iodine,
Iodide of potassium.....āā gr. vj.
M. Sig.: Apply to lesions.

—MARFAN.

For Eczema of the Face.—Carefully remove all the crusts. Avoid water. Keep the following ointment constantly applied to the lesions by means of a soft linen mask.

℞. Ung. Picis..... 3 i.
Ung. Diach..... 3 ij.
Ung. Zinci ox..... 3 ij.
Mix. Sig.: For external use.

Treatment of Cardiac Disease.—In strychnine we have an ideal cardiac stimulant, which not only acts upon the circulation, but as well upon respiration, digestion, and assimilation. It is especially indicated in the weak heart of pneumonia and febrile processes, given hypodermatically in $\frac{1}{30}$ to $\frac{1}{10}$ grain doses, repeated until some sign of the drug is manifested. It is also useful to relieve the alarming symptoms which occur in surgical anæsthesia, in the cardiac weakness often associated with neurasthenia, and in that due to depressed nerve-force. Strophanthus is of great value as a cardiac sedative in that form of tachycardia so common in exophthalmic goitre. These two drugs will retain their supremacy because of their influence over the vital centres in the medulla, to which the various systems of the body look for support and encouragement.—KRAUSS.

Hepatic and Nephritic Colic.—

℞. Valerianate of amyl,
Sulphuric ether.....āā gtt. iij.
M. For one capsule. Let twenty such capsules be made.
Sig.: Two capsules every half hour until six have been taken.

—*La Medecine Moderne.*

Asthma.—

℞. Ammon. iodidi..... 3 ij.
Ext. grindelia rob..... .... f ʒ ss.
Tr. lobeliæ,
Tr. belladonnæ,
Syrup pruni virg .... .āā 3 j.
Aq. dest.
M. Sig.: Teaspoonful three times a day.

Leucocytes in Diphtheria.—1. The leucocytosis of diphtheria is materially different from that of the other infectious diseases which have been investigated in that particular. 2. Hyper-leucocytosis is in diphtheria a distinctly unfavorable sign, and, consequently, valuable indications as to the progress of a case and the efficiency of any particular plan of treatment may often be gained from examination of the blood. 3. The diphtheria bacilli which find their way into the body are destroyed by the phagocytic action of the leucocytes. 4. The majority of the diphtheria bacilli concerned in the production of the lesion of diphtheria are cast off in the false membrane; only a very small number are disposed of by phagocytosis. 5. The action of the poison of diphtheria in inducing necrosis of cells tends to lessen the power of the leucocytes to act as phagocytes. 6. The action of antitoxic serum is to make all the cells of the body more resistant to the destructive action of the diphtheritic poison.—GABRITSCHEWSKY.

Asthma.—At the moment of the attack, spray rapidly the back of the patient with chloride of methyl, from above downward and from below upward. The attack will cease in a few moments; if not, spray lightly the upper part of the chest. If the skin be delicate, as in women, cover the parts with a bit of fine gauze and make the strength of the spray proportionate to the strength of the patient and the violence of the attack. —TSAKIRIS.

Chronic Constipation.—

℞. Strych. sulph..... gr. i.
Ext. bellad..... gr. v.
Pulv. ipecac.... ..... gr. x.
Ext. calocynth co..... gr. xv.
Pulv. rhei..... gr. xv.
M. div. in capsulæ No. XXX.
Sig.: Take one after meals.

Recovery from a Large Dose of Cocaine.—A man had swallowed eight or nine grains of cocaine. His symptoms were constriction of the throat and region of the heart, great difficulty in swallowing and mental dulness. The pupil light-reflex was absent and the pupils were dilated. His appearance was that of one partly under the influence of alcohol, but the movements resembled those of a bad case of chorea; they were slower, however, and more regular. The body was alternately rotated from side to side and bent at the same time, while the arms and legs were not still for a mo-

ment. The patient appeared to be constantly masticating, but could not swallow. There was some lividity of the lips. Amyl nitrite was administered with immediate benefit. All of the symptoms disappeared in about five or six hours.—WALKER.

Chronic Diarrhœa and Dysentery.—

℞. Cupri sulphat.,
Morphiæ sulphat..... ää gr. i.
Quiniæ sulphat..... gr. xxiv.
M. ft. pil. No. XII.
Sig.: One pill three times a day.

Squibb's Cholera Mixture.—

℞. Tinct. opii,
Tinct. capsici,
Spts. camphoræ..... ää fl. ℥ i.
Chloroformi..... fl. ℥ iii.
Alcoholis.....q. s. ad fl. ℥ v.
M. Dose.—Twenty to forty minims.

Flatulent Colic.—

℞. Tinct. nucis vomicæ..... ℥ i.
Acidi nitro muriatici dil..... ℥ ii.
Spiritus chloroformi..... ℥ i.
Infus. gentianæ.....ad ℥ vi.
Dose.—Tablespoonful three times daily after meals.

Pertussis.—

℞. Spts. chloroform..... ℥ ss.
Ammon. bromidi..... ℥ j.
Syr. simplicis..... q. s. ft. ℥ ii.
M. Sig.: Teaspoonful every two, three, or four hours.
—STIDHAM.

Tic Douloureux.—Treatment consists in making subcutaneous injections of the following solution into the affected side of the face: Distilled water, 10 grammes (2½ fluidrachms); antipyrin, 4 grammes (1 drachm); hydrochlorate of cocaine, 0.03 gramme (½ grain). The face sometimes became much swollen, but soon resumed its normal appearance.—GRANDCLÉMENT.

Diarrhœa in Infants.—For diarrhœa in infants from one to two years of age, the following is useful:—

℞. Acid. carbolici..... gr. ij.
Bismuth subnit..... ℥ j.
Syrup acaciæ..... ℥ ss.
Aq. menth. pip.....ad ℥ ij.
℥. ft. mist.: A half teaspoonful every two to four hours.

Not to be Given During Pregnancy.—The chief remedies which are dangerous to the pregnant woman are salicylate of soda and ergot. Purgatives—castor oil, mineral salts, and especially aloes—should be avoided. Quinine in too large doses must also be omitted; when given at all it should be guarded by combination with opium.—HUGENIN.

Centenarians in France.—A census of centenarians recently taken in France gives 213 persons of one hundred years or over, 147 of them women and 66 men. The oldest was a woman who had just died at one hundred and fifty, in a village of the department of Haute Garonne. Nearly all the centenarians belonged to the lowest ranks in life.

Hospitals for Tuberculosis.—At the recent meeting of the American Climatological Association it was noted that, "Since tuberculosis has been demonstrated to be a communicable disease, it has become doubly desirable that hospitals for the reception of the poor afflicted with the disease should be established," and the Association resolved to "recommend the establishment of such hospitals in every State, not only for the relief of the great suffering attending this disease among the poor, but also as a protection of the community against its spread."

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

EASTBOURNE POSTPONES HER INVITATION—THE ANNUAL EXODUS—DR. SAMBON'S COLLECTION OF MEDICAL ANTIQUITIES—MR. VICTOR HORSLEY'S QUESTION AT THE MEDICAL ASSOCIATION—OFFICIAL ANSWER—SALVATION SHELTERS—SMALL-POX—VACCINATION ACTS.

LONDON, August 24, 1895.

IT seems that the British Medical Association is not to visit Eastbourne next year after all. The reason reported is that the local profession is hardly prepared to support the proposal of the mayor, but will probably be desirous of doing so two or three years hence. This may be a disappointment to some of our northern friends, but Londoners are mostly acquainted with the attractions of Eastbourne. I confess to a little surprise that the local doctors should not have been eager to seize the opportunity of what is, after all, a capital advertisement of their pleasant health-resort. Perhaps they are deterred by the expenses that have been incurred in the London visit, for unfortunately the excursions on this occasion have been costly, no doubt, because the metropolis has plenty of attractions within itself, and provincial visitors did not care to take country trips. Some other town will, no doubt, after a while offer an invitation.

Those of us who are left in town feel a relief that the meeting is over, not but what it has been a great pleasure to have our houses filled with our country friends, but the hospitality involves an amount of fatigue and anxiety to make our guests happy, after which a rest is grateful. The usual exodus has taken place and London is said to be empty, but there are plenty of doctors for all the requirements of the public, although so many are taking their holidays. Every one of the staff of reporters who worked so assiduously for the MEDICAL RECORD at the meeting disappeared immediately afterward, and some of them copied their reports in the country.

Among the most interesting events of the meeting was the exhibition of medical antiquities collected by Dr. Sambon, of Rome, which the members were invited to inspect by Messrs. Oppenheimer, who certainly deserved thanks for so instructive and interesting an exhibition. Dr. Sambon's collection includes a great number of ancient instruments such as probes, directors, tenacula, lancets, clamps, specula of various kinds, and other instruments, most of them in bronze, and artistically ornamented and finished in a manner worthy of a modern instrument maker. Then there were a number of donaria in terra-cotta—such as were presented to the gods and preserved in the temples in commemoration of cures. Everyone with a taste for antiquities must appreciate such a collection.

A good deal of amusement has been excited by Mr. Victor Horsley's attempt to obtain from the Council a simple answer, yes or no, to the question: whether that body or, as some say, "the ruling clique," will carry out the directions of the general meetings? The official answer given him was "that the Council had always acted on the principle that resolutions of the annual meeting were an instruction to carry out the policy indicated, unless in contravention of the memorandum of association." I am surprised that any gentleman should undertake to make such an assertion, considering the many times such resolutions have been treated with contempt; for example, when the Brighton meeting expressed a determination to take no part in the election of a representative on the General Medical Council, the clique adjourned to an hotel and resolved to support one of themselves as a candidate, and used

all the power of the Association to carry their determination. Again, notwithstanding the condemnation of the Notification Acts at the Worcester meeting, they have ever since been supported by the *Journal*. We shall see whether the *Journal* will now cease to push the registration of midwives, now that the last meeting has distinctly condemned that policy. It is unfortunately too true that the Association is no more than a limited liability company for publishing a cheap journal, and that at enormous cost, to the great advantage no doubt of its well-paid editor, whose travels in various lands may stimulate the formation of new branches, but can scarcely be remunerative to the Association or promote the interests of the British members. Great hopes were entertained that when ten thousand members had been attained, reforms would be supported and legislators would listen. Now that so much larger proportions have been attained the profession still speaks in vain. Can it be that an ex-minister was right when some years ago he remarked, "that if doctors wished their wishes attended to they should choose a different representative to express them?"

The medical officer of health for St. George's, Southwark, has summoned the officer in charge of the Blackfriars Shelter of the Salvation Army, for creating a nuisance injurious to the public health. This is the shelter which proved the focus for small-pox, and now it appears that on inspection more than double the number of persons were admitted than ought to occupy the space at command. It is high time the Salvation Army and other so-called philanthropic bodies should be called to account for their neglect of sanitation and the danger they ignore of disseminating infectious diseases. Why should not a man who communicates disease to his neighbor be held liable in damages? Employers have to pay their workmen for accidents which might have been prevented, and a disease is often worse than an accident. Small-pox continues to spread in the East End. This is the result of the neglect of vaccination, which has been deliberately evaded with the connivance of boards of guardians. It is suggested that the administration of the Acts should no longer be entrusted to these Boards, but to a central authority, say—the Local Government Board.

RELIGION, DISTURBED INDUSTRY, AND SUICIDE.

To the Editor of the Medical Record.

Sir: In the admirable compilation on "Suicide in the United States," which appeared in the Medical Record of August 17th, I think Dr. Weir has overlooked two prime factors controlling the proportion of suicides among different peoples, and at different places, namely, religion and disturbed industrial conditions. The first factor is negative or prohibitive in operation. It receives not the remotest reference in the article named. The second might be inferred, by the student of economics, from the author's reference to "condensation of population," which, of course, involves keener struggle for existence leading to the despair of the weaker and unfortunate. That the latter is a force paramount in the production of the increased suicide-rate of recent years, is abundantly demonstrated by the author's own figures and, taken in connection with the influence of the Church of Rome and churches of similar tenets regarding suicide, sufficiently explains certain variations of the suicide-rate without the necessity of any abstruse theory of inherent national psychoses, or at least gives a tangible foundation for a working theory.

First, taking into account the prohibitive character of the Roman Catholic teachings, we find that they explain the comparatively smaller proportion of suicides among the Celts and Celto-Latin peoples, as compared with others. One of the fundamental teachings of the Roman Catholic Church, which is the dominant church among these peoples, is that self-destruction is a grievous offence against heaven. This idea of suicide constituting a crime against the Creator is energetically instilled into, and constantly kept before, the minds of the Church's devotees from the cradle up. This prohibitive factor does not obtain in the case of the Germanic peoples, a race of independents in religion, each individual of which is making a race for his own salvation unhindered by the restrictive mandates of a strong body of ecclesiastics, who, to a great extent, would otherwise control his destiny as the acknowledged mouth-pieces of Almighty God. True, the Protestant tenets are adverse likewise to suicide, but in general religious observances among the Protestants are not as strictly enforced as among the Roman Catholics. That the belief in the restrictive and prohibitive character of implicit religious conviction is well founded, is also shown by application of the principle to the Slavic races. The latter are dominated by the Greek Church, whose tenets regarding suicide are of the same strongly interdicting character as the Roman Catholic Church. In fact the proof is the stronger, for the proportional ratio of Slav to Germanic suicides is 3 to 1, while, as between the Celts and Celto-Latins and the Germanics, the ratio is but 2½ to 1 (in approximate figures). The more abject and unquestioning observance of religious injunctions among the Slavs accounts for this difference. The same observation holds good as between the Celts and Celto-Latins, suicides among the latter occurring with about twice the frequency (65 to 32 being the ratio) as among the former. The more materialistic tincturing of beliefs and consequent looser religious observances among the Celto-Latins, gives the coincidence of more frequent suicides. Enumeration of Dr. Weir's figures for the United States, Latin America, and Australia is but another proof of the prohibitive influence of rigorous religious training. In the tolerant, free-thinking United States, tempered by a generous mixture of Roman Catholicism, the suicide-rate is 55 to the million of inhabitants. In Rome-dominated Latin America, including Mexico, Central and South America, the rate sinks to 38, while in Protestant Australia the rate jumps to 65. Regarding Mexico I can speak from personal observation, and from talks with native physicians who have given this subject time and attention. The unity of observation here is that suicide among confessing or orthodox Catholic is exceedingly rare, and that the rate for Mexico is swelled from backsliders in the church and from the colonies of foreigners without the influence of the dominant church.

So much for the prohibitive character of religious teachings. There is no doubt that firm religious convictions are a vast sustaining power to those tempted to self-destruction, and as such deserve due attention and study.

As for the factor of disturbed industrial conditions, I introduce them to stem the tide of Dr. Weir's seeming pessimism. He apparently concludes that the ratio of death by suicide is yearly increasing, with a prospect of continuing so unqualifiedly. Verily such might easily be the conclusion from a cursory examination of the author's figures, without giving contemporary history causative credit. Taking the Chicago figures in hand, as supplied by Dr. Louis J. Mitchel, coroner's physician of Cook County, Ill., the ratio from 1890 to 1894, inclusive, does show an annual increase in the suicide-rate, with an excessive rate in 1893. This latter year was the Columbian Fair year, when the floating population of the city was vastly increased, and it is probable that a proper estimate was not made of this absolute increase in population. Besides this, it must be remembered that the stress of hard times, which during this period gradually grew greater and greater, drove many people to self-destruc-

tion from the pressure of absolute want. It was a period of suspension of industry, strikes, lockouts, and labor insurrections, when the condition of the mass of the people was productive of the causes of suicide. I have examined a *résumé* of incentives to suicide, as shown by the coroner's inquests in Cook County for this period, and it shows a progressive increase among suicides due to poverty and want.

Dr. Weir's figures regarding the suicide-rate per million in the State of Massachusetts curiously bear me out here. Massachusetts is a manufacturing State, and during the prosperous years 1889, 1890, and 1891, when its factories were in full blast under the protective tariff stimulus, the rate sank from 91 to 81 per million. With 1892 came the suspension of factory work in Massachusetts, and with this suspension want and suffering among the people, and a consequent suicide-rate of 115, which under a continuance of industrial paralysis rose in 1893 to 119. What I hold is, that in view of disturbed industrial conditions, Dr. Weir's conclusions that an absolute and continuous increase in the suicide-rate is to be expected, are insufficiently borne out by the facts. They prove nothing more than that, with conditions favoring the development of want and misery among the people and thus fostering the incentives to suicide, proportionately more people, acting under the increased pressure, will succumb to the temptation of self-destruction. The conclusions regarding the world's suicide-rate in general are open to the same criticism, because his comparisons are all drawn between past years of comparative prosperity and the rate for the year 1893, when industrial stagnation and distress were general; the period of financial, labor, and trade upheavals when, I repeat, the incentives to suicide were vastly greater than at most any other period of recent history.

Respectfully,

C. L. BENNETT, M.D.,

Surgeon to La Gran Fundicion Central Mexicana.

AGUAS CALIENTES, MEXICO, August 26, 1895.

THE ETHICS OF CRANIOTOMY.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: It is possible that you are becoming wearied with the subject, but the last letter by Dr. Kearney has placed the discussion of craniotomy on a broader basis than it had heretofore had. The conclusion, however, is so very lame and unsatisfactory, that I cannot forbear asking leave to present one view of the question that has not yet been mentioned. I suppose Dr. Galloway well able to fight his own battles, and I wish to refer only to the last paragraph of Dr. Kearney's article in the MEDICAL RECORD of August 31, 1895:

"Thus I affirm, it is plainly seen that there is no system of moral science whose teachings can be appealed to in support of Dr. Galloway's contentions. There is nothing, then, for him to do but either to accept the behests of the moral law as we now understand them or to found a new school. To do this latter, however, he must discover some principle or principles of ethics that have hitherto eluded the profound thinkers of the past, for most surely the principles he advances, if pushed to their legitimate logical consequences, will lead to moral chaos."

Procuring the death of the fœtus to save the life of the mother is, I am sure, to be defended on ethical grounds. The principles of ethics applicable to the case have already been enunciated and are now generally received by thinking men. The only difficulty is that these principles have not been yet distinctly enough applied to the case in hand.

We may safely assume, I believe, that the theory of evolution is the best working hypothesis in every branch of natural science. We are learning, through Herbert Spencer and all late writers on ethics and politics, that the same principle will best explain the facts. History is being rewritten from an evolutionary standpoint. Under the teaching of the school of Lombroso, even the criminal code is changing to harmonize with the same great principle.

The theory of gradual development, Darwinism, for a popular name, has proved to be the most far-reaching, stimulating, and helpful principle ever enunciated. Now that we have had the last word on the subject of craniotomy from the church, and from precedent in jurisprudence with their conflicting decisions, and a reduction to a "moral chaos," why not ask what the principle of development, which has helped us out of so many quagmires, will do for us.

Let us admit two propositions—that man has developed from the lower forms of animal life, and that the development of the individual corresponds to the development of the race up to that point. If these principles are denied, I have not the space or ability to go through the voluminous proof that seems to me convincing.

If these are admitted, it seems to me it must necessarily follow that, while the human embryo is from the first alive, it is not a human being until it has developed and differentiated to such a point as corresponds to that point at the birth of the race where the animal became a man. I am sure I do not know just when that occurred in the past, and I do not know at what point it takes place in the individual. I am sure, however, it is a good ways this side the act of copulation, that it is this side the fourth week when it is impossible to distinguish the human fœtus from that of a cat. In inquiring for that distinctive feature which distinguishes the man from the animal, I find none but mentality. If we wait for distinctive mentality to appear in the development of the individual, it would be some time after birth.

I am well aware that the idea arouses antagonism and inflammatory denunciation in some minds. That it will prove to be the true one, however, depends only on the truth of the general theory of development. That it is already held by some is shown by this sentence from a recent article by Lombroso (*The Forum*, September, 1895, p. 42). The original referred to I have not yet been able to obtain. "Balestrini made a wonderful study of infanticide and abortion, and demonstrated that in the case of abortion, especially, what is killed is not a man, but a being inferior in the zoölogical world."

F. W. HIGGINS, M.D.

CORTLAND, N. Y.

Silly Old Folks.—One of the daily papers recently published an account of a boat-race rowed at Deal, England, between four four-oared crews of boatmen over sixty years of age. The winning oarsmen averaged seventy years, while their coxswain was eighty-five. At the same time appeared an item concerning two women in Maine, one sixty-nine and the other eighty years of age, who held the championship of their town for rope-skipping. It is a pity these hale old people have not as much wisdom as they have physical strength, to prevent them from abusing the latter.

The Term "Uricacidemia" recently was stigmatized in these columns as a fearful mongrel never employed by educated writers. This assertion, however, is not altogether true, it seems. For in a late number of the *British Medical Journal* the eminent Dr. Haig employs, unreservedly, this wonderful combination of two English words and a Greek suffix. Hereafter no one will be surprised to see crop up in medical literature such vocabulary beauties as whitebloodcorpuscleemia, grapesugaruria, eggwhiteuria, gallstoniasis, stomachguttitis, etc. Verily, the English language has lost nothing of the flexibility and adaptability of vigorous youth.—*Western Druggist.*

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending September 7, 1895.

	Cases.	Deaths
Tuberculosis	95	98
Typhoid fever	31	8
Scarlet fever	21	4
Cerebro-spinal meningitis	2	5
Measles	68	5
Diphtheria	137	26

The Ear in the Exanthemata.—Among the preventable diseases, which have so often been allowed to gain ground through neglect at their first onset, may be counted otitis media suppurativa following the exanthemata. The aural surgeon meets such cases every day, and more often than not they have been neglected by parents because they believed in the absurd and ignorant fallacy, that the patient "would grow out of it." Now, thanks to the improvement in the education of the general public, we may hope that these cases will become less in number, and that some of the more alarming complications of exanthematous otitis media may be met with less often. Quoting recent statistics, it may be said that out of 501 cases of middle-ear disease in children, 131 originated during an attack of measles, 63 during scarlet fever, 147 owed their origin to catarrh, and 101 to teething; so that it will be seen that some two-fifths arise in measles and scarlet fever. Now, without going deeply into symptomatology, it is only necessary to point out how these diseases give rise to pharyngeal troubles, causing blocking of the Eustachian tubes, and the accumulation of secretion in the tympanum. Since the Eustachian tubes drain better in the upright than the recumbent position, the child suffering from measles or scarlet fever is placed at a further disadvantage, as pointed out by Walker Downie, who consequently insists upon the frequent and strong use of the pocket-handkerchief to keep the nose and naso pharynx free from the very beginning of the illness, when there are catarrhal symptoms. If the child is too young, politzerization can always take the place of the handkerchief. The pent-up secretion in the tympanum gives rise to considerable pain, and if this be not relieved by the means just mentioned, the risks of future otorrhœa can be best avoided by paracentesis of the membrana tympani. If done at the lower and posterior part of the membrane, with a shouldered myringotome under proper focal illumination, the child's head being securely held, this little operation is perfectly safe and simple, and the wound readily heals. If the patient be the subject of adenoids, these must be left until recovery from the exanthem. It cannot be too deeply and strongly impressed upon the public that it is during the primary febrile disease that the ear requires care, and that a discharge from that organ during measles, scarlet fever, or small-pox, means culpable neglect and carelessness. Inquiries as to the ear should be made at every visit, and an occasional examination with a speculum insisted upon. Further, when earache is complained of, it is by the simple and scientific methods mentioned above that relief must be afforded, and the ear (perhaps also the life) saved, and not by the palliative means of blisters or leeches.—*The Medical Times.*

The Royal College of Physicians.—In the tenth year of the reign of Henry VIII., on September 23, 1518, "John Chambre, Thomas Linacre, Ferdinand de Victoria, Medicorum Nostrorum, Nicholas Holsack, John Francis, Robert Yaxley" were granted letters patent giving them the privilege of admitting men to practise medicine in London and seven miles around. This was the original foundation of the present Royal College of Physicians of London. The first letters patent having apparently been inadequate for the purposes intended, in the fourteenth year of Henry VIII. a statute was passed enacting that no person save a graduate of Oxford or Cambridge should practise in England, unless he had a license from the President of the College of Physicians aforesaid, and from three of the "Elects," who were chosen from among the Fellows.

Medical Students in Italy.—There were 19,048 medical students registered in Italy in 1894–95. The number of universities is twenty-one, and the number of students registered at the various universities varies from 3,697 at Naples to 87 at Milan. The percentage of medical students to the population is about 61 per 100,000 inhabitants. In France it is 57 per 100,000, and in Germany 63 per 100,000. In Italy, university education is chiefly supported by the State, the students paying only a yearly tax of 200 or 300 francs. According to the latest statistics, after subtracting the tax paid by the students, each student costs annually to the State a sum which varies from a minimum of 215 francs at the University of Naples to a maximum of 1,408 francs at the University of Siena. It appears from the returns that the larger the number of students at a university, the smaller the annual expenses for their education.

Acne Rosacea.—Freeze the part with a rhigolene spray or ethyl chloride, and freely scarify with a five-bladed knife. This treatment gives prompt relief.—CANTRELL.

NEW BOOKS RECEIVED.

While the MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

EXERCISE AND FOOD FOR PULMONARY INVALIDS. By Dr. Charles Denison. 12mo, 71 pages. Illustrated. Price 35 cents. Published by The Chain & Hardy Co., Denver, Col.

THE DISEASES OF THE LIVER: JAUNDICE GALL-STONES, ENLARGEMENT, TUMORS, AND CANCER: AND THEIR TREATMENT. By J. Compton Burnett, M.D. 12mo, 244 pages. Illustrated. Price, $1.00. Published by Boericke & Taffel, Philadelphia.

INDURATIVE MEDIASTINO-PERICARDITIS. By Thomas Harris, M.D. 8vo, 67 pages. Illustrated. Published by Smith, Elder & Co., London.

TRANSACTIONS OF THE MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA, HELD AT CHAMBERSBURG. FORTY-FIFTH ANNUAL SESSION. 1895. Vol. 26. 8vo, 504 pages. Published by the Society. The Edwards and Docker Co., Philadelphia, Pa., Printers.

PRACTICAL DIETETICS. WITH SPECIAL REFERENCE TO DIET IN DISEASE. By W. Gilman Thompson, M.D. 8vo, 801 pages. Illustrated. Published by D. Appleton & Co., New York City.

THE THEORY AND PRACTICE OF COUNTER IRRITATION. By H. Cameron Gillies, M.D. 8vo, 236 pages. Price, 6d. Publishers, Macmillan & Co., New York City.

TRANSACTIONS OF THE MEDICAL SOCIETY OF THE STATE OF CALIFORNIA. SESSION OF 1895. 8vo, 452 pages. W. A. Woodward & Co., Printers, San Francisco, Cal.

MODERN MEDICINE AND HOMŒOPATHY. TWO ADDRESSES BY JOHN B. ROBERTS, M.D. 16mo, 69 pages. Price, 75 cents. Published by The Edwards & Docker Co., Philadelphia, Pa.

THE POCKET MATERIA MEDICA AND THERAPEUTICS. By C. Henri Leonard. Second Edition. Revised and Enlarged. 16mo, 387 pages. Price, $1.00. Published by the Illustrated Medical Journal Co., Detroit, Mich.

LE PHTHISIQUE, ET SON TRAITEMENT HYGIÈNIQUE. Par le Dr. E.-P. Léon-Petit. 16mo, 303 pages. Illustrated. Prices at 4fr. and 3fr. Published by Ancienne Librairie Germer, Baillière et Cie, Félix Alcan, Editeur, Paris, France.

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Original Articles.

PREVENTION OF UTERINE DISEASE DUE TO CHILD-BEARING.[1]

BY W. GILL WYLIE, M.D.,

NEW YORK CITY.

MOST of my work as a physician and surgeon has been devoted to effecting cures of diseases as we find them in women after child-bearing, but the first ten years of my practice was that of a general practitioner, and I still take a limited but sufficient number of selected cases of obstetrics, to make the matter one of great interest and more or less of a study. During the past fifteen years, which I have devoted mainly to the development and improvement of the art of gynecological surgery, there has been a great advance in this work, so much so that in our annual meetings papers on any other subject than surgical gynecology are rare. Besides, it seems to me that we have reached the point where we should at least attempt to divert some of the immense interest and almost general devotion manifested not only by men especially trained in gynecology, but by the profession at large, to what may well be termed fashionable surgical gynecology, to that higher plane of our work as physicians, namely, to the prevention of disease. To-day, as physicians and artists in surgery, we can readily relieve, and in almost all cases cure, the special diseases of women promptly and accurately with very little risk to life, and we can well afford to turn our attention and direct our efforts to the prevention of such diseases. Fifteen years ago many important diseases of women were improperly treated, and the practice of the art of gynecological surgery was of very doubtful practical value to our patients; but to-day there are hundreds of accomplished artists in our ranks who can and do effect cures of these diseases, and there are many thousands more of the profession who, if they keep up the interest and their readiness to operate, should become expert or kill many women. How much better it would be if we could succeed in getting up an almost universal interest, and one might say fashion, in our profession to prevent many, yes, most, of these cases? How much greater and more real our help toward the health and happiness of womankind would be?

Suppose one had the power to direct the immense amount of energy, interest, and work now so intensely and enthusiastically devoted by not only all specialists in gynecology, but one might say nearly all of the profession who think themselves capable and are so willing and anxious to sew up lacerations, remove ovaries, and do hysterectomies, etc., to the prevention of diseases of women, what an amount of good to mankind and especially to women would result? The work might not be so exciting, nor so brilliant, nor immediate in tangible results, but much greater in the highest sense of the word. We will endeavor to enumerate some of the plain and practical fields of work in which much of this great force might be made really useful.

As physicians we can do much by urging on parents to keep girls in good health, especially during the time that the generative organs are undergoing rapid development, say from ten to seventeen years of age. The generative organs are not essential to the life of the individual and are the last of the organs to develop; therefore they are the first to suffer if the forces essential to full development are used up too closely by excessive work, deficient food, or want of fresh air and exercise, especially if the work or the life uses up or expends this force in mental or emotional excesses. In fact, it seems absolutely essential to the full development of the generative organs of a woman for her to have a surplus of force over and above what is needed for the uses and development of the other organs of the woman.

Imperfect development of the generative organs results usually in a small flexed uterus, with catarrhal erosions and chronic endometritis, causing leucorrhœa, dysmenorrhœa, and, later, in sterility or lacerations of the cervix, subinvolutions, displacements, etc.

It is the duty of physicians to impress upon newly married women the necessity of keeping in good general health during pregnancy. By keeping the bowels regular and taking some special food such as would be easily digested, and other means to keep the general health good, both the mother and child can be made to reach the full term in good physical condition.

By actual experience I have proved that by careful feeding and attention to the general health during pregnancy, and induction of premature labor when indicated, it is practical to avoid craniotomy or Cæsarean operation in most cases of deformity, and even where the uterus is imperfectly developed, or the os eroded by disease of the follicles and glands of the mucous membrane, by inducing labor from one to three weeks before full term we can not only avoid difficult labor and laceration of the imperfectly developed or diseased cervix uteri, but the forceps become, except in rare instances, unnecessary. If the pelvis is below the average size, or if there is any deformity; if the husband's head is excessively large and the woman small; or if there is imperfect development or chronic disease of the cervix, I do not hesitate to induce labor before full term, especially in primipara. If the first labor is after the woman is thirty years old or more, it is best to induce labor a week or ten days before full term. About the end of the seventh month or before the end of the eighth month I invariably examine, to determine the condition of the parts and the position of the head. As a rule one can easily perform external version if he finds the head not presenting in a normal position.

I do not advise induction of labor without a good reason, but I know that it can be done by an expert who understands and practices cleanliness and the use of antiseptics with practically no more danger to either child or mother than labor at full term. Not only is the labor when properly induced shorter and easier on account of the relatively smaller child and softer and therefore more malleable head, but as the time of labor is positively known, everything is in readiness, and both the nurse and doctor are present without fail, and cleanliness is carried out with more accuracy, and accidents from hemorrhage, etc., more certainly avoided. The method of inducing labor which I have found to be practically the best in my hands is an old one. Observing all rules of cleanliness, I use the tincture of

[1] Read at Baltimore, May 29, 1895, before the American Gynecological Society.

green soap to wash not only the patient, but the hands of nurse and doctor, supplemented by a solution of hydrarg. bichloride 1 to 3,000. If the vagina is small, or if the induction is more than a week before full term, I move the patient's bowels well, and by the use of a clean and new rubber colporteur I distend and soften the vagina for several hours or a day before inducing labor. I then take an old-fashioned gum catheter, a new one, wash and disinfect it, partly fill it with iodoform, and start the introduction with a properly curved stylet so as to be able to pass the catheter up anteriorly to the presenting head. After giving it a fair start the stylet is withdrawn and the catheter carefully passed up till it is all well up in the uterus, lying between the membranes and the anterior wall of the uterus, with from one to three inches of the lower end in the vagina. The catheter is introduced at bedtime, and usually two ounces of castor-oil is given by mouth. One must, if possible, avoid rupturing the membranes when introducing the catheter. With rare exception labor pains will begin the next morning, and when labor is fairly started the catheter is withdrawn. I have tried the glycerine injections and other methods, but prefer the one given above. Glycerine injected in the pregnant uterus, when it remains will induce labor, but it often causes alarming pain in the head and intense oppressive sensations about the chest; besides, the labor is induced too rapidly and the tissue may not have had time to soften and properly dilate.

Prevention of sepsis after labor or abortions is now so well understood that it is only necessary to urge the simple but efficient means used in almost all of our lying-in hospitals and used in private practice by many of the profession. In 1870, twenty-five years ago, when I began practice as an intern in Bellevue Hospital, the death-rate in the lying-in wards from puerperal fever was every year from five to twenty-five per cent. of all women delivered. To-day many hundreds of consecutive cases are delivered in our best lying-in hospitals without a death from sepsis. In the spring of 1872, when it was my turn to take charge of the lying-in wards then in Bellevue Hospital, I had become a convert to the germ theory of disease and had been fully imbued with a faith in antiseptics by my old preceptor, the late Dr. James R. Wood. By throwing away all sponges and old oil-cloths, and personally attending each case in all its details of cleanliness, and treating each case with all the care that I would bestow upon a wound, I delivered all of my forty-one cases without a death from sepsis. In July, 1872, I had the advantage of seeing the great Lister at work in Edinburgh, and brought home with me to New York his methods and appliances for treating and dressing wounds, making practical application of his teaching from that day to this on all women that I have ever attended, after either a labor or abortion. So far I have never yet had a death from any cause, after either labor or abortion, which I have attended, and only one had sepsis which endangered the life of the patient. To day I find that there are many of my colleagues in the profession under forty-five who have had for many consecutive years the same good fortune.[1] Thirteen years ago, in a paper read before the New York County Medical Society and published in the MEDICAL RECORD, I gave an account of my method of preventing and treating sepsis after labor and abortions. To-day I use the same methods somewhat simplified. I will now briefly relate the means I now carry out in every case.

Prevention of Sepsis after Labor or Abortion.—Before agreeing to take a case it must be stipulated that I am to have full charge of the case in every sense of the word. The nurse must be one of my own training, or at least selected by me. Before labor is expected the nurse must be in the house with all medicines, instruments, etc., likely to be needed, on hand. The room to be used is cleared of all stuffy furniture and hangings and given a thorough cleaning; a sheet or two is tacked over the carpet where the new cheap and strong cot which is to be used to deliver on is placed; all towels, bedclothing and linen is to be especially laundered, so as to be practically sterilized, and kept in readiness. On or before the first indications of labor beginning the patient is given a complete bath if there is time, or, at any rate, the vulva and vagina are well scrubbed and washed with tincture of green in place of ordinary soap, and the parts washed off with 1 to 3,000 solution of hydrarg. bichloride. The nurse must have on a clean wash dress, and I put on a surgical gown; my hands and the nurse's are always washed with tincture of green soap and dipped in a solution of bichloride each time before examining the patient. During and after labor a solution of bichloride, 1 to 3,000 or 4,000, is used to wash off the vulva. If there is time the bowels are well moved by castor-oil, and always the rectum emptied by enemata; all instruments used have been sterilized by boiling, and put in a solution of 1 to 40 carbolic acid before being used. Any hemorrhage is checked by emptying the uterus of placenta or clots, and, if necessary, by ligation of the circular artery when the cervix is torn or by sewing up the perineum when torn. Any tearing of consequence to the perineum is sewed up. After labor, except in cases complicated by severe hemorrhage or lacerations requiring sewing, the patient is made to sit up to pass water or have the bowels move. For a full week the antiseptic napkins or absorbent pads are kept over the vulva and changed every few hours as required by the discharge, and after each time the bowels move or the patient passes water the vulva is washed off by means of a David syringe and solution of 1 to 3,000 of bichloride of mercury. This is kept up faithfully for seven days after labor. On the sixth or seventh day the patient sits up out of bed. On the tenth day the patient is carefully examined as to the condition of the parts, the character of discharge, and position and condition of the uterus, and to decide if any local treatment is needed to insure normal involution and prevention of subinvolution of the uterus, relaxation of the ligaments, and displacements of the uterus. No vaginal douches are given after labor unless instruments have been used to deliver, or hands have been introduced into the uterus, or there is a rise of temperature or an odor to the discharge.

I will not discuss the questions as to the methods of delivering the child in abnormal labor, for the art of delivering the child and membranes is well understood and better taught by those who have devoted more time to, and have had much more experience in, the art of obstetrics.

Treatment of Acute Sepsis Occurring after Labor and Abortions to Prevent its Extension or from Causing Permanent Injury.—In the paper already referred to I gave fully my views and methods on the local treatment of sepsis after labor and abortions, and would be content here merely to state the method, but I am satisfied that what may be called the fashionable methods now being resorted to and so ably advocated by some of my colleagues has a very radical defect when applied to any but fresh and rather superficial septic uterine infection. I mean curettage and gauze-packing, as it is called. Of course in all cases where it is possible the uterus should be emptied, but there is an erroneous belief and teaching now very prevalent, namely, that sepsis is caused by retained placenta, and all that is needed to cure is to curette it out and pack the uterus with iodoform gauze. It is true that retained placental tissue and clots make a very favorable nidus and food for septic germs, and undoubtedly make sepsis more liable to increase when it is present, and lessen the chance of the normal tissues defending themselves, and

[1] I must confess that all of my cases, except in the very first few years of my practice, were among the best class of well-to-do women, able to pay for the best nursing and to compensate me for the closest attention.

thus make sepsis more dangerous, but uninfected placental tissue will not cause sepsis. Of course it should be removed, and it is very important to remove or give free drainage to all effete tissue, when once the septic germs become active, if we are to treat the case successfully; but sepsis will, as we well know, start up and kill when there is no such thing as a placenta about. My belief is that septic germs must have some effete material, or at least defective organic matter, to develop and thrive in and cause the kind of sepsis which first infects a puerperal woman; but the presence alone of such material will not cause sepsis.

Now, as to the use of gauze as a drain in ordinary cavities where the secretions or excretions are thin and watery. Loosely packed gauze drains well, but the uterus in the condition is different. It has in it many glands and follicles which secrete or excrete, especially when irritated or inflamed, a thick gummy material, which after a few hours soon chokes drainage through gauze, and what escapes passes around and in spite of, and not through, the gauze. Besides the uterus is a contractile organ with a very powerful sphincter guarding its mouth, and as soon as contractions begin this constricts the gauze and obstructs drainage. I admit that in all cases the uterus should be carefully emptied, but I prefer the combined method of the hand or fingers and forceps where this is practicable. After removing with forceps all large pieces, I very carefully run a large-sized curette over the surface to bring away small adherent pieces; but soon after labor and abortions, especially when rendered soft and patulous from sepsis, it is an easy matter to push a smallish curette entirely through the uterus, and it is not an infrequent occurrence. Again I admit that soon after the first chill and rise of temperature from puerperal sepsis in most cases, if one empties well the uterus of all clots and retained placenta, and all material favorable to the rapid development of sepsis, that one good antiseptic washing out and loose packing with gauze will check the sepsis, and in many cases effect a cure; but, where there is failure to effect a complete emptying of all, or almost all, of the effete material, or at least that part of it already infected by sepsis, curetting and the preceding method of gauze-packing will not effect a cure even when supplemented by one washing out, and when it fails and the gauze is left in over twelve or twenty-four hours it increases the danger to life by tending to keep the septic material in the uterus, and where there is a close packing with gauze it tends to force the sepsis into the sinuses, veins, or Fallopian tubes; that, in cases of sepsis which have existed for several days, the curettage and gauze-packing is much more likely to fail to effect a cure, for the sepsis has had time to penetrate deeper into the uterine tissues. Of course when the septic material has entered the peritoneum or is located in the veins or lymphatics outside of the uterus no local treatment of the uterus can effect a complete cure. We will assume that the septic material, the centre and source of the infected matter, is still within the uterus and has not yet infested the peritoneum nor the lymphatics and veins outside of the uterus. For experience teaches us that for many hours, and often two, three, and four days or more, in most cases the septic centre which causes the symptoms is still confined to the uterus. In all cases, unless we can clearly detect local sepsis within the peritoneum, the lymphatics, veins, or some tissue outside of the uterus, we must at once act on the assumption that it is still confined to the uterus until we have tested the matter by actual emptying and local treatment of the uterine cavity. Now, I believe that the method which I proposed, practised fifteen years ago, has proved by experience and direct comparison to be more reliable than the method now known as that by curettage and gauze-packing. Being called to see a case of puerperal fever, it will not do to examine, and finding a laceration of the perineum or cervix, to assume that a small, open wound, except in rare forms of septic poison, such as true diphtheria, can cause the symptoms of a severe or dangerous puerperal sepsis. After washing out the vagina and cleaning off and cauterizing with pure carbolic acid any torn or lacerated tissue a few times, unless there is rapid and continued improvement I soon begin by washing out the uterus, which will as a rule be found patulous and readily dilatable in septic cases, with a solution of 1 to 40 of Calvert's No. 1 carbolic-acid solution. Beginning cautiously and carefully, I give the whole cavity a soaking wash of two quarts or more, then with my hand, fingers, and forceps where it is practicable, I empty the uterus of all clots and effete material. If it is an old case, I first dilate the os well with steel dilators, but never with tents of any kind, and after running a large-sized curette over the surface to get off all small adherent tissues I swab out well the whole cavity with pure carbolic acid rendered soluble with a little glycerine and water and immediately follow this up by washing out the uterus with a hot solution of carbolic acid, 1 to 60, injecting a quart or more. If the uterus is large and very patulous I may use a large-sized Chamberlain's glass tube, but in all other cases, and after the first washing or two, I invariably use a large-sized No. 12 or 14 old style stiff-gum catheter. I introduce the catheter well up to the fundus, with a stylet in it. Then I fill the catheter with water after removing the stylet, and connect it with an ordinary Davidson's syringe. Beginning my injection very slowly and gradually turning the catheter about in the uterus, I pump the water with full force as soon as it begins to run out of the vagina freely. I aim to completely flood the whole cavity and use not less than from one to two quarts of 1 to 60 solution of Calvert's No. 1 carbolic acid. Immediately after the first washing out in acute or severe cases the patient will have as a rule a chill and rapid rise of temperature, which is undoubtedly due to increased abortion from the fresh wounds to the mucous membranes by the instruments used.[1]

The reason I use the catheter is that it can be readily adapted to any size or position of the uterus, which often hardens up and flexes sharply as soon as the sepsis is checked, though poison may not yet be completely eliminated and is liable to develop again and renew itself in full force. Glass tubes often fail to reach the fundus after a few washings. Double recurrent and other theoretical contrivances often fail to do more than wash out a small section of the cavity by running in at one eye and out at the other, and those fine contrivances which aim to forcibly distend the uterus or vagina before emptying the fluid are very liable to force the septic material through the Fallopian tubes into the peritoneum. It takes an expert to reach the fundus and wash out efficiently as the uterus begins to contract, for failure to wash out or kill all germs means a relapse.

To empty the uterus and wash it out is very important, but unless the first washing is followed up by another washing in about one hour after the first is finished, especially if an interval of three or more hours is allowed to intervene, the treatment will utterly fail in many cases; in fact, in almost all except in very fresh and simple cases of septic infection. In from three to eight hours the germs left have found effete material to develop on, excretions and mucus cover the surface, and almost all of the original local sepsis has been reproduced. Thus it is essential to wash every hour, until the escaping fluid is practically clear of all, especially all dark-colored, material and the temperature has fallen to or nearly normal. As the water returns clearer and clearer the temperature sinks gradually, and, as a rule, after five or six washings the temperature is near the normal mark and will remain so. If the temperature does not materially fall after five or six washings, then the fever is kept up by other sources of sep-

[1] This rapid rise of temperature has caused many a beginner to give up washing out the uterus, prejudicing him against the method.

tic infection, and we must find them and when practical must operate to get rid of the sepsis.

I have tried different antiseptic solutions in washing out the uterus and prefer 1 to 60 to 1 to 100 solution of Calvert's No. 1 carbolic acid. It is safe, does not constringe the parts, and soaks into the tissues and softens them. It is possible that the carbolic acid enters the circulation and acts favorably, but it is its local action that I rely upon. If more than six hourly washings are required to control the sepsis I use alternately a solution of boracic acid. If one will watch the urine there is no danger of carbolic-acid poisoning, for the urine becomes smoky and plainly indicates that the carbolic-acid injections should be stopped or at least lessened. In old indolent sloughing cases I use peroxide of hydrogen or iodoform, and usually insert a large hard-rubber inter-uterine drainage-tube. Bichloride of mercury cannot be used safely except in weak solution, 1 to 5,000, and not too often; besides, it constringes the tissues and interferes with free drainage and insertion of the tube.

A Simple Method to Insure Normal Involution After Labor or Abortion, and Prevent Chronic Endometritis, Relaxation of Ligaments, and Displacements.—Many years ago I discovered if boro-glyceride (not glycerite or a simple mixture of boracic acid and glycerine) was combined with pure glycerine in solution ten to twenty per cent., that we could saturate cotton pledgets with it and apply in the vagina with the best possible results, that there would be no ferment of the glycerine and secretion to cause irritation, etc., and that it would excite an immense amount of secretion from the uterine and vaginal glands when left in for twenty-four hours. I advocate the use of these pledgets twice or three times a week in the vagina in all cases where I wish to improve the pelvic circulation and thus reduce the size of the uterus and relieve the over-congested tissues in all parts of the pelvis. I have had especially good results in all cases of subinvolution after curetting and draining the uterine cavity; that it was much more rapid and certain than the prevailing plan then in use and now so much practised, of rest in bed, hot vaginal douches, etc. Besides, by making the roll of absorbent cotton firm and 1¾ to 2½ inches long and from 1 to 1¼ in diameter, that a sagging and retroverted uterus could be readily held up in a more natural and better manner than by a hard pessary. The active circulation caused by the boro-glyceride and glycerine mixture contracted the vaginal tissues so that the cotton pledgets remained in place, and this contracted and firm condition of the tissues would continue for a day or so in most cases, thus enabling the patient to go about without trouble for twenty-four to forty-eight hours after removal of the cotton and give time to cleanse away the coagulated mucus, etc., from the vagina.

For full fifteen years I have practised and taught the use of this simple treatment in all cases after abortions, especially when there was any kind of inflammation or hardening of the uterus complicating the abortion, and in all cases after labor where one desires to insure a return of the uterus to its normal size and position in the pelvis. In many cases among the well-to-do class, in our cities at least, there is a marked tendency for women to have more or less trouble after labor. The general health is not good or the uterus is not well developed, and the cervix is torn, and on account of the relaxed and bad general health or disease of the cervix, it fails to heal and subinvolution, chronic endometritis, and displacements follow.

Many years ago I also discovered that many cases of melancholia and extreme nervousness and sterility are due to chronic subinvolution or enlargement of the uterus, and that when we cured the subinvolution or the local disease or condition the melancholia in many cases would disappear as if by magic. Some of these cases were classed as insane and were considered incurable, but were entirely relieved of all actual symptoms by reducing the uterus to its normal size and curing of any existing local disease. I do not mean to say that melancholia or tendency to disturbed mental balance is eradicated, but that enlargement of the uterus and associated local disease will in some women, not all, cause or excite melancholia, and that a cure of the local disease will cure the abnormal mental disturbance called melancholia. This experience led me to use the boro-glyceride cotton pledgets to prevent subinvolution, especially in very nervous women who had had melancholia or other forms of mental disturbance before pregnancy. About the tenth day after labor I examine the women locally. If the uterus is large and crowded down in the pelvis, or if the secretions are still bloody or abnormal, or if I have any good reasons from previous knowledge of the case to believe that relaxation, subinvolution, displacements, etc., are liable to follow, I put the patient in Sim's position on her left side, push the uterus well up out of the pelvis, and apply a suitable sized and soft, but firm enough to keep in shape, boro-glyceride cotton pledget in the vagina. It is so placed under the cervix uteri, so that the uterus cannot sink down in the pelvis nor fall backward. This is left in place twenty-four hours, then removed by the linen string tied to the proximal end. A vaginal douche of solution boracic acid is given. Two days later the same treatment is applied and repeated twice a week till the uterus is normal in size and position, which usually takes six weeks. At the end of two months after labor if there is any laceration of the cervix complicated by follicular disease the diseased tissue is cut away and the cervix sewed up or amputated and the canal of the cervix is always left lined with a healthy mucous membrane. When amputation is done, the flaps to line the canal are made from the anterior and posterior parts of the cervix. If the perineum is torn, especially the inner portion that supports the lower end of the rectum, it is sewed up also.

By the simple application of the boro-glyceride the patient is able to get out at the end of two weeks without injury and dismissed perfectly cured at the end of six or eight weeks.

For many years past I have followed up some of my old cases of retroversion and flexion where I had sewed up or amputated the diseased tissue of the cervix and restored the perineum, still the uterus would prolapse and retrovert unless artificially supported. When such a case can be got sufficiently well to become pregnant, it is necessary in most cases to keep the uterus from retroverting and flexing till after the third month so as to prevent abortion. This can safely be done by the regular application of the boro-glyceride cotton twice a week or a properly fitted Smith hard-rubber pessary.

After labor, the regular use twice a week of the boro-glyceride cotton pledgets, in such a case, for six weeks will, as a rule, result in a complete cure of all the local trouble.

Smoking.—The use of tobacco does not decline, despite the warnings of hygienists and moralists. According to a tobacco trade journal, there is a steady increase in the number of cigars and cigarettes smoked in this country, and notably in the consumption of cigarettes. During the fiscal year just closed there were sold in the United States 3,333,845,560 cigarettes, and 4,130,440,370 cigars. The increase in the consumption of cigars over the previous year was 68,522,938.

An Attack on the Parasitic Theory of Malaria.—Dr. Lawrie, of Hyderabad, says that there are no parasites in the blood in malaria, and that Laveran and the Italian investigators have mistaken the nuclei of the white cells in the blood for plasmodia.

A CASE OF DOUBLE FORMATION OF THE FACE WITH CRANIO-RHACHI-SCHISIS INVOLVING THE WHOLE VERTEBRAL COLUMN.

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In giving the history of the above case I must confine myself to a report of the important and interesting points still remaining in memory, as I had the misfortune to lose the notes which I took concerning it.

Mrs. X——, the mother of the hemicephalus in question, had previously borne well-developed twins which reached about the age of two years (?) and died, both on the same day, from an intestinal disease. Mrs. X——'s mother was one of twins. A sister of Mrs. X——'s father had borne twins.

As I have mentioned, Mrs. X—— was delivered of twins once, then she had an abortion at an early period of gestation (probably about three months), and, so far as I remember, her third confinement was with the hemicephalus. The birth of the latter took place somewhat more than a month before the regular term. It may be interesting to note some details of the confinement.

At the beginning of labor examination revealed an enormous quantity of amniotic fluid. No heart-sounds were to be heard in spite of thorough auscultation. The position of the fœtus could not be made out with any degree of certainty. On introducing two fingers into the uterus one could feel a hard and sharp prominence protruding during the uterine contractions, and receding after relaxation of the latter. Examination post partum proved this protruding part to be a sort of promontory (Fig. 2), forming the transition between the uncovered base of the skull and the vertebral column. Twelve hours after this first examination the described part was still floating quite loosely over the entrance of the pelvis; the water had not yet broken. As the external orifice of the uterus was sufficiently wide to admit the passage of the fœtus I deemed it expedient to relieve the patient's acute sufferings by manual extraction of the fœtus. The membranes were broken, which caused a torrent of fluid to break forth, a foot was seized, and the fœtus extracted. It was then put into a two and a half per cent. watery solution of carbolic acid, which has the advantage of preserving the color and gross anatomical structures, especially the skin, and of not causing any shrinkage. On the other hand, it has the disadvantage of spoiling the specimen for microscopical examination, at least of certain tissues—for instance, nervous tissue.

Fig. 1.

Fig. 1 is a photograph which gives a front view of the fœtus. It demonstrates a nearly perfect double formation of the face: four eyes, two noses, two mouths, two chins, but only one ear for each face. The two mouths are separated by means of a skin-bridge which continues backward as a probably cartilaginous septum reaching nearly but not quite to the posterior wall of the pharynx, so as to leave a communication between the pharynx corresponding to the right and that corresponding to the left face. Each mouth presents a well-developed tongue, a hard palate, and a distinct horseshoe shaped outline or impression of the superior and inferior alveolary processes. It seems also as if there was one soft palate common to both faces; at least a structure like anterior and posterior pillars is seen on the external side of each of the communicating pharynges. Attempts to find out whether the œsophagus was single or double were not successful. The sound did not pass beyond the pharynx or it came out at an opening in the base of the skull, which will be mentioned later.

Chins.—The two chins are separated by a slight vertical ridge formed by an elevation of the skin. Two separate lower jaws are distinctly felt; the medial branch of each can be followed by palpation some distance backward. Each jaw can be moved upward and downward separately—that is, independently from the other—which proves that they are not united further backward.

Ears.—There is one ear corresponding to each face situated on the lateral sides of the head, in normal position with relation to the latter. The right one looks much like the cropped ear of a dog, the left one, aside from having an abnormally large tragus, is well developed.

Strictly speaking, there is no formation that could be called a neck. The head, with the two faces, sits directly on the body, the ears rest upon the shoulders so that the tip of the left ear is turned outward and upward from the pressure of the left shoulder. In front the skin, instead of receding backward to display the inferior surface of the chins, passes straight from the anterior surface of the latter into the skin of the chest. It is thus difficult to state with certainty whether any formation corresponding to the larynx exists. No such formation can be made out by inspection or by palpation. Further down there is no double formation, at least not outwardly; two arms, one body, two legs.

Arms.—Perfectly well developed, including nails, fingers, hands, forearms, arms, shoulder-blades, and clavicles. The latter, however, seem to terminate loosely with what should be their sternal end, instead of articulating with the sternum.

Chest.—No sternum, at least no osseous sternum, is present. All ribs can be felt ending free anteriorly, thus leaving an anterior gap in the skeleton of the chest which widens in a downward direction, measuring about one and one-fourth inch in width at the level of the first ribs and about two inches at a level at which the processus xiphoides would be situated under normal circumstances.

Pelvis.—The left and right half of the pelvis are loosely connected; they can be freely moved from and against each other on the longitudinal axis of the body.

Lower Extremities.—I cannot state whether the abnormity of shape is due to misformation or to distortion caused by the manipulations of extraction of the fœtus. I am inclined to think that originally the lower limbs were not deformed.

Genitals.—Well-developed scrotum and penis. Testicles in normal position.

Posterior Aspect.—Fig. 2 is a photograph giving a view of the back and of the base of the skull. The photograph shows that the skull and vertebral column have remained unclosed. There is rhachi-schisis of the whole vertebral column, involving also the os sacrum. The edge (*vide* Fig. 2, No. 9) of the large gap in the median line is formed by the processus spinosi of the vertebræ, which, having remained ununited, have a transversal position; that is, the position which under normal circumstances is occupied by the processus transversi. To

demonstrate this condition clearly the periosteum was removed from the left side of the cervical portion of the spine, thus displaying the bodies of the vertebræ

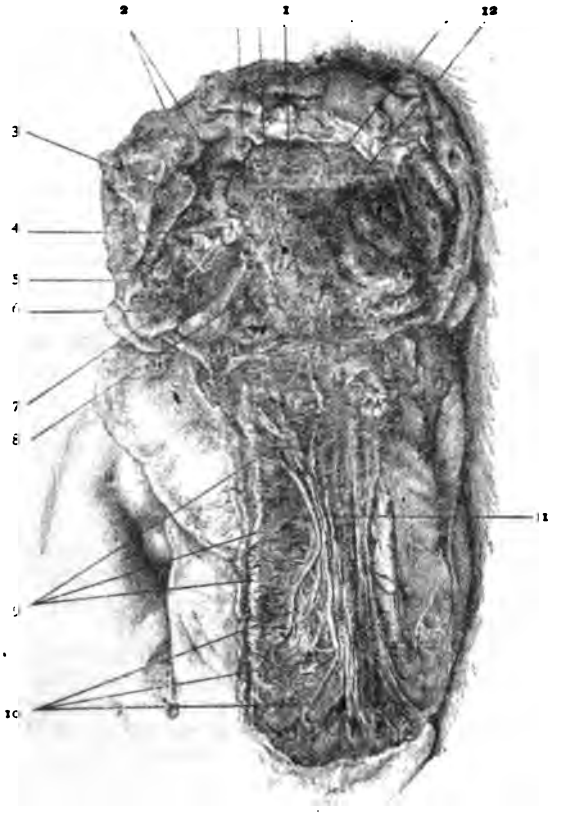

FIG. 2.—1, Opening communicating with the pharynx; 2, anterior clinoid processes of left sphenoid bone; 3, rudiment of temporal bone; 4, internal auditory meatus; 5, foramen lacerum posterius; 6, occipital part of left occipital bone; 7, anterior condyloid foramen; 8, posterior condyloid foramen; 9, spinous processes; 10, cauda equina; 11, spinal dura mater; 12, promontory.

and the processus spinosi. Fig. 3 gives a view of one cervical vertebra, showing the processus spinosi directed transversely, while the processus transversi occupy a dorso-ventrad position.[1]

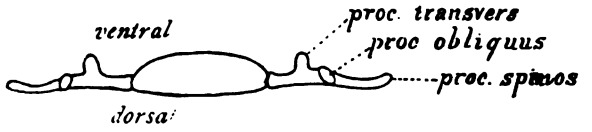

FIG. 3.—Cervical Vertebra.

The large gap mentioned is covered by a membrane which cephalad passes into the dura mater cerebri and must therefore be considered as the dura mater spinalis. At the caudal end and also in the upper part of the back this membrane passes directly into the mesodermal layer of the adjoining skin; in other regions this connection is torn. At the caudal end fibre bundles are seen eradiating from the dura mater in a latero-caudal direction and entering under the periosteum of the vertebræ. The arrangement of these bundles is quite analogous to that of the cauda equina. Similar bundles are seen all along the vertebral column; only the more cephalad they are situated the more horizontal is their course. This arrangement of the said bundles and their soft consistency makes it certain that they are rudiments of root bundles of spinal nerves. Histologically this could not be decided, as the preservation with carbolic acid solution made the nerves unfit for microscopical examination. I have used the expression "rudiments" because the bundles are much thinner than, comparing them with the calibre of normal spinal roots, one would expect them to be. Of the spinal cord nothing is present; probably it was destroyed a long time before the birth of the fœtus, which would explain the rudimentary appearance of the spinal nerve-roots.

Skull.—As before mentioned, the base of the skull was found uncovered. This was at least the case with the petrous portions of the temporal bones and the parts situated caudad of them. The parts cephalad of the petrous bones were covered with rudiments of frontal, parietal, and temporal bones. These were in close contact with the underlying bones of the base of the skull, so that only a narrow slit corresponded to what normally would hold the frontal, parietal, and temporal lobes of the brain.

Dura mater present but defective, torn (probably, at least partly, by the manipulations connected with the extraction of the fœtus) so that one cannot make out by its shape whether it held two separate brains or only one. Rather large pieces of brain were found in the dura, but so crushed that shape and structure were lost.

To get a view of the bony structure the periost was removed from the base of the skull. The first thing that strikes one's attention is a kind of promontory, situated at the distal end of the base of the skull forming a direct transition from the latter to the vertebral column (Fig. 2, No. 12). This promontory bears a rather close resemblance to a sacral bone. Like the latter it is curved, both longitudinally and transversely, the convexity of the curve being directed dorsad. Its proximal end is rather wide in a transverse direction; caudad it somewhat increases in width, being widest at about the middle of its longitudinal extent, from which point it becomes narrower and terminates with a narrow median ridge at the distal end. The median part of the promontory is occupied by a torus which passes through its entire length. In a transverse direction this torus has semicircular shape, in longitudinal (cephalo caudad) it looks conus-like, the base of the conus being situated at the proximal end; only, as I mentioned before, this conus shows a strong longitudinal curve, the convexity of which is directed dorsad. On each side of the torus there is a longitudinal row of four foramina. These are separated from each other by transverse ridges. Most of the latter have preserved a distinct individuality, as at their lateral ends they are separated from each other by a thin cartilaginous layer or joined by osseous suture. In two of them the lateral ends are melted into one coherent mass of bone.

All parts mentioned so far show complete ossification, the lateral border of the promontory, however, is formed by cartilage. At the proximal end the torus has a wart-like process (Fig. 2, *W*); ventrad from this there is a round opening of about 1½ mm. in diameter. A small sound passed through this opening comes out at the most distal of the foramina of the left side. Since some force has to be used, however, to pass the sound it remains doubtful whether this communication is a natural canal or an artefact. In passing the sound slowly through this canal the inner (ventral) surface of the torus can be distinctly felt as presenting several transverse elevations alternating with transverse depressions. The ventral wall of the canal seems to be formed of cartilaginous tissue. Distally this tissue seems to pass directly into the body of the first cervical vertebra, which (viz., the body) is still perfectly cartilaginous on its dorsal surface.

Of the lateral and proximal connections of the promontory I shall speak later.

There is no doubt from the structure of this promontory that it is a vertebral formation composed probably of four vertebræ. It remains to explain the significance of its various parts. One explanation would be that the vertebral canal has remained open, in which case the longitudinal torus would correspond

[1] I take opportunity to mention here that I shall by preference avail myself of the expressions "cephalad" and "caudad," or "proximal and distal," and of the terms "ventrad dorsad" to designate the relative position of the parts instead of using the terms "anterior, superior, posterior, inferior," which are easily misinterpreted.

to the bodies of vertebræ, while the transverse ridges—analogous to the condition of the other vertebræ—would represent the processus spinosi directed transversely, instead of dorso-ventrad as they should be under normal circumstances.

The second explanation would be that the vertebral canal is closed, that accordingly the longitudinal torus represents processus spinosi grown together to one solid mass of bone, while the transverse ridges between the foramina correspond to processus transversi, the bodies of the vertebræ being formed by the cartilaginous tissue situated ventrad from the longitudinal canal mentioned.

The following points speak in favor of the second explanation :

1. The bodies of the vertebræ of the cervical part of the column (probably also those of the other vertebræ, but these were not examined in order not to spoil the specimen) are still cartilaginous, while the longitudinal torus of the promontory is perfectly ossified. This fact makes it very improbable that the torus should correspond to a row of bodies of vertebræ. On the other side—analogous to the bodies of the cervical vertebræ—the tissue ventrad from the longitudinal canal of the promontory is cartilaginous.

2. The processes of the cervical vertebræ are ossified, as is also the longitudinal torus. The hypothesis that the torus represents processus spinosi grown together to one mass of bone receives still more support by this fact.

3. If the longitudinal torus is actually composed of a series of processus spinosi a canal corresponding to the vertebral canal must exist ventrad from the torus. Such a canal is, indeed, present, but as I mentioned before the possibility of its being an artefact cannot be positively excluded.

Although the facts mentioned make the second explanation very probable, I cannot arrive at a definite conclusion on the point. I feel satisfied, however, that the structure which I have called promontory is a formation composed of several, probably four, vertebræ. From the description given the peculiar similarity which this formation bears to a sacral bone becomes apparent.

I first thought that the structure in question might be the modified upper part of the cervical portion of the spine, but found proof that this is not the case. After finding out which vertebra corresponded to the first rib, and which consequently must be the first dorsal vertebra, I counted upward, with the result that there were seven processus spinosi (cervical) between the formation designated as promontory and the first dorsal vertebra. This proves the promontory to be a vertebral formation *per se*.

Proximally from the described vertebral formation, and directly connected with the proximal part of its lateral borders, we find on each side a bone of more or less rectangular shape. The longitudinal axis of this rectangle is directed from backward inward to forward sideward. It (the rectangular) is divided by an osseous suture into an anterior (*A*) and posterior (*B*) part (Fig. 2, *A* and *B*). Between the rectangular bone of the right and that of the left side we find a hole which has the shape of an equicrural acute-angled triangle, the crura of the latter being formed by the rectangular bones (*A* + *B*) of each side, while the base is situated cephalad. The said triangular hole opens directly into the common pharynx. Originally it was covered by a thick layer of periosteum, which I had removed in order to get a view of the osseous structure of the base of the skull, and which contained an osseous nucleus.

The lateral borders of the bones *A* and *B* of both sides are connected by cartilage with the petrous and occipital bones.

Occipital Bones.—They are represented in two halves, one corresponding to the right, the other to the left face. These halves are separated from each other by the promontory described, and by the bones *B*, unless we consider these to form part of the occipital bones. Each half shows a well-developed condyloid portion and a rudimentary occipital part. If a basilar portion exists, we must consider it as represented by the bone *B* plus the partly ossified periosteum which covered the triangular hole mentioned above. This hole, it will be remembered, opens into the pharynx, and the fact that under normal circumstances the basilar portion of the occipital bone forms the roof of the pharynx speaks in favor of said supposition.

The occipital portion of the occipital bone is represented on each side by a small bone situated laterally from the condyloid portion, connected with the latter by a strip of cartilage, while cephalad it joins with the petrous portion of the temporal bone. Its posterior border in line with that of the condyloid portion forms a curve, the convexity of which is directed caudad. The condyloid portion is well-developed; it has a well-marked condyloid process—which of course cannot be seen in the photograph, but is found on lifting the bone—and both an anterior and posterior condyloid foramen. The foramen occipitale magnum does not exist, as the parts situated caudad from the foramen condyloideum posterius, which under normal conditions close the circle forming the foramen occipitale magnum, are absent.

Petrous Portions of the Temporal Bones.—There are two petrous bones, one corresponding to the right, the other to the left face. Posteriorly they are connected with the left and right half occipital bone respectively; medially each joins the bone *A* of its side; cephalad they connect with the sphenoid bones. Both petrous bones have a peculiar shape, due evidently to incomplete ossification. Aside from the meatus auditorius internus we find laterally, and somewhat cephalad from the same, a rather large, funnel-like foramen or fossa, which can be traced only a short distance inward and seems to end blindly. In position it corresponds to the region where we would expect the space between the three semicircular canals, and the most plausible explanation is that ossification has not progressed sufficiently to fill up this space with bone. We further find distinctly marked the aquæductus vestibuli and cochleæ, the Fallopian canals, and the foramina laterum medium and posterius.

Sphenoid Bones.—The bones described so far were single. There were two petrous portions of temporal bones, and two half occipital bones, just as in a normal skull. With the sphenoid bones the duplication begins. We see two sphenoid bones, each composed of a body and two greater wings; the lesser wings are absent. The two sphenoid bones meet in the median line of the skull by connection of the medially situated greater wings of each. This connection is marked by osseous suture in the distal part, by a vertical crista in the proximal part. Quite near this crista, one to each side of it, there are two foramina, which in shape and position correspond to the foramina rotunda. A short distance caudad from these there is another pair of foramina which, although small, must be considered as the foramina ovalia from their position. These two foramina (ovalia) are joined by a rather deep groove which, crossing the median line of the skull at a right angle, passes from one foramen to the other. The distal border of the joined medial greater wings of both sphenoid bones forms the proximal border of the trigonal space which opens into the common pharynx. Two small incisions of this border may perhaps represent the rudiments of foramina spinosa.

It is seen from the above description that the extreme corner of the medial ala magna of each sphenoid bone is absent. With the lateral greater wings this is not the case; they are complete and of approximately normal shape. The foramina rotunda and ovalia are well marked; the foramina spinosa cannot be identified

with any degree of certainty. The body of each sphenoid bone is rather well developed, but without the posterior clinoid processes. The olivary process has an olive shape, only its longitudinal diameter is directed sagittally (cephalo-caudad) instead of transversely, as it ought to be. The processus clinoidei anteriores appear like rings attached to the body. The openings of these rings correspond to the optic foramina. No smaller wings are present, for which reason the sphenoid (orbital) fissures, instead of forming actual (narrow) fissures, appear as large, irregularly circular openings.

I have mentioned already that the frontal, parietal, and temporal bones are but rudimentarily developed. I must state, however, that of the two frontal bones only the posterior part is absent; the anterior part, including the orbital plate, is normally developed; there are four well-developed orbitæ.

In summing up we find the following conditions to be present:

1. Duplicity of the face and anterior part of the head. The duplication begins proximally from the petrous portions of the temporal bones, including thus the sphenoid, frontal, nasal, supra-maxillary, and infra-maxillary bones. Two pharynges are present, which communicate with each other.

2. Cranio-rhachi-schisis involving the entire vertebral column.

3. Interposition of a peculiar os sacrum-like vertebral formation and of two longitudinal bones (each of these again divided into an anterior and posterior part) between the occipital and petrous bones of each side. In proximo-distal direction these intercalary formations form the transition between the base of the skull and the vertebral column.

4. Absence of the sternum (at least of an osseous sternum).

According to the classification and nomenclature adopted by Ziegler[1] and Marchand[2] the monster described belongs to the group of diprosopi. It must be designated as a diprosopus diotus, tetrophthalmus, distomus, with cranio-rhachi-schisis involving the entire vertebral column.

THE THERAPEUTIC VALUE OF WATER IN THE TREATMENT OF SOME NERVOUS AND MENTAL CONDITIONS.

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One of the earliest references to the strengthening effect of the bath seems to have been made by Homer, when Ulysses visited the king of the Phæacians (Alcinous) and was conducted to a bath, that he might regain renewed strength after his journey. The heroes of the Olympic games were accustomed to take cold baths in order that they might be better able to contest for the honors of the field. Plato prescribed the bath as a means of preserving the health and preventing disease. Hippocrates, in his treatise on "Air, Water, and Locality," divides the causes of disease into climate and diet, and practised bleeding, cupping, cauterization, auscultation, and bathing. Asclepiades, of Bithynia, who appears to have been a man of rather limited science and skill, forsook the general methods of the practice of medicine in his day, and relied entirely in the treatment of his cases upon the therapeutic action of the bath, exercise, and regulated diet. Later, Galen, during the second century, seems to have recognized the possibilities of water in the treatment of disease, and incorporated it as one of the recognized methods of treatment.

The public baths at Pompeii, though that of a provincial town, and inferior in size to those at the capital, occupied a piece of ground embracing an area of ten thousand square feet, and consisted of ten distinct establishments, the smaller of which is believed to have been devoted exclusively to women. In the larger was a court, bounded on two sides by a portico, which was used as a waiting-room for those seeking admission to the thermæ. From this space a communicating passage admitted to a smaller room, where the clothes of the bather were left (apodyterium); from this a door led to an apartment in which was the frigidarium, or cold bath. A pool in the centre of this apartment was of white marble, circular in shape, twelve feet in diameter and three feet in width, the water being conducted into the side of the pool by a bronze sprout, and in the bottom an outlet, which served to empty the bath.

From the frigidarium a door opened into a smaller room, which was warmed by a large portable fireplace, and here those who wished to use the warm bath were anointed and rubbed by attendants previous to entering the caldarium. The floor of the caldarium was placed on small pillars so that the heat from the furnaces had free admission beneath it. At one end of this room was placed the hot bath, which consisted of a shallow cistern $15 \times 4 \times 2$ feet in depth. Inside the bath, and along the rim, was a seat upon which the bathers might sit; the warm water was furnished from caldrons communicating with the bath by pipes. At the far end of the room was a huge vase, from the centre of which projected a spout, throwing a stream of cold water, which was designed to fall upon the head and shoulders of the bather previous to his quitting the heated atmosphere of the caldarium.

The great thermæ constructed by the Emperor of Rome were very elaborate and expensive, but constructed on the same general plan as that just described. Those of Caracalla were perhaps most famous, being fifteen hundred feet long by twelve hundred and fifty feet broad, and having, in addition to the usual apartments, large open spaces for exercise and covered courts which might be used for the same purpose during inclement weather.

The use of the cold or hot bath was regulated by the direction of a physician or the inclination of the bather. Previous to bathing it was customary for gentle exercise to be taken; then the bather passed, after denuding in the tepidarium, to the caldarium, and after waiting for a short time, immersed himself gradually in the hot water, or had it simply poured over his head and shoulders. Then he had a douche of cold water, and left this apartment to pass into the frigidarium, where he took a cold plunge. He was then scraped with strigils (small curved instruments), dried by being rubbed with linen cloths, and finally anointed; then, after resting in the adjoining room, he was ready to undertake the duties of the day.

When only one bath was desired, it was taken shortly before the principal meal, although under the direction of a physician, or when suffering from slight bodily disorders, it was not uncommon for four or six baths to be taken during the day. Commodus is said to have indulged in as many as seven baths a day.

The Turks and Arabs had, after the decline of Roman civilization, more particularly cherished the custom of bathing than other nations; and by the laws of Mohammed, as laid down in the Koran, all true believers were obliged to recite five prayers daily, and either to bathe or to wash their hands, feet, and face before each prayer.

Long after the fall of the Roman Empire the bath was retained, as is witnessed by the splendid remains which exist in Barcelona and Granada, and which were

[1] Lehrbuch der allgemeinen pathologischen Anatomie und Pathogenese. 7th edition, page 423. Jena. 1892.

[2] Realencyclopaedie der gesammten Heilkunde, vol. 13, under the heading Missbildungen.

constructed and used by the Moors previous to their conquest by the Spaniards.

During the period of the Dark Ages the knowledge and curative action of the bath was prescribed and practised by such peoples as the Arabs, Indians, Japanese, and Moors, and through the agency of these last was the bath introduced to European nations during the revival of learning.

During the sixteenth and seventeenth centuries water seems to have again attained some recognition as a remedial agent, for we read of Ambroise Parè prescribing it in the treatment of various disorders which appeared among the troops of Henry III. During the latter portion of the eighteenth century and first half of the present century, the bath had been used and abused in many cases, especially in the treatment of insanity; for we read that it had been proposed to drive delirious ideas from the minds of the insane by this method, and ofttimes they were brought to the verge of dissolution by prolonged submersion. Another favorite method was the cold douche, where the patient was subjected to extremes of temperature, often resulting in pronounced rigors or loss of consciousness. Such radical treatment was, however, soon recognized as questionable and was succeeded, after a careful study of the influence of heated water upon the human organism, by the more modern and scientific administration of the bath.

It is essential in studying the action of the bath upon the system that we study that force which the water, or whatever media we use, conveys to the human economy, namely, heat in its different varieties and intensities. The well-known fact that water requires more heat to warm it, and gives out more units of heat in cooling over a given range of temperature, makes it invaluable in bathing.

Heat when applied to the surface of the body in this manner, as stated by Dr. Parke (98° to 112° F.), is said to produce at first an inconvenient and then a painful sensation, due to the determination of the blood to the surface, which soon becomes swollen and reddened, the face turgid, eyes injected, action of the heart increased, and full and frequent pulse, with a sensation of dizziness and vertigo; the carotid arteries in particular beat with violence, the breathing is oppressed, and there is a painful sensation of weight about the head. Soon parts of the body not covered by water break out in a profuse perspiration, which only partially relieves the discomfort of the patient. On leaving the bath the excitement does not subside; the pulse continues to beat with force and frequency, the extremities remain swollen, the patient perspires profusely, and the secretion of urine is diminished. There is now a sense of muscular fatigue, and the whole system is relaxed and weakened. Physiologically we seem to have a partial paralysis of the vaso-motor system, with a consequent dilatation of the whole capillary system, an increased pulse, which becomes less tense and more rapid, due to a fall of blood-pressure from withdrawal of blood from the deeper structures, a general condition of passive hyperæmia, with a decided increased activity of the skin; the urine is found to be scanty and containing a lessened amount of urea. The temperature of the body will be found to have increased while the patient is in the bath, but on withdrawal the temperature rapidly falls, due to the increased area of blood exposed in the congested vessels.

The degree of heat at which coagulation of the blood in the arteries is said to occur is $42\frac{5}{10}$° C., which temperature, if not fatal, produces fatty infiltration and degeneration of the liver, heart, kidneys, and muscles. To man 100 to 132° C. in air proves dangerous and ofttimes fatal, and a temperature several degrees lower would probably have the same effect in water.

The degree of heat, as furnished by the hot bath, which would be fruitful of therapeutic action would, in view of the influences which we learn that it produces upon the body, range between 98° F. and 128° F. It needs no demonstration to state that a greater degree of dry heat will be tolerated by the system than that conveyed by water. The Japanese have been for ages accustomed to bathing in water heated to a temperature of 128° F., and to remain in such a bath for a period of from three to five minutes, the parboiling process which they thus undergo seeming to cause no apparent injury, and being stated to have a beneficial effect upon persons suffering from rheumatism and various skin diseases.

Let us next consider what are the effects produced by a less degree of heat upon the system when applied to it by means of the bath, as that produced by the cold or cool bath (32° to 70° F.). Dr. Forbes has described the sensation produced by such a bath to be as follows:

"On plunging into the cold water the bather experiences a sensation of shock, varying in intensity with the temperature of the water, which may amount to a rigor, with a sudden catching of the breath, drawing up of the limbs and arms, caused by the sudden contact of the cold fluid with the surface of the trunk and face. In some persons this spasmodic anhelation is so great as to entirely prevent speech. The surface appears contracted and shrunken, the superficial veins become smaller and disappear, the hue of the skin assumes a bluish tinge, and after a short time, which depends partly upon the coldness of the water and partly upon the constitutional vigor of the bather, reaction takes place, the chilliness and rigor disappear and are succeeded by a sensation of warmth which diffuses itself over the whole surface. The respirations become tranquil, and there is a general feeling of lightness and vigor. After a variable period, the bather again begins to suffer from the cold; trembling and rigor supervene, the movements become impaired and feeble, the pulse smaller and less frequent, the respirations are oppressed, and the whole body is languid and pulseless. If he leave the water before the occurrence of the second period of rigor, there is a renewal of reaction; a glow pervades the surface; the color returns and is heightened; the pulse is stronger and fuller than previous to the submersion, and there is a general feeling of buoyancy and vigor."

The physiological effects upon the vascular and nervous system produced by the application of cold are, first, a stimulation of the vaso-motor system and exaltation of the spinal reflexes, with a contraction of the terminal blood-vessels, slowing of the current of blood, a diminution of the number of corpuscles, and a gradual paling of the tissues. The corpuscles become less transparent, and finally their movement ceases, the vessels becoming blocked. Dilatation then ensues, due to a partial paralysis of the vaso-motor system, with an accumulation of blood in the terminal vessels causing a cyanotic condition of the surface. This condition may reach the deeper-seated vessels, but after a time causes an increased resistance which may be demonstrated by the sphygmograph.

The pulse, under the influence of cold, falls quite perceptibly, due no doubt to the stimulation of the inhibitory cardiac nerve, associated with a decided fall in the blood-pressure. The respirations are lessened in frequency and become more slow, the secretion of urine is scanty, and the liver and deeper structures become congested. The hyperæmia which is noticed in the cyanotic condition does not cause exudation. The temperature of the surface will be found to have fallen in proportion to the degree of cold and the time in which it is applied. The loss of heat following a continued application of cold causes a decrease of temperature chiefly by conduction, notwithstanding that at the same time there is an increased production of heat in the body; but the peripheral circulation being slowed, not so great a supply of blood is exposed to its influence, and an internal temperature will show

but slight decrease of heat. Following this retardation of the peripheral circulation, there is a paralysis of the sensory nerve-filaments; the pulmonary circulation becomes impeded, diminished oxidation of the blood occurs, and the vital centres become affected, producing loss of muscular power and sleep, deepening into coma.

What has been stated by Liebermeister as "the primary after-effect" occurs shortly after the body has been in contact with a cold media. The surface which has been blanched and reduced in temperature now becomes pink, and in withdrawal from contact with cold, assisted by friction, assumes a red and glowing appearance. The current of blood in the capillaries is accelerated; the blood-pressure rises; the pulse becomes fuller and stronger, showing an increased action of the heart; the respirations are now deep and full, and the spinal reflexes become less excited. The sensory nerve-filaments resume their activity, the skin becomes reactive and moist, the bodily temperature increased, and we have all the conditions of a healthy reaction established. The time at which reaction takes place is variable, usually being more prompt when exercise is conjoined with bathing, when a lower temperature can be borne than under other circumstances.

M. Roustan has stated that after a plunge in the Seine at a temperature of 43° F. he was unable to remain longer than six minutes, and reaction did not take place until that same night, after many hours of great discomfort, together with feeling of pain and weight in his head.

The deductions to be drawn from the effects just considered of cold baths upon the system would seem to be that low temperatures are better borne and the reaction more prompt when exercise, either by massage or muscular exertion, is practiced, but not being carried to the point of fatigue, for Dr. Patreizi has found that under the influence of cold the work of a muscle rapidly diminishes, being reduced as much as one-fourth of its normal capacity, the same being true of high temperatures, where he found that the blood in superheated muscles is no longer capable of histological exchange, and the toxic products act more energetically upon the muscle at such temperatures. No influences should be exerted which tend to demand of the system an increased local supply of blood, either physiologically or otherwise; hence no food should be taken before a bath. The same holds true of the use of alcohol or any stimulating substance previous to bathing. As the first effects of the cold bath tend to depress the vital powers, shock the nervous system, and decrease the bodily temperature, these conditions tend to call for extra exertion upon the heart, which has already been active in supplying a previous local demand.

In persons of tender years, as well as those advanced in life, cold bathing should be interdicted, also in cases in which organic disease of any vascular or excretive organs exist, as here reaction is slow and ofttimes imperfect. The warm bath (70° to 95° F.) embraces most of the beneficial effects which are derived from that of the cold bath with but few of its dangers, and lacks the debilitating and congesting effects which follow the use of high temperatures. In the warm bath we have a gentle stimulation of the peripheral circulation, no nervous shock, no alteration in the blood-pressure, an increased action of the skin and kidneys, with but little change in bodily temperature, and an action which will relieve a congestion of deeper structures by opening up new channels to a blocked circulation, with no cause for alteration in the functions of the vital organs.

Coming to consider the therapeutical action which the bath may have in that group of nervous and mental diseases which is characterized principally by marked changes in the circulatory system, one which would seem to be susceptible to benefit from the action of water is neurasthenia. This may be termed a condition where lack of tone, increased excitability, and a tendency to rapid fatigue, especially of the muscular system, are the chief characteristics. We would seem to have conditions which might be benefited by the bath, the loss of tone, brought about by imperfect nutrition in which the whole nervous system has suffered, and the vaso-motor system is prostrated and has become fatigued, which is demonstrated by the tendency to blush. This Beard has counted among the most characteristic symptoms of neurasthenia. In addition, the œdema of hands and feet, with rapid and transient changes of temperature in various parts of the body, hemorrhoidal and capillary aneurisms, bear witness to the general impaired condition of the vascular system.

Owing to the impaired physical condition of such patients, although cold baths would seem to be indicated, yet from the shock which would be consequent upon their administration, and failure under such conditions for reaction to be promptly established, they are contra-indicated. Tuke has stated that actually hot or cold baths should not be used in the treatment of this condition, but that moderately cold baths exert a beneficial action; also the vapor bath is beneficial in many cases. Massage should not be neglected in this connection, as the mechanical effect thus produced is a valuable adjunct to the therapeutic action of the bath. Ross states that he has found the thermal lime-baths useful in the treatment of neurasthenia, and does not recommend the use of cold baths.

In melancholia, where alteration in the general nutrition takes first rank as a physical symptom, we have as evidence of disordered circulation opaque and muddy skin, with impaired growth of its appendages, dry furred tongue, constipated bowels, a slow and soft pulse, and lowered bodily temperature, and in many cases œdema and cyanosis of extremities. Here the bath, by stimulating the peripheral circulation, establishing the normal action of the skin, and increasing the bodily temperature, either by reaction or direct heat, shows itself to be a valuable agent.

The warm bath is most generally applicable in melancholia where impairment of the functions of the skin and excretory organs are involved, while those cases exhibiting nervous excitability, with hypochondriacal notions, normal excretory organs, and pulse more rapid than usual, are most benefited by the cold bath or sponging.

Brierre de Boismont recommends the continued use of the warm bath with cold affusions to the head in melancholia, and states that he knows of no remedy which compares with prolonged baths and continued irrigation in the treatment of such cases. Clouston speaks highly of the Turkish bath in the treatment of melancholia, and when the hyper-action of the brain seemed to exercise an inhibitory influence on the cardiac nerve-innervation, causing small pulse, lowered arterial tone, and impeded capillary circulation, marked benefit was experienced.

In mania Bevan Lewis has noted disordered circulation as one of the bodily symptoms, in some instances showing itself by injection of the peripheral vessels of head and neck, and again by marked pallor of the face, associated with a small and frequent pulse and heart-sounds which are often muffled. Albutt has pointed to the anæmic condition of the optic disks (alternating with marked vascular suffusion, doubtless caused by spasm of the retinal vessels) as an important symptom in this disease. The headaches, sense of weight, and insomnia are ofttimes associated with an increased temperature, ranging to 100° F. In addition to these symptoms there is a furred tongue, either lost or perverted appetite, constipated bowels, a sluggish condition of the glandular system, and in some cases furuncles and whitlow are present in the acute form of mania.

Dr. Savage, referring to the pulse-tracings which he has conducted, states: "They bear a strong resemblance to those found in fever and acute diseases, but in maniacal tracings the rate is less and the heart more forcible." The skin, the urine, and general nutrition are also disordered, and add their quota to complete the clinical picture of the physical symptoms in this disease.

Acute delirious mania differs from the less severe form of the disease in that each symptom is intensified and is associated with a marked hyperpyrexia, complete insomnia, arrested nutrition, scanty urine, a dry brown tongue, and general condition of exhaustion, which is well expressed by the form typhomania. The adaptation of the bath as a factor in the treatment of mania must be modified to the exigencies of each case, and it is imperative that when such alterations of the vital functions exist as diseases of this character produce, radical and heroic measures should be avoided. It has been said that "some patients are mad from an excess of blood, others from a deficiency of blood," a statement which gives us a hint as to the dangers which we must combat in the treatment of this disease.

Clouston states that he has seen prolonged warm baths (99° F.) do good in many cases, and in some act like a charm. His usual plan of treatment was "to immerse the patient in the heated water and apply cold affusions to the head, the effect of this combined bath being to fill the capillaries all through the body and withdraw blood from the brain, to depress the heart's action, to soothe nervous irritation, and to produce sleep."

The more rapid capillary dilatation and consequent displacement of large volumes of blood from congested centres would seem to be more readily effected by baths of a higher temperature, but the determination of quantities of blood to the surface by this means has been found to be associated with results which are alarming, and at times deplorable accidents have followed this method of treatment. The shower-bath of a moderate temperature has been found useful, but here it should be remembered that sufficient physical strength must exist in order that reaction may be established, else the results may be harmful.

In the acute stages of general paralysis cold baths have been strongly urged by Voisin, particularly during periods of excitement with increased temperature. The baths were given at 60° F. for a period of ten minutes, the patient being well wrapped in warm blankets for an hour afterward, until the pale face, blue lips, etc., gave place to signs of complete reaction. It is claimed that the cold bath in such cases improves the general state, lowers the temperature, diminishes the tendency to bed-sores, and increases the mental reflexes, particularly if a stuporous or depressed condition exists. The warm baths are also recommended in chronic mania, dementia, and epilepsy, where they seem to have a tonic action by building up and improving the general tone of the system, and rendering the patient thereby less liable to succumb to intercurrent acute affections to which he might otherwise fall a ready victim.

Although the therapeutic action of the bath has been recognized for centuries, yet its application outside of sanitariums and so-called water-cure establishments has not become the factor in the treatment of disease which its importance and promise would warrant. There seems, however, by the general interest which this subject has recently awakened, and as evinced by the equipment of hospitals and other institutions for the treatment of chronic diseases with appliances for the proper administration of the bath, that careful and searching inquiry and experimentation will be made by competent scientific observers. And this remedial agent will erelong take its proper rank among the more important methods of treatment of chronic disease, which have hitherto been regarded as beyond the reach of medical science.

A REPORT OF A CASE INVOLVING THE QUESTION OF THE DIAGNOSIS AND OF THE PROPER TREATMENT OF APPENDICITIS IN PREGNANT WOMEN.

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A CASE occurring in my practice recently was so interesting, not only from a general clinical standpoint, but particularly in its bearings upon the diagnosis and treatment of appendicitis in pregnant women, and upon the possibility of the confusion of that grave disorder with other pathological conditions, that I feel I may be excused for reporting it.

On the afternoon of April 3, 1895, a gentleman called at my office for a prescription for his wife, who, he said, was feeling a little indisposed, had some pain and uneasiness in her right side, and was constipated. He stated further that she had had no fever, and had been well until this time. Knowing the lady in question to be a stout, healthy young woman, I judged from his description of her symptoms that she could not be very sick, and so suggested a teaspoonful of compound licorice powder and a sinapism, to be followed by hot applications until pain should be relieved. I was called to see the patient at nine o'clock next morning (April 4th). She was a woman about twenty years of age, and just entering upon the ninth month of her first pregnancy. She stated that she had taken the purgative, but had vomited once or twice during the night, and it had not moved the bowels; that the hot applications had failed to relieve the pain which was located in the lower right side of the abdomen, and was constant. Upon examination, I found her temperature to be 104.4° F., and pulse 132 beats to the minute. There was no tumor or swelling discoverable in the right iliac region, palpation of which, however, was unsatisfactory, by reason of the abdominal distention due to the advanced stage of pregnancy; but the pain was constant, and most intense over the region of the appendix. Vaginal examination was negative; the child's head was so large and so low in the pelvis, that I could make out nothing further than the fact that there was no special tenderness anywhere on the right side of the pelvic vault. The patient stated that the course of her pregnancy had been uneventful, and her health, until now, excellent; that she had taken a walk on the day before, and had felt this pain come on rather suddenly as she was walking, and that she had not been free from it since. She could not say when the fever came on, as she had had no well-marked chill. The fœtus was alive and active. There was nothing unusual about its heart-sounds or about the placental bruit. No special tenderness of uterine walls, save near seat of pain in the right iliac region. No evidence of special trouble about kidneys or bladder. What then was the diagnosis?

Dr. J. B. Murphy, in an article published in the *Journal of the American Medical Association*, of March 23, 1895, states that the symptoms by which we may diagnosticate "appendicitis" with almost positive certainty are (to use his own language): "1, A sudden pain in the abdomen; 2, shortly followed by nausea and perhaps vomiting; 3, local tenderness over the side of the appendix, and most frequently in the right iliac region; 4, elevation of temperature."

I had read this article, and had had some experience, both surgical and medical, with appendicitis. I thought I could exclude everything else in this case, and so made my diagnosis accordingly. Many cases of appendicitis will recover by natural processes, and may be influenced favorably by medical treatment only. My own professional experience has convinced me of this fact, and that such is a common experience is one reason why surgical treatment is so often postponed longer than it should be. Then, too, de-

lay in these cases does not always prove fatal. A case reported by Dr. P. F. Mundé, in the MEDICAL RECORD of December 1, 1894, and now famous in medical literature, was of a woman, eight months pregnant, who was attacked with pain in right iliac region, fever, vomiting, and other symptoms of appendicitis, which were followed a week later by miscarriage and delivery of a dead fœtus. The appendicial abscess was only diagnosed on the day after the delivery, operation performed about six days later, and the woman made a good recovery.

On the other hand, operations for appendicitis in pregnant women, where such operations have been reported, seem not to have been followed by such results as would justify a practitioner in proceeding without hesitation to adopt surgical measures, to the exclusion of all other treatment.

In an article entitled "Gestation Complicated by Appendicial Abscess," by Dr. L. L. McArthur, of Chicago, published in the February, 1895, number of the *American Journal of Obstetrics*, the author reports two cases of appendicial abscess in pregnant women: Case I. was a woman aged thirty-one years, multipara, pregnant four and one-half months. Operation was performed on the third day of attack, abortion followed next morning, and death of the patient occurred on the second day after operation. Case II. was a woman aged thirty-four, tripara, five months pregnant, who had been sick three weeks before she was taken to the hospital, when diagnosis of appendicitis was made and operation performed a day later. Miscarriage occurred two days afterward and death on the fifth day after operation.

To illustrate the difficulty of absolutely accurate diagnosis in some of these cases, Dr. McArthur reports another case, where a woman aged twenty-three, after a long railroad journey and a week of "malaise," developed suddenly a temperature of 105° F., with vomiting and general abdominal pain which, after the second day, was most intense in the right iliac region. Several surgeons concurred in his diagnosis of appendicitis, and advised exploratory incision, which being made, threw no light on the cause of the symptoms, but exposed to view a normal condition of the appendix and abdominal organs generally. The patient aborted next day, giving birth to a macerated fœtus, and the author concludes that the symptoms were due to the irritation set up by the presence of this dead body in the uterus. This woman recovered, but was not a case of appendicitis.

In the discussion elicited by the reading of this paper before the Chicago Gynecological Society, no definite plan was agreed upon as the proper course to pursue in the management of these cases. It was brought out that the troublesome feature in dealing with them, was the fact that the pregnant womb generally forms one wall of the appendicial abscess. The disturbance to the uterus incident to opening, cleansing, and draining the abscess, is almost sure to cause it to evacuate its contents, and in so doing, it draws away from the new relations it has formed, tearing the adhesions which walled off the abscess, and permitting the escape of septic matter into the general peritoneal cavity. In view of these dangers, a member present suggested that the best mode of procedure in these cases, when operation seemed imperative, would be first to induce a rapid abortion, then to open, cleanse, and drain the abscess, and thus leave no opportunity for further peritoneal infection by assumption of new relations by that wall of the abscess formed by the uterus.

With these conditions before me I concluded to risk delay in my case and to await development for a while. Accordingly I prescribed for my patient one grain of calomel every three hours until six grains should have been taken, two and one-half grains of Dover's powder with every other dose of calomel, and one minim of tincture of aconite every hour until some reduction of temperature should be accomplished. At 4.45 P.M., temperature was 102° F.; pulse, 142. Patient still complained of constant pain in iliac region and now also in lumbar region, and pain intense on pressure over appendix. Aconite was discontinued and warm water enemata ordered; one now, one in three hours, and a tablespoonful of sulphate of magnesium to be taken at 6 A.M. to-morrow. It is of interest to note that a specimen of urine examined contained about one-sixth, by bulk, of albumin.

April 5th, 9 A.M.—Temperature, 99° F.; pulse, 112. Enema last night moved bowels and gave some relief to pain. Medicines have acted several times. Pain still severe in iliac region. 4.30 P.M.—Temperature, 102° F.; pulse, 124. Bowels and bladder inclined to be irritable; considerable pain in right iliac region intensified by pressure over region of appendix. No nausea or vomiting. Patient has taken small quantities of water and chicken broth during the day. I gave hypodermatic injection of morphine sulphate, $\frac{1}{4}$ grain, and atropine sulphate, grain $\frac{1}{150}$; ordered hot applications continued and thirty drops of laudanum by enema if necessary to relieve pain during the night.

April 6th, 9 A.M.—Temperature, 99$\frac{1}{5}$° F.; pulse, 120. Some irritability of the bladder during the night was relieved by the use of the laudanum enema, one time. Pain not so severe this morning, but still marked in the usual place. Hot applications continued; no other treatment. 4 P.M.—Temperature, 100$\frac{4}{5}$° F.; pulse, 120.

April 7th, 9 A.M.—Temperature, 99° F.; pulse, 118. Had a fairly good night, though suffered some pain and used laudanum enema once during the night. Pain still rather severe over appendix. 4 P.M.—Temperature, 100$\frac{3}{5}$° F.; pulse, 118. No special change in symptoms.

April 8th, 1.30 A.M.—Was called up at this hour and told that patient was restless and perspiring profusely. Almost sure that the dreaded rupture had occurred and that surgical measures could be postponed no longer. I found, upon my arrival at her bedside, my patient's general condition not at all unfavorable. Temperature had fallen to 96° F.; pulse, to 90. I am inclined to think that this was the crisis in this case. A dose of mixed bromides was the only sedative given and patient's temperature at 9 A.M. next morning (April 8th) was 97$\frac{4}{5}$° F.; pulse, 100. Still some pain, but only elicited by pressure over region of appendix.

April 8th, 4.30 P.M.—Temperature, 98° F.; patient cheerful and comfortable. The further progress of this case was without incident of importance. After April 10th, I discontinued my visits, temperature remaining normal, and there being but slight tenderness on pressure over appendix. Impressed with the gravity of the symptoms in the beginning, however, I felt that my patient would not be entirely safe until her confinement should have taken place.

The sequel was even more interesting than it promised to be. I was called again to this lady at 7 A.M., April 30th; found her in labor; presentation L. O. A.; temperature and pulse normal. Labor was natural, though severe and tedious, and delivery of a large healthy female child was accomplished at about 5.30 P.M., without even rupture of perineum. Proceeding to deliver the after-birth I remarked the position of the uterus which, contracted in a cylindrical roll, lay obliquely across the abdomen, seemingly drawn toward the right side. Upon expressing the placenta with one hand and receiving it with the other, I was struck with the hard, leathery feeling of its free surface and border, and the peculiar gritty sensation imparted by the part which had been attached to the uterine wall, and noted too that that attachment seemed to have been to the right side of uterus. Examining the placenta, I found its peculiar feeling to be due to its having undergone calcareous degeneration; its substance feeling like sand-paper; so thickly were the limy concretions dispersed throughout its tissues. The free surface was

of whitish appearance, showing here and there elevations resembling nodules of inflammatory lymph, while the large blood-vessels and their tract were enveloped in and covered with this yellowish white deposit of plastic material. The condition suggested was that of inflammation of the placenta, stopping short of formation of pus, but followed by calcareous degeneration.

Though my patient had had a temperature higher than that to which Dr. Mundé attributed the death of the fœtus in his case quoted above, and though this rare condition of the placenta is said to be one cause of the death of the fœtus in utero (Leischman), the child in this instance was very much alive, fat, and weighed eleven pounds. The fact that my patient's temperature after delivery was 102° F., caused me some little uneasiness; but the pain in the right side did not return, the fever had disappeared by next morning, and the lying-in period was uneventful. An examination a few weeks ago showed a very slight tenderness in right iliac region, but patient is up and seems in perfect health at this time.

I am not altogether satisfied as to the correct diagnosis of this case, the symptoms of which may have been caused by any one of at least three pathological conditions. They may have been due to appendicitis, and were certainly the symptoms usually considered pathognomonic of that condition; while the placental condition may have been the result of gradually progressive calcareous change, extending over a longer period of time than the twenty-seven days which intervened between the onset of this attack and labor. Or they may have been due primarily to "inflammation of the placenta," subsiding before pus formation and followed by the calcareous change, and not to appendicitis at all. Dr. McArthur's third case, quoted above, resembling this case in its features of high temperature, localized pain, and other symptoms of appendicitis, renders this second idea as to diagnosis of my case plausible. Or, finally, they may have been set up by an appendicial inflammation, the contiguous right wall of the uterus forming one side of the resulting inflammatory focus, and an extension of inflammation through the right wall of the uterus may have caused the changes found in the placenta, the original appendicial inflammation terminating either by resolution or by discharge of inflammatory products into the intestinal canal.

The prime object of this paper, however, is to solicit an expression of opinion as to the proper mode of dealing with appendicitis complicating pregnancy. When may we temporize? When must we operate? It seems to me that if we must operate upon these cases, the radical plan of first inducing abortion and then opening the abdominal cavity, is a rational plan; but it, too, must necessarily involve grave risks for the patient. Where the womb forms one wall of the appendicial abscess, and who can tell when this condition exists, to rid it of its contents and insure its safe contraction, would be to tear it from its adhesions about the appendix and to set free the contents of the abscess in the abdominal cavity. Some time must elapse between the induction and completion of the abortion and the opening of the abdominal cavity. The possibility of the infection of the general peritoneal cavity in this interval, however short it may be, is a dangerous flaw in this plan of treatment. Operation without first causing abortion proved fatal in the two cases published. Delay and operation after labor was successful in Professor Mundé's case. Delay alone is sometimes rewarded by the recovery of the patient.

The surgeon with large experience and abundant facilities may risk operation in these cases and view the results with equanimity, feeling that he has performed his duty in carrying out strict surgical principles; but the practitioner in small towns, where the welfare of every patient is a personal matter and fraught with anxiety and responsibilities to himself, must, in view at least of published results in these cases, hesitate before adopting radical measures of treatment.

PLASTIC OPERATION ON THE PENIS AND SCROTUM.

By H. C. HALL, M.D.,

TELLURIDE, COL.

C. E. R——, aged thirty-two, with fine physique and seemingly perfect constitution, no objective nor subjective symptoms of past or present venereal trouble; consulted me, January 28th last, with the statement that while at work in a stamp mill, four days before, the work being of a nature requiring great force to be exerted with his left leg, he was taken with slight pain in the left inguinal region, which increased gradually the following four days, when he was compelled to quit work. On examination I found a number of enlarged and inflamed glands in that region. The usual methods for the relief of such a condition were employed, but to no avail whatever. It pursued an indolent and gradually advancing course until March 1st, when there was sufficient evidence of suppuration in one of the glands to warrant an incision, which was made with the result of evacuating about an ounce of healthy-looking pus. Strict antisepsis was observed at time of, and following, the incision. The patient was on the street within two or three days thereafter, and continued to go about until March 13th, when, while sitting in my office, after having just remarked that he felt fairly well, he was seized with a most violent chill, lasting forty-five minutes. At the end of this time he was greatly prostrated, and vomited profusely, the pulse and temperature rising rapidly. The prostration continued, and at noon of the second day thereafter he directed my attention to an uneasiness, as he termed it, of the scrotum and penis. Examination revealed a beginning inflammation of the skin and subcutaneous tissues of those parts. By the evening of the following day they had attained to enormous dimensions, and by noon of the day after this, lines of demarcation were forming. Temperature above 104° F.; pulse rapid and feeble, and beginning delirium. The parts sloughed away and on the fourth day I removed all the sloughing tissue, as shown in Fig. 1.

FIG. 1.

As the destruction of the penis cannot be well seen,

I will state that two-thirds of its entire skin and subcutaneous tissue sloughed, leaving a strip, from base to apex, amounting to one-third. Improvement in the general condition set in from the date of removal of the slough. During the following three weeks, the testicles were kept well incased in oil-silk and absorbent cotton, at the end of which time their surfaces presented a healthy and granular appearance.

On April 11th, in the presence, and with the valuable assistance, of Drs. Brown, Tosh, Russell, and Litchfield, a flap of three and one-half inches in its greatest width, and six inches in length, with convexities to suit conditions, was dissected from the inner aspect of the right thigh, leaving a pedicle one and three-quarters inch in width, and a little above the level of the parts to be covered. After freshening and smoothing the edges of the remaining portion of scrotum, the flap was sutured to it, except a space of one-third of an inch at the furthest extremity of flap, which granulated incompletely. Direct union followed in the entire circumference.

On May 18th, five weeks from date of operation, the pedicle was severed and returned to its place. The cut surface of the flap being sutured to that portion of the scrotum beneath, which also united directly. Four weeks seemed sufficient to complete the union of the flap before severing the pedicle, but another week was added to insure absolute safety. At that time the penis was nearly covered in its entirety with new skin.

On May 20th the patient came to my office on crutches. The wound on the thigh progressed rapidly and well. On June 16th, when the photograph reproduced in Fig. 2 was taken, there was a space only one-

FIG. 2.

half inch wide unhealed, and this was closed on July 1st.

The patient is now in the East, and writes me that he is feeling quite well, and experiences little or no inconvenience from his late trouble.

A Diphtheria Laboratory in Paris.—A municipal laboratory for bacteriology has been established in the old Lobau barracks in Paris, where analyses of suspected cases of diphtheria are made within twenty-four hours after the materials have been handed in.

SYMPHYSEOTOMY.

BY T. E. TAYLOR, M.D.,

DENVER, COL.

SINCE the recent revival of the almost forgotten operation of symphyseotomy a few years ago, the cases reported have multiplied, and the technique has been perfected, until we are rapidly getting into a position where we can define the limits within which it is justifiable. Until this is done every operation should be reported, as the larger the number of cases recorded the less is the likelihood of error. Having recently had a patient who was delivered by this means, I take this opportunity to report the case.

Mrs. G——, aged thirty-three, German, sent for me early in the morning of March 6th. I saw her at 7 A.M., and was told that she had had strong pains all night, labor having set in at 2 P.M. the previous day, and the membranes having ruptured at 10 P.M. I was also told that her previous labors had all been difficult, all of her four deliveries having been by craniotomy.

Upon making an examination I found the os thoroughly dilated, the vertex presenting in the first position, and the head so firmly crowded down into the inlet that I could not reach the promontory of the sacrum, though the ease with which I could reach the upper segments of the sacrum indicated that its promontory would be within reach were the head out of the way. Upon taking the customary external measurements I found the following dimensions: Spines, 10½ inches; crests, 9½ inches; extended conjugate, 6½ inches.

Two weeks after delivery I found the diagonal conjugate to measure three and one-fourth inches, giving me an estimated true conjugate of two and five-eighths inches.

Although satisfied from the measurements of the pelvis that there was no possibility of a head approaching the normal in size passing through it, this conclusion also being confirmed by the history of successive craniotomies, yet as the surroundings were most unfavorable for any operation, and as the patient was very averse to going to a hospital, or indeed to undergoing any operation at all, I put on the forceps to give her the benefit of any chance that the head might be small and compressible enough to pass through the contracted inlet. The forceps were applied without difficulty, but strong traction applied with remission for half an hour failed to produce any effect. It seemed evident, therefore, that an operation was inevitable, and she was persuaded to go to St. Luke's Hospital for this purpose, Dr. Parkhill being called to my assistance. Dr. Parkhill agreed with me that symphyseotomy was the preferable operation, though the conditions were not what we should have liked, as the woman had been in labor already twenty-four hours, and ten hours had elapsed since the membranes had ruptured, she being during this time in the care of a most ignorant and dirty midwife, who had made frequent examinations. I confess, too, that the preliminary application of the forceps, though authorized and even insisted upon by some, was hopeless and ill-advised, and had an unfavorable bearing on the prognosis. It must be remembered, however, that at this time I had not been able to measure the diagonal conjugate, and consequently could not know how great the contraction was, estimates founded upon the external conjugate being very unreliable.

At the hospital the abdomen, thighs, and vulva were shaved and thoroughly disinfected as for any operation, and the vagina was also thoroughly disinfected. Dr. Parkhill operated by the open method, dividing the symphysis from before backward with a bistoury. As so often happens, the symphysis was not in the median line but a little to the left. Upon dividing the symphysis the pubic bones separated about an inch and

a half, the separation as the head passed through the inlet reaching two and one-half inches. The labor was at once completed by the application of the forceps, only moderate traction being necessary. The child was asphyxiated, but it was soon resuscitated. The patient recovered without noteworthy incident, leaving the hospital on the ninth day, and within three weeks resuming her household duties and the care of the baby. There is no perceptible movement of the pubic bones, and her gait is as secure as formerly.

This result was very gratifying in comparison with the bloody record of four successive craniotomies. The question arises, Was it the best possible operation to do? At our meeting last year a successful case of Cæsarean section was reported, and to some it may seem that the latter is the more promising operation. Looking into the statistics of the two operations, we find that the results in both depend largely on the period covered and the operators concerned. If we go back fifteen or twenty years, before the days of aseptic surgery, and when the indications calling for them were not well understood, we find both operations alike unsatisfactory. To resort to them when every other hope has failed, and when the mother is already exhausted by a long and fruitless labor, is not fair to these operations, and the resulting mortality is not so much the mortality of the operation as the mortality of prolonged labor. The true mortality of symphyseotomy, as of Cæsarean section, must be computed from those cases alone where the measurements have been carefully taken, and the most suitable operation undertaken as a matter of election, not as a last resort, and where every precaution has been taken to avoid sepsis. Tried by this standard the earlier cases, down to 1880, must be rejected as a whole; and of the cases reported since that time, while the field of the operation was ill-defined, a large part, including most of the fatal cases, must also be thrown out, as they were either performed after labor had continued a long time, or the conditions were such as to make symphyseotomy unsuitable, or death was due to some complication unconnected with the operation itself. What the results of symphyseotomy, thus revised, may be are seen by the statistics reported by Spinelli in the *Annales de Gynécologie* and translated by Dr. E. Gustav Zincke for the *Ohio Medical Journal* for April, 1895, where, of twenty-three cases operated on by Morrisani, Novi, and others, all the mothers recovered and only one child died twelve hours after the operation. Similarly Grandin and Jarman state that of the four deaths occurring in thirty-one cases operated upon in the United States up to March, 1894, in not a single case was the operation elective, being only performed after the patient was already greatly exhausted; while of the nine fœtal deaths eight would not have occurred if the operation had been elective. Even the best statistics of Cæsarean section cannot equal these results, so that the conclusion seems warranted that when the pelvic contraction is not below the limits of successful symphyseotomy it is not only the less formidable operation to the patient, but it is really less hazardous. Beyond these limits the combination of induced premature labor and symphyseotomy is feasible, but will not usually give as good results as Cæsarean section.

The limits within which symphyseotomy is feasible are pretty well determined, extending from the limit of a safe delivery by forceps with a true conjugate of about three and one-half inches down to a conjugate of two and one-half inches. It is unsafe to allow the pubic bones to separate more than three inches, lest the sacro-iliac joints be injured, which gives us a gain of about three-fifths inch in the true conjugate; but as the transverse diameters are increased much more than the conjugate, there is plenty of room for moulding the head, so that the entire gain by the operation is equal to a gain of one inch in the true conjugate.

As to embryotomy, does it not seem that it is time to say that this operation is not justifiable if the child is living? Granting that we should attach more importance to the safety of the mother than of the child, when we have an operation that is as safe for the mother, and which usually saves the child, how can we hesitate as to our duty? Of course, the patient and friends must consent to the operation, and they may refuse to allow symphyseotomy, but this does not justify us in destroying the child, any more than her earlier preference for abortion would have justified us in resorting to this means for relief of the nausea of pregnancy, when not justified by the necessities of the case.

A CASE OF ECHINOCOCCUS CYSTS OF THE LIVER, PLEURA, OMENTUM, MESENTERY, PERITONEUM, AND BLADDER.

By HARLAN M. PAGE, A.M., M.D.,

HIRAM, O.

I was called, September 3, 1894, two miles into the country, to see a German woman, fifty-one years of age, the mother of two children, the youngest being twenty-one. She had always worked hard, in doors and out. She had a moderate appetite, slept well, menstruated regularly, and was not constipated. Two days before she had begun to have pain in the right hypochondriac region, and the dyspnœa, from which she had suffered more or less for five years, had increased. Had had slight chills. Seven years before she had noticed a small lump the size of a hen's egg in the right hypochondrium, which had gradually increased in size. She was in fair flesh, slightly jaundiced, with a very anxious and distressed expression. Temperature, 102° F.; pulse, 120 and feeble; respirations, 30. Tongue slightly coated. Examination of the chest elicited increased vesicular murmur on the left side. Apex beat in normal position. Dulness on percussion on the right side, with no increase of vocal resonance. Abdomen generally distended, with a circumscribed prominence in the right hypochondrium. Dulness marked from the clavicle on the right side to a line drawn between the anterior superior spines of the ilia, extending over the median line in the abdominal region. Palpation demonstrated fluid in the circumscribed prominence, and hard nodular masses throughout the remainder of the area. Examination per vaginam showed that there was no connection between the uterus and appendages and the mass above, although Douglas's cul-de-sac was full of nodular resisting material. I could not arrive at any reasonable diagnosis, and advised the patient's going to Cleveland for further advice.

At the end of four weeks, during which time the woman had suffered much from pain and dyspnœa, I was again summoned. I found all the previous conditions exaggerated, and in addition ascites and œdema of the ankles. They were now ready to follow my suggestion, and accordingly Dr. T. M. Sabin, of Warren, was called. We aspirated the circumscribed tumor above referred to for purposes of diagnosis, and brought to light fetid pus which we evacuated by means of an incision one inch in length. So great was the tension that the pus spurted at least three feet beyond the patient's body. We obtained in all about five quarts of pus and straw-colored fluid. In this we were surprised to find a large number of sacs filled with a yellowish fluid, and in addition a large opaque one which had collapsed as a result of the incision. As this did not escape last we were convinced that the container of all was yet within. We dressed with iodoform gauze and cotton, and left our patient much relieved as regards dyspnœa. At the next dressing I succeeded in getting out, by change of position, fully a quart of bile-stained fluid devoid of odor; this characterized the discharge to the end, suggesting the deodorant property of bile.

During the five days immediately succeeding the operation the temperature remained normal, the heart action was improved, and respirations became easy. She took considerable nourishment and seemed to be improving in every way until the sixth day, when she began coughing severely, and died on the seventh day, apparently from exhaustion.

I was compelled to make the post-mortem examination alone and on limited time, hence my observations were not as many or as accurate as the case merited. I found the pleural sac on the right side full of pus and the pus full of sacs such as escaped from the incised tumor. The lung did not seem to have been involved in cystic changes, but was compressed into a very small compass and hepatized. Much of the liver was involved, some of the cysts having undergone purulent transformation; others not. This condition was also true of the many found in the peritoneum, omentum, and mesentery. The intestines, and in fact all the abdominal viscera, were matted together. The uterus and appendages were demonstrably uninvolved, as were also the kidneys. In making my incision I tapped the bladder, and a large quantity of clear fluid escaped as though under pressure; following this came six or eight small opaque sacs about the size of marbles, and finally one capable of holding at least four ounces of fluid. My time was up, and I reluctantly withdrew from territory which certainly had many more interesting things with which to reward more careful investigation. I bore away with me several of the omental cysts and those from the bladder, in the contents of which I again found the hooklets of the tænia echinococcus, or at least felt sure that I did; and my faith was strengthened by Professor A. P. Ohlmacher, of Cleveland, O., who kindly demonstrated them. Here there was a clear case of echinococcus cysts of liver, omentum, peritoneum, mesentery, pleura, and bladder. As to the primary seat of the trouble we can only conjecture. As to the source of infection, it was undoubtedly from dogs, of which they always kept several about the house, and with whom they lived on very intimate terms.

The case would seem to me to be worthy of note: 1. On account of rarity, Osler having been able to collect only eighty-five cases in the United States and Canada. 2. In the very wide dissemination of the cysts. 3. In the fact that the patient was able to do hard manual labor up to within four weeks of her death. 4. The phenomena of disappearance of odor coincidently with the appearance of bile in the fluid from the sac incised ante-mortem. 5. In the fact that the temperature remained normal after the operation until death.

In connection with these last two the question has arisen in my mind, whether absorption of bile might not counteract the effects of inflammatory changes so far as temperature is concerned.

Risk of Operating without Consent.—An action involving a claim for £2,000 has been tried in Belgium, which is of considerable interest to surgeons. It appears that a lady who suffered from uterine hemorrhage was recommended by a consultant who was called in by her family attendant to allow the uterus to be curetted, to which she and her husband consented. When the operation was begun it was discovered that there was cancer of the uterus, and the operator and the family practitioner decided then and there to remove the whole organ, the result being that the patient died from hemorrhage. As neither the patient nor the husband was consulted about the hysterectomy, it was held by the court to be unjustifiable. The damages were, however, reduced to £200.—*The Lancet.*

Supra-pubic Cystotomy was first performed by Franco, in 1561.

Progress of Medical Science.

The Treatment of Nervous Disturbances of the Heart Resulting from Influenza.—Dr. Sansom advises as a routine practice the use of sulphocarbolate of sodium in doses of twenty to thirty grains, every two, three, or four hours, according to the severity of the case. The diet should be almost entirely liquid. Alcoholic stimulants should be administered with caution; champagne diluted with Apollinaris, or brandy in dessert-spoonfuls every three or four hours with milk and soda-water. When the temperature rises above 103° F., quinine is the best antipyretic. Phenacetin or antipyrin gives comfort, but their action must be watched, as they sometimes increase the already profuse perspirations. Pains are best controlled by phenacetin or antipyrin, unless profuse perspiration or signs of nervous prostration are contraindications. In profound adynamia the writer knows of no more efficient remedy than musk in five-grain doses. The hypodermic injection of brandy, ether, or strychnine may be called for. During convalescence, for several weeks, the sulphocarbolate of sodium with Fowler's solution is to be given three times a day after meals, and the nasopharynx repeatedly sprayed with an antiseptic solution like the following: Camphor and menthol, of each twenty grains; pure carbolic acid, one-half drachm; parolein, four ounces. The signs and symptoms referred to the heart resulting from influenza in the author's cases were thus distributed: In 100 cases: pain referred to the heart, 23 cases; tachycardia, 37 cases; irregular heart, 25 cases; bradycardia, 5 cases; organic disease of the heart, 10 cases For heart-pain after influenza, complete rest, morphine hypodermically (one-fourth to one-third grain) with diffusible stimulants are the remedial measures recommended. Once the severity is mitigated, five grains of quinine dissolved in hydrobromic acid is preferable to morphia. For more continuous treatment of the early painful phase, sodium bromide (twenty grains) with Fowler's solution (three minims) three times a day after food is recommended. In some cases sodium iodide (five grains) is added with benefit. When pain is persistent, local treatment is useful. Mustard poultices sprinkled with tinctures of opium, belladonna, and aconite, give relief in some cases. In others a fomentation of lint soaked in a hot solution of sodium salicylate is very efficacious; or an ointment containing twenty per cent. of salicylic acid and ten per cent. of menthol in a fatty basis of lanolin and lard, may be rubbed in over the painful area. In more chronic cases small blisters prove efficient. In tachycardia, or palpitation following influenza, the writer considers digitalis and analogous cardiac tonics not only useless but dangerous. The mixture of sodium bromide with small doses of arsenic, as suggested for the treatment of the cardiac pain, is perhaps most generally useful. For the insomnia, chloralamide (twenty to twenty-five grains) at bedtime is regarded as the most useful and least harmful hypnotic. Opium, the author thinks, should be avoided or reserved for emergencies. For continuous tachycardia, a galvanic current from a Schall's four- or six-celled battery is recommended, the anode held over the nape of the neck and the cathode gently pressed into the groove of the neck outside the larynx. Abnormal retardation of the pulse-rate may be relieved by phenacetin and camphor, with local warmth and counter-irritation of the epigastrium and abdomen. Permanent bradycardia is serious. Tincture of belladonna (ten minims thrice daily), massage, and graduated muscular exercise are useful; but it must be realized that the condition of very slow heart is one of peril.—*The Practitioner.*

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CHLORAL.

CHLORAL is usually considered to be essentially a hypnotic and sedative drug. It has, however, quite a number of other uses. In this city it has long been employed, in small doses, as a vaso-dilator, two or three grains being given, combined perhaps with iodide of potassium. Associated with this same drug, Dr. Pal finds it of service in bronchial asthma, and the same physician has found it effective also, in doses of 10 to 20 grains, in checking bleeding from the lungs. On the same principle, that is, on the principle of its acting as a relaxer of arterial tension, Dr. Cherchevsky has used it in small doses daily to counteract coldness of the feet and hands, which are so disagreeable symptoms in some cases of anæmia and neurasthenia. Dr. Pal has also recommended chloral hydrate as a laxative in various forms of chronic constipation, principally those of neuropathic patients. The dose here, however, is more than 20 grains, and, as the *Practitioner* truly says, the drug must be a dangerous one to use for such a purpose.

M. Spehn recommends chloral very highly as a local application for boils. He directs that the boil be kept covered with a tampon of cotton well soaked in a solution of chloral hydrate, glycerin, and water. The strength of the solution is about two drachms to the ounce.

A writer in the *Semaine Médicale* recommends chloral for children who are irritable and restless when suffering from scarlet fever. Another use of chloral is in certain forms of dyspepsia in which there is a sense of distention with pain in the neighborhood of the cardiac end of the stomach. This dyspepsia usually occurs in neurotic persons and may be termed a nervous type of the disorder. According to the *Therapeutic Gazette*, a little chloral hydrate (one or two grains) dissolved in peppermint water is of service here.

Chloral is recommended by Playfair, in his textbook, for dilating the rigid cervix, during the early stages of labor.

We are somewhat loath to give chloral any more prestige than it already has. Still we should add that it is a drug which has been shown to be of some service in epilepsy, and which is one of the sheet-anchors in acute alcoholism; but it is also a drug whose continued use, even in rather moderate doses, is sure to injure the patient eventually. Chloral needs always to be given cautiously at first, and never for prolonged periods of time.

BONE-SETTERS AND NATURAL DOCTORS.

WE hear very little nowadays about natural doctors. The discoveries in the line of bacteriology and the improvements in methods of physical examination and surgical treatment have rather thrown this interesting class into the background. There was a time, perhaps, when some of these born artists could come into a sick-room and by simply looking at a patient make a diagnosis which was most satisfactory to the family by reason of the learned terms with which an apparent exact knowledge was clothed. In these times, however, patients prefer to have their urine examined by those skilled in chemical knowledge in order to say whether they have Bright's disease, and they prefer to have the heart or lung examined with instruments of precision rather than depend on the guess-work of the intuitive practitioner. That instinctive knowledge which made what used to be called the natural physician was in the main simply a knowledge of human nature combined with a good deal of self-confidence and practical sense. These are still valuable and essential parts of the physician's equipment, but to them have to be added the technical knowledge which enables him to select proper antiseptics in his surgical operations and to make a careful examination of all the organs of the body which can be reached by instruments of precision.

We have been led to make these observations by the perusal of an interesting article on the Sweet family of Narragansett, which recently appeared in the *Medical Tribune* over the signature of Dr. Alexander Wilder. Many of the physicians of the present day have heard of the Sweet family and their wonderful bone-setting gifts. Probably some of our older physicians have even come in contact with them, but they are to most of us little more than a tradition.

The original member of the family, we are told, was Captain Banoni Sweet, who had been a captain in the British service, and who after the Revolutionary War settled in Narragansett. His descendants continued to live in that neighborhood and followed various humble occupations, some of them being farmers, blacksmiths, fishermen, mechanics, and so on. Job Sweet, one of the descendants made his great hit by relieving Theodosia Burr, daughter of Aaron Burr, of a so-called dislocation of the hip which had baffled the skill of the New York and Rhode Island surgeons for a long time. The story of Dr. Job's trip to Boston, and the dramatic way in which he disconcerted the regular faculty by his marvellous manipulations of Theodosia's hip makes very interesting reading, but we can hardly regard it as historical truth. We have some suspicion that perhaps Theodosia had what in these later days would have been called a hysterical joint. However, Dr. Job got his reputation and his fee and went home to return to his ordinary avocations.

Job had a son, by the name of Jonathan, who was equally skilful, apparently, with his father, and there was a Dr. Sweet, of Fall River, who had a very success-

ful experience with the Philadelphia surgeons. In fact, the history of the bone-setting Sweets, as told by Dr. Wilder, does not reflect the greatest credit upon the skill of the eminent surgeons of Boston, Philadelphia, and New York.

The Sweets, we are told, abounded in liniments, tinctures, embrocations, and salves, prepared by themselves from the plants, roots, and bark of trees growing in New England. Their usual plan of operations seems to have been to place some emollient application upon the affected joint for a time, and then by a deft manipulation to set the bone back in its place. There is no doubt that they did possess a good deal of skill in this kind of work. After all, the setting of a joint is not a very complex mechanical problem, and a great many more people could set joints than do so now if they possessed the confidence of the patient and the confidence in themselves which the Sweets had. This family seems to have inherited a belief that they possessed some inborn gift by which they could see into the joints, and by which they were enabled to picture in their mind's eye in each case the exact position of the displaced parts. They apparently had a certain hallucination at the time of the operation, and saw in their minds, at least, an open, dissected joint before their eyes.

The occupation of the bone-setter is pretty nearly gone by reason of the greater intelligence of the people and the greater skill of the regular faculty. There are still a few people in the world who prefer to be treated by an old woman or a bone-setter when they have some serious ailment, but the number is extremely small and will probably grow smaller, though we would not venture to predict that either folly or bone-setting will ever entirely die out.

THE COMMITMENT OF THE INSANE.

Mr. Albert Bach, a lawyer of ability and standing, read an article at the recent Medico-Legal Congress upon the subject of the commitment of the insane, which has attracted the notice of some of our daily contemporaries. Mr. Bach, who is Vice-President of the Medico-Legal Society, and who has, no doubt, made much study of the question, thinks that the present method of committing the insane is not perfect, and that the imperfections lie in its not being safe enough; or, in other words, not provided with sufficient care against the commitment to insane asylums of sane persons.

At regular intervals for many years individuals have become alarmed over the possible commitment of the sane into lunatic asylums. The result of this agitation has been to secure close and careful restrictions upon the methods of commitment. The present New York law is one which, so far as the safeguards which Mr. Bach is alarmed about are concerned, does not much differ from that which has existed for a number of years, and which has given satisfaction in this and many other States where similar provisions have been applied. The practising physician and alienist, who are familiar with the workings of this law, find that it is quite rigid enough so far as the points criticised by Mr. Bach are concerned.

The trouble with him and with lay students of this subject generally, is that only one danger is seriously considered, namely, that of committing a sane man to an insane asylum. The much greater danger of allowing insane people with homicidal, suicidal, and criminal tendencies to go about at large is quite forgotten; and the result is that we have, every year, a certain considerable proportion of homicides committed by lunatics who would, no doubt, have been safely placed away in lunatic asylums, if it were not for this fear on the part of the public that a sane man may be considered insane.

We must confess that, judging from the expression of the opinion by alienists, the need of an amendment to the present law, in order to protect the public, does not really exist. There are certain defects in the law, but they relate rather to the forms and details of the commitment. Any plan to have the judge himself see the lunatic before he signs the paper is an impossible one, for many lunatics are quite unfit to be brought into the presence of the court; and so far as the appointment of a commission or a jury is concerned, in order to determine the sanity of the patient, this is already provided for by the present law.

THE DEAN OF NORWICH ON DOCTORS' BILLS.

The ancient city of Norwich, in England, is a pleasant place, in which many good people have lived—eminent divines, masterful surgeons, noted linguists, and handsome women—and though many have come from there to the gain of other places, there are still not a few remaining. Among the best of them is the present Dean of Norwich, who combines with other good qualities a just appreciation of the value of medical services. In his sermon at the Cathedral on Hospital Sunday, he delivered a eulogy upon the physician and his work of charity among his fellows. This is perhaps not particularly worthy of notice, for we are frequently told on public occasions how good we are, and usually must rest satisfied with this patronizing approval; but the Dean is a practical man and one who believes that the laborer is worthy of his hire, and he told his people in plain words that they must pay their doctors for work done. His remarks concerning doctors' bills, says the *British Medical Journal*, should be widely read, for they deserve the attention of many whose position in the world is undisputed, who stand well with their neighbors, and are looked on as honest men, but nevertheless relegate the payment of their doctors' bills to the dim and distant future. The Dean is reported as having said: "Nor can I, nor shall I, be silent about the wrongs to which scores of medical men are subject. I refer to the startling contrast there is between the inexorable demands which society makes on medical men and the elasticity of the social conscience with respect to their remuneration. I have known cases where men are summoned, at all hours, and at all seasons of the year. Their bills are presented with timidity, if not anxiety, and they are received sometimes with

amazement, sometimes with indignation, and sometimes relegated to oblivion. Nor are cases unknown where the righteous demand for work done is met by calling in another practitioner, he in turn to suffer as his brother did before him. I cannot permit myself to imagine that I address any such wrongdoer here to-day. But if I do, then, in my Master's name, I entreat you to remember that the medical men of this nation are the highest type of their class in the world; they are entrusted with the secrets of domestic life; they have all our liabilities, with the special liabilities of their order; they frequently die as martyrs to science, to suffering, to sympathy, to destitution. . . . Believing this, my plea is that every unpaid medical bill be discharged generously, gratefully, cheerfully, and that whatever account must be deferred in payment, the last to be deferred is the account of him who is the human agent who has brought us into the world, enables us to continue our work in life, and many a time lays down his own in endeavoring to baffle death."

News of the Week.

The Health of the Pope.—The Rome correspondent of *The Lancet* writes that the out-of-door life the Pope leads in the beautiful demense between the Vatican Palace and the Janiculan has told favorably on his health, which, all things considered, was never better than to-day. For one thing, he has no threatening of those fainting fits which, in the spring months especially and during the exigencies of urgent business, were apt to overtake him. With due allowance for the senile anæmia of which he has more than the average octogenarian's share, this result is of very good omen. Dr. Lapponi, physician to His Holiness, in reply to an interrogatory addressed to him, said that if nothing unforeseen happens, the Holy Father's constitution is so sound that he might well attain his hundredth year.

Dr. Giacomo Asiari, of Pesaro, Italy, attained his hundredth year on July 29th, having been born at Forli on that day in 1795. He received his medical diploma from the University of Florence in 1821. In June, 1891, he retired from practice, the town council of [illegible] granting him an annual pension in recognition of his professional and civic virtues.

Anthrax is reported as prevailing in epidemic form among the dairy cattle near St. Louis.

Cycles for Invalids and Doctors.—The possible uses of the cycle, says the *British Medical Journal*, have not yet been dreamt of. The cumbersome Bath chair for invalids is giving place to a light wicker chair mounted as a tricycle driven from behind. In this easy little carriage an invalid can be trundled about the country lanes at the rate of five or six miles an hour, enjoying the breezes and the sunshine and the invigorating pleasure of change of scene at very small expense. Many country doctors have long been accustomed to pay their visits on a tricycle; but we hear now of a cycle cab used by a metropolitan doctor, which is driven by two youths, one behind and the other in front. By this method fatigue is avoided and the expenses of the stable abolished.

The Heidelberg Ophthalmological Congress has awarded the Graefe Medal to Dr. Theodor Leber, Professor of Ophthalmology in the University of Heidelberg.

The German Emperor has promised a subscription of 10,000 marks ($2,500) toward the cost of erection of a statue to Helmholtz in Berlin.

Railroad Liability for Medical Services.—The liability of railroads for medical services to victims of injuries when attended by physicians not in railroad employ is the subject of very contradictory decisions by the courts. The recent decision of the Kansas Supreme Court in the case of Steelsmith *vs.* the Union Pacific Railroad is in the line of ordinary rules governing contracts. Dr. Steelsmith, of Abilene, Kan., was called by the station-master to attend a brakeman fatally injured in the discharge of his duty, the local surgeon being away. Payment for the services rendered was refused. Dr. Steelsmith then brought suit in the Justice Court, which decided in his favor. The company appealed to the District Court, which reversed the decision of the Justice Court. Dr. Steelsmith appealed to the Kansas Supreme Court, which reversed the decision of the District Court, awarded him the full amount and assessed the costs on the railroad company. The legal principle governing the decision is equitable and has long been law, yet it was contemptuously disregarded by the District Court.—*Medical Standard.*

Surgeons are said to be much in favor of the bicycle because it "helps their specialty." We hear of one doctor at a summer-resort who had twenty cases of bicycle accidents in four weeks. The *Scientific American* gives an explanation of the physics of bicycle accidents which is very impressive. The ability, it says, of a bicycle and rider in rapid motion to do serious damage in a collision with another machine or with a pedestrian is fully appreciated by few wheelmen. A man weighing one hundred and fifty pounds and moving at the rate of ten feet per second (which is only about seven miles per hour) has a momentum of 1,500 pounds, leaving out of the account the weight of the wheel. This is sufficient to upset any pedestrian with terrific force. A collision between two wheels, each with a 150-pound rider, spinning at the moderate speed of seven miles per hour, would result in a smash-up, with a force of 3,000 pounds. In view of these facts, it is no wonder that bicycle accidents are often very serious. The tractive force required to propel a bicycle over a smooth level surface is estimated at 0.01 of the load; calling the load 150 pounds, a force of a pound and a half would be required to move the wheel forward, and this calls for a pressure on the pedals of six pounds and three-quarters on a wheel geared in the usual manner. When, however, the road is rough, or on an up grade, the case is different. On a grade of 1 in 10, for example, the rider, in addition to the tractive force, actually lifts one-tenth of his weight and that of the machine.

The Cholera.—The disease is supposed to have been brought to the Sandwich Islands from China in the

steamship Belgic, which arrived on August 9th, with over five hundred Chinese immigrants, some already suffering from diarrhœa. Up to August 24th there had been six cases. After that there were none, until the 30th, when nine cases were reported, one a seaman on the United States steamer Bennington. Up to September 8th there were fifty-eight cases with forty-four deaths, all the cases being among the natives and Chinese, except those on the Bennington. Seventeen of these cases, with nine deaths, had occurred since September 5th, so that the disease appears to be increasing. The steamship Rio Janeiro, which arrived at San Francisco on September 16th from China, Japan, and Hawaii, brings consular certificates showing that the disease prevails in Yokohama, Nagasaki, and Honolulu among the ports at which she touched. At Tangier, in Morocco, cholera has been declared epidemic, twelve new cases having been reported on September 16th. A bacterioscopic examination by Spanish medical officers shows the affection to be genuine Asiatic cholera.

The British Association for the Advancement of Science.—The sixty-fifth annual meeting of this association was held at Ipswich, on September 11th, 12th, and 13th. Sir Douglas Galton, the president, while delivering the annual address, which was of unusual length even for such an occasion, fainted. He soon recovered, but was unable to continue the address, which was finished by one of the members. Dr. Percy Frankland delivered a eulogy on "Pasteur, the Chemist, Physicist, and Biologist." The next meeting of the Association will be held in Liverpool, in 1896, under the presidency of Sir Joseph Lister. It was voted to hold the meeting following that, namely in 1897, in Toronto.

Professional Dignity in Belgium.—A drygoods establishment in Liége, among other inducements to attract custom, advertises to give credit for all purchases, to insure the goods bought against destruction by fire, and to supply free medical service to the purchaser and his family for a length of time proportional to the amount of the purchase. After completing his purchase the customer receives one or more coupons, according to the amount of his expenditure, each one entitling him to a visit from the physician whose name and address are there printed. With cool effrontery *Le Scalpel* calls this a *procédé Américain*, as if Belgium were not a by-word for quackery among the nations of the earth.

Dr. Ellwood Overstreet, of Petrona, Ind., was shot a few days ago by a patient to whom he was about to give a hypodermic injection of morphine. The man, who appears to have been maniacally excited, refused to take the remedy by the mouth and warned the physician not to attempt to give it to him any other way.

The Metric System.—In the forthcoming edition of the British Pharmacopœia the metric system will be introduced side by side with the old weights and measures.

The Index Medicus.—Seventeen additional subscriptions were received by Dr. Billings for the *Index Medicus*, from August 24th to September 7th.

The Chair of Pathology in the Jefferson Medical College of Philadelphia is said to be vacant.

The Police and the Bicyclers.—Paris journals state that the Chief of Police is going to arrest all women promenading the streets, who are wearing the divided skirt. If mounted upon a bicycle the lady is safe, but the moment she gets upon the pavement she is liable to arrest. This sensitiveness of the French mind to the attire of the bicycle lady is almost pathological.

The Practice of Medicine by Druggists.—The French Court has confirmed the sentence of a druggist who was fined 125 francs for practising medicine without a license. The druggist simply prescribed the application of compresses of a two per cent. solution of carbolic acid. Surely our druggists live under a much more liberal *régime* than those of Paris.

The Medical Poet of Finland.—Dr. Elias Loennrot, a country physician of Finland, has been called the "Christopher Columbus of Finnish poetry." Dr. Loennrot has written one or two epic poems, celebrating the early history of the country.

At a Recent Annual Meeting of the Alumni of the Chicago Medical College, the graduates presented to the college three life-sized bronze busts: one of Dr. Hosmer Allen Johnson, one of Dr. William Henry Byford, and the third of Dr. Joseph S. Jewell.

Large Bequests to Massachusetts Institutions.—Under the will of the late Thomas O. H. P. Burnham, who was for many years a dealer in second-hand books, nearly two-thirds of an estate of $602,562 will go to charitable and educational organizations. The Massachusetts General Hospital was made the residuary legatee, and has been paid $263,048. The Home for Aged Men, and Tuft's College will receive $10,000 each; Children's Home, Children's Hospital, Boston Asylum and Farm School, Washington Home, Massachusetts School for Feeble-minded Children, Perkins' Institute for the Blind and Boston Lying-in Hospital, $5,000, each; Boston Dispensary, Asylum for Aged Females, New England Hospital for Women and Children, and Consumptives' Home, $2,000.

The Miscellaneous Uses of Thyroid Feeding.—Dr. Mosse, of Paris, says that in one patient who had entered his hospital for simple jaundice and who also had a psoriasis of long standing, he used the thyroid gland after the usual remedies had failed, and produced a rapid and permanent cure. In a case of goitre of a young girl, the thyroid did no good. Dr. Thiberge, another Paris physician, got no results in psoriasis in three cases, and got very little permanent help in eight others.

Medical Men in Parliament.—In the English House of Parliament there are, altogether, ten medical men. Of these seven are Irishmen, representing nothing, says *The Practitioner*, but the discontents of that political Mrs. Cummidge; two are Scotch; and one only is English. In fact, practically speaking, says our contemporary, the medical profession has only two representatives, Sir Walter Foster and Robert Farquson. When, we would ask, is an Irish doctor not a doctor? The answer is given above.

Clinical Department.

INFECTIOUS ENDOCARDITIS OF THE TRICUSPID VALVE.

By HERBERT UPHAM WILLIAMS, M.D.,

BUFFALO, N. Y.

EDWARD O'B—— entered the Erie County Hospital December 5, 1894. Service of Dr. Pryor. Aged fifty-six, married, Irish, laborer, family history good, hard drinker, and hard worker. On entering he had cough, rusty sputum, cyanosis, dyspnœa. Respiration, 50; pulse, 110; temperature, 103° F. Examination showed expansion of chest diminished, tactile fremitus increased universally, sibilant râles heard over both lungs, but most marked over upper lobe of right, increased dulness over whole chest, but most marked posteriorly. Diagnosis of lobar pneumonia of right lung and œdema of the lungs.

December 15th.—Bronchial breathing heard posteriorly on both sides, subcrepitant râles heard over upper lobe and anterior aspect of right lung, with increased dulness over the same region. About this date the patient began to vomit, and to have several chills daily, accompanied by high rise of temperature, and followed by sweating.

December 26th.—The chills have continued one or more times daily; the patient is said to have as many as two in one hour; the chills have been accompanied by rise of temperature from 103° to 105° F., followed by copious sweating and fall of temperature. The patient has continued to vomit thin greenish material; 500 c.c. to 650 c.c. of urine passed in twenty-four hours, containing 21.5 gm. of urea, abundant albumin, and epithelial cells, but no casts.

December 28th.—Showed no abatement of the frequency of the chills, temperature usually reaching 105° F. after a chill. Throughout, the examination of the heart was unsatisfactory on account of the noisy breathing; therefore, although malignant endocarditis had been suspected, no confirmation could be obtained from physical examination. The possibility of a central abscess of the lung existing was also considered, and for diagnostic purposes exploration was made with the needle on both sides, opposite the angle of the scapula, but with negative results.

The patient was intelligent, and conscious through the entire course of his disease. The chills continued without interruption until the day of his death, January 7, 1895. On the day before his death the temperature reached 106° F.

Autopsy, January 8th, about twenty-four hours after death. Usual post-mortem discoloration of dependent parts; rigor mortis firm; subcutaneous fat abundant. Both lungs adherent in spots over all surfaces, but not firmly; left lung congested posteriorly, on section exuding bloody froth; upper lobe solid, red, outlines of lobules well marked, exuding bloody and purulent fluid; right lung firm throughout, the upper lobe being grayish in color, mottled with black, quantities of pus issuing from bronchial tubes; lower and middle lobes less completely solidified, and containing some air, very dark red color, bronchial tubes exuding pus, firm thrombi of pink color found in several of the smaller branches of the pulmonary vein in the lower lobe. Pericardial cavity contained about thirty cubic centimetres of serum; position of heart normal, heart large, flabby, ventricles empty. Spleen large, soft; pulp grayish-red in color. Kidneys, capsules stripped off easily; on section general appearance pale, cortex grayish-white, with distinct reddish striations; medulla reddish-pink; urinary bladder normal. Liver large, very flabby, light reddish-brown, centre of lobule red, outer part gray, cut surface greasy. Mucous membranes of stomach, small intestine, cæcum, vermiform appendix, and large intestine all normal. Brain not examined.

Diagnosis: Lobar-pneumonia of upper lobe left lung and entire right lung, acute splenitis, parenchymatous degeneration of liver and kidneys.

Most interesting was the heart. Mitral orifice admitted two fingers, mitral valve presenting no unusual appearances except a small reddish-brown discoloration, not elevated, on the posterior segment; aortic valve normal; a few small atheromatous patches in aorta; muscle of ventricle pale, flabby, greatest thickness of left, 13 mm., of right, 5 mm.; the pulmonary artery contained a yellowish fibrinous clot; pulmonary valve normal. Of the tricuspid valve the left segment was much thickened, and its upper surface rough, and covered with a deposit of fibrin from the free margin to within 10 or 15 mm. of the attached edge; the portion attached appeared normal; the anterior segment exhibited two round areas, close to the free margin, each about five millimetres in diameter, each the seat of thickening and accumulation of fibrin; removal of the fibrin on these spots showed the tissues of the valve to be eroded; the posterior segment appeared normal.

Both coronary arteries and their branches were examined without finding any thrombosis, embolism, or other abnormality.

The heart was placed in alcohol about an hour after its removal; after hardening, and embedding in celloidin, numerous thin sections were made. The left-hand and most diseased segment of the tricuspid valve examined histologically was found healthy at its basal part, becoming, as the thickened free edge was approached, the seat of infiltration with small, polynuclear, round cells on the auricular surface in the subendocardial layer, and extending, farther on, through all the tissues of the valve. The auricular aspect of the valve was then found converted into a thick homogeneous, hyaline layer, containing very few nuclei, but surrounded by the small-cell infiltration above mentioned, whose nuclei appeared densely packed in this situation, fading away gradually into the relatively healthy parts of the valve, often arranged in strings. The nuclei of these cells frequently showed fragmentation. There was also multiplication of nuclei close to the ventricular surface. Masses of fibrin were observed attached to the hyaline necrotic tissue. Near the margin of the valve the increase in thickness became very great, and the entire substance of the valve was converted into homogeneous hyaline material, rarely exhibiting nuclei. With the Weigert fibrin stain strings and irregular masses of fibrin were demonstrated through the hyaline valve tissue and attached to its surface; fields could be seen pervaded by a delicate fibrin net-work. Bacteria were found in the hyaline valve tissue, and just below its surface, loosely or in clumps in what appeared to be lymph spaces, within the masses of fibrin, and in the area of cell-infiltration. They were most abundant in the first-named locality. They stained with watery solutions of the aniline dyes, by Gram's method, and by the Weigert fibrin stain, best by the last. Morphologically they varied from round, through oval forms, to bacilli with rounded ends, often club-shaped and staining unequally. The oval type prevailed. Much irregularity in size was noted. The smaller cocci measured 4μ to 6μ; the larger bacilli attained a length of 3μ. Many times the cocci and oval forms were observed in pairs. No capsule could be demonstrated.

Similar bacteria were found in sections made from one of the small round ulcers mentioned as occurring on the right-hand segment of the valve, which no doubt was infected from the left-hand segment. Search through sections of the base and attachment of the valve and the adjacent muscle, and of the muscle of both ventricles, and of the coronary artery failed to demonstrate any bacteria.

The muscle cells showed their transverse striations

distinctly; their nuclei stained well for the most part, but at times faintly; the pigment granules about the nuclei were well developed. No fat could be seen in the muscle cells, which in any case would not have been expected, as the tissues were hardened in alcohol and embedded in celloidin.

The clinical history indicated that the pneumonia preceded the endocarditis. During more than four weeks no progress was made toward resolution in the solidified lobes. The endocarditis dated very likely from the chills, which commenced ten days after the patient came under observation.

The case was studied with the idea that infection might have proceeded from septic emboli carried from the lung into the heart by way of the coronary artery. But the location of the inflammatory process along the margin of the tricuspid valve, the absence of embolism in the branches of the coronary artery, the failure to find bacteria at the base of the valve or in capillaries in other parts of the heart, all make this explanation appear improbable.

It is extremely to be regretted that the circumstances of the autopsy did not permit of the use of culture methods to determine the nature of the bacteria, which were beyond a doubt the cause of this endocarditis. The morphological differences noted in them are compatible with their having been all of one species; but it is not impossible that the case was one of mixed infection. The source of infection was in all probability in the lungs.

A CASE OF SUCCESSFUL TREATMENT OF ENURESIS NOCTURNA BY THE TEST OPERATION.

By GUSTAVUS BLECH, M.D.,

DETROIT, MICH.

THE patient, a girl, fourteen years of age, servant, suffered quite a long time from enuresis nocturna. She was treated by different physicians with drogues, massage, electricity, etc., without any improvement of her disagreeable condition. Patient is rather stout for her age, well developed, and menstruated regularly for the last six months. Family history good; no similar case on record. Inspection reveals nothing abnormal, with the exception that she cannot retain her urine for a longer period. This fact led me to believe that there existed a natural relaxation of the urethral walls. Having noticed in the *Frauenarzt* for May, 1895, a description of a new operation for incontinentia urinæ by test, I decided to undertake it in this case, as an energetic measure was indicated, the girl being obliged to earn her own living, and unable to find constant employment on account of this trouble.

The test operation consists in vertical incisions at both sides of the meatus urinarius, transforming the vertical wound in an horizontal by passing sutures through the upper and lower end of the incision, and bringing the margins into exact approximation. A few more fine stitches close the figure-of-eight opening. By this procedure the tissues around the urethra become thickened on both sides, and the traction exercises also pressure upon the urethra. The resistance of the canal is increased and greater force is necessary to expel the urine. The operation was almost painless after an injection of one-half drachm of a five per cent. solution of hydrochlorate of cocaine in each side. The bleeding ceased after suturing. No catheter was used. The parts were protected against irritation from the urine by application of borated vaseline. Healing took place per primam intentionem. After the operation the patient could pass her urine only in a fine stream, but after complete healing and consequently strengthening of the sphincter, the act is done normally. She can retain the urine over night, or awakens in due time to avoid incontinence.

ANGIOMA CAVERNOSUM OF THE SPLEEN.

By M. D. HOGE, JR., M.D.,

PROFESSOR OF HISTOLOGY AND PATHOLOGY UNIVERSITY COLLEGE OF MEDICINE, RICHMOND, VA.

ANGIOMATA, from their structure and formation, are divided into capillary and cavernous forms. In the former there is a distinct formation of blood-vessels produced by the excavation of solid nucleated protoplasmic cells, which gradually become converted into tubes. These tubes, or rudimentary capillaries, are always connected with some previously existing blood-vessels. Such growths form the simpler kind of congenital nævus vasculosus. These nearly always occur in the skin, sometimes in the subcutaneous tissue or mucous surfaces, very rarely in internal organs.

In angioma cavernosum the capillary system is lost, and the blood is contained in a number of freely intercommunicating spaces which resemble the corpora cavernosa of the penis. These occur more frequently in the subcutaneous tissues, in the orbit, pharynx, nose, and internal organs. They often pulsate, and are connected by wide openings with arteries and veins, especially the latter. The liver is almost always the location in which this form of tumor is found, and it is on account of its extreme rarity of occurrence in the spleen the present case is reported.

Mrs. M——, aged forty-five, was admitted into St. Luke's Home, May 2, 1895, complaining of a gradual loss of flesh from 144 to 129 pounds, and lately a rather rapidly growing tumor on the left side. She had been in perfect health up to ten years ago, when she suffered from alternating attacks of constipation and diarrhœa. She is the mother of thirteen children, three of which were stillborn. Four years ago, after the birth of her last child, she noticed the swelling on the left side, which caused her much anxiety on account of its rapid and mysterious growth; it was never actually painful, but constant brooding over it reduced her much, both in flesh and spirits. She has never had malaria, and has been singularly exempt from all kinds of sickness.

Dr. Hunter McGuire, in performing the operation, made a median incision, which at once disclosed a dark, soft, highly vascular tumor, extending well down toward the left ovary. On looking for the attachment, it could be followed up to the spleen; it was at once removed, and the bleeding stump secured. When sent for examination it was found to be kidney-shaped and measured eight inches long, five inches wide, and an inch and a half thick. Small pieces were at once fixed in formal and absolute alcohol, stained in various ways and mounted in balsam. Under the microscope the entire spleenic structure had disappeared, and in its place large cavernous openings were seen, freely communicating with each other and around the outer edge indications of a more or less distinct fibrous capsule.

On account of the great rarity of this form of tumor invading the spleen, and the perfect and uninterrupted recovery of the patient, the case has been reported.

Pieces of tissue were sent to Dr. James E. Reeves, of Chattanooga, Tenn., who confirmed the diagnosis of cavernous angioma of the spleen.

A letter from the patient, dated August 3, 1895, states that she is now in perfect health.

A Stroke of Genius.—There is a woman in an Ohio town whose ability as an advertiser demands a wider field for its exercise. She is an "electric physician," and recently appeared before the local Board of Health with a complaint against one of her neighbors who kept several cows. She was so full of electricity and magnetism, she said, that she drew the flies in swarms from the cows, and she wanted the Board to abolish either the flies, the cows, or the owner of the latter, as she said she could not possibly stand it any longer.

Society Reports.

THE BRITISH MEDICAL ASSOCIATION.

Sixty-third Annual Meeting, held in London, July 30 and 31, and August 1 and 2, 1895.

(Specially Reported for the MEDICAL RECORD.)

SECTION ON PHARMACOLOGY AND THERAPEUTICS.

FIRST DAY, WEDNESDAY, JULY 31ST.

Anarcotine in Malarial Fever.—SIR WILLIAM ROBERTS took, as the subject of his presidential address, "Anarcotine, a Neglected Alkaloid of Opium." During his visit in India as a member of the Opium Commission his attention had been called to the employment of this alkaloid in the treatment of malarial fevers. Anarcotine was brought into prominent notice in India about fifty years ago. At that time quinine became very scarce and dear, and the Indian medical authorities had to cast about for some cheaper and more abundant substitute. Now, opium had long been held in high repute among the natives of India as a remedy and protective against malarial fevers; and habitual opium-eaters were said to enjoy a remarkable immunity from malarial infection. Attention was therefore directed to anarcotine, which is the most abundant alkaloid of Bengal opium, and trials were made of its curative power in malarial fevers. The results of these trials induced the Indian authorities to institute further experiments, and these proving favorable, they caused anarcotine to be prepared in quantity and distributed to the medical depôts throughout British India.

In 1857–59 Dr. Palmer treated at Ghazipur 546 cases of malarial fever with anarcotine, in doses ranging from one to three grains. Of these 541 were cured and only 5 died. In addition to these 546 officially reported cases he treated with anarcotine a large number of other cases of malarial fever, amounting in all to little short of 1,000 cases. Summing up his general experience, he states that in seventy per cent. the fever was arrested at the second paroxysm after the medicine was administered; in twenty per cent. the arrest was equally sure, but was not quite so quick; and in ten per cent. the medicine did not appear to have any curative effect. He further remarks that there are cases where anarcotine is decidedly more efficacious than quinine, namely, where there is an intolerance of quinine, and where quinine has been given without any effect for a long time.

Dr. Garden succeeded Dr. Palmer in civil charge of the Ghazipur Station in 1859; and at that time a severe outbreak of intermittent fever, of quotidian and tertian type, had to be dealt with. Taking advantage of the opportunity he subjected anarcotine to an extensive trial. He treated altogether 684 cases, and gives details of 194. Of these 194 cases 187 were rapidly cured by anarcotine. It only failed in 7 cases, or 3.6 per cent. It, moreover, cured some cases where quinine had failed. The doses he employed ranged from one and a half to three grains. Dr. Palmer and Dr. Garden perceived a distinction between quinine and anarcotine, and recognized that there were cases of malarial fever which resisted quinine but yielded to anarcotine. Both observers also noted that in a certain percentage of the cases anarcotine proved wholly ineffective. These discrepancies are probably to be explained by the facts brought to light in recent researches on the infective organisms of paludal fevers. It has been shown that these organisms are of more than one kind, and that each kind corresponds to a particular type of malarial fever. There seems to be valid evidences that in anarcotine we possess a second antiperiodic of great power analogous to, but not identical with, quinine. The speaker emphasized the desirability of subjecting anarcotine to a fresh examination, with a view of ascertaining its value, as compared with quinine, in the different types of malarial infection, and in cases where quinine has proved ineffective. Anarcotine was originally named "Narcotine" by its discoverer, Derosne, and this is the name by which it is still generally known. This designation is, however, wholly inappropriate and misleading, as, when pure, it is quite devoid of narcotic properties.

A Discussion on Serotherapy was opened by DR. E. KLEIN with a paper upon the "Nature of Antitoxin." One of the oldest deductions that have been made as to infectious diseases was that a first attack confers a certain immunity against a second. Modern pathology distinguishes, as acquired immunity, the condition of insusceptibility after a first attack from natural insusceptibility observed in certain individuals or in certain species of animals against any one kind of infectious disorders.

Natural immunity is altogether different from acquired immunity, the former being probably dependent upon some peculiarity of cells or tissues; the latter to the presence of chemical substances in the blood, which were termed anti-bodies. The methods of production of antitoxin by injection of gradually increasing doses of the toxins or of the toxins plus living bacilli were then briefly described. The antitoxins had a very great power of neutralizing the toxins, but much larger doses had to be employed if living bacilli were present in addition. Hence the antitoxic substance and the substance immunizing against the living bacilli seemed to be distinct, and, in fact, it could be shown experimentally that they were not formed simultaneously or to the same degree. The antitoxic substance was perhaps a ferment, and in the future two classes of animals might be kept, one class immunized against the toxins, and furnishing antitoxin for the treatment of diphtheria, another class immunized against the living bacilli, and furnishing a serum which might be used for preventive inoculation. Experimentally, the value of antitoxin was as firmly established as that of any known drug.

DR. J. W. WASHBOURN said that the discovery of serum therapeutics marks a distinct epoch in the history of medicine. During recent years rapid strides have been made in surgical therapeutics owing to the introduction of methods of treating wounds which are based upon sound scientific principles. In medicine our knowledge of the etiology and pathology of disease has been greatly enriched during recent years by the study of physiology and bacteriology, but medical therapeutics, with the exception of the progress due to improved methods of diagnosis, has, until within the last year, remained almost at a standstill.

The progress of bacterial therapeutics has been slow, and it received a set-back in the failure of tuberculin. But that failure was due to the fact that the experimental proof of its value rested upon insufficient evidence. The application of the treatment to the human subject was attempted before it had been proved to be efficacious in the case of animals. The principle of serum therapeutics rests upon an entirely different basis. Careful and accurate experiments have shown that the blood-serum of highly immunized animals possesses remarkable therapeutic properties. In regard to diphtheria antitoxin, the remedy had been thoroughly and satisfactorily tested before it was applied to the treatment of the disease in man. With regard to tetanus antitoxin, the results seem as yet to be somewhat disappointing, but the cases treated have been too few to warrant any definite conclusions. There are two methods by which the value of diphtheria antitoxin can be gauged—the clinical and the statistical; and a large number of cases are now available for this. In regard to the statistical method, it is most important that the age of the patients should be mentioned, for whereas

for children under five years the mortality is 49 09 per cent., for persons over fifteen years the mortality is only 4 6 per cent. The varying severity of different epidemics is also a factor which must not be neglected. The position of the membrane, whether faucial or involving the larynx, is another important factor. Excluding all sources of fallacy, we now have records of over three thousand cases treated with antitoxin, and statistics show a diminished mortality, in some instances one-half that which existed in pre-antitoxin days. This was the case in Paris, where at the same time at the Trousseau Hospital under the old treatment the mortality remained up to the average, and also in Berlin, where there was a great diminution of mortality when the antitoxin was used, a rise when the supply of the remedy failed, followed at once by a decline on the resumption of the use of the remedy. Statistics, therefore, definitely prove the advantage of the antitoxin treatment. The speaker then dwelt in some detail upon the effects of the remedy as manifested clinically. The exudation clears off more rapidly, obviating in many cases the necessity for tracheotomy. The temperature when high is lowered, the pulse becomes slower and more regular. No deleterious effects upon the kidneys could be ascribed to the remedy.

As to the effect of the antitoxin treatment upon the occurrence of paralysis more extended observations are required before we can arrive at a conclusion. In this connection, however, we must not forget that the more severe the attack of diphtheria the more likely is paralysis to supervene. Many fatal cases would probably have developed paralysis had they recovered. Consequently when the mortality is lowered by treatment the actual number of cases of paralysis may increase through this cause alone.

When the false membrane has been invaded by pyogenic bacteria the action of the antitoxin may be interfered with. Slight complications, such as rashes, pyrexia, and joint pains, sometimes attend the use of the remedy, but these are of a transient character and retard recovery simply. The rashes are of an erythematous or urticarial nature, and the joint pains proceed usually from the structures around the joint, although actual effusion may occur. The speaker emphasized the importance of antiseptic precautions. The syringe should be one that can be boiled easily. The dose should vary according to the age of the patient and the severity of the disease. As regards the prophylactic use of the serum, the protection did not last long, and it would only be exceptionally indicated. In conclusion, the possibilities of serum therapeutics were touched upon as applied to bacterial diseases such as erysipelas, pneumonia, puerperal fever, and the like.

Dr. Charteris spoke of the cases of diphtheria he had seen treated with antitoxin. There seemed to be no doubt about its efficacy; the membrane ceased to spread, the pulse became fuller and stronger, and the whole aspect of the patient improved. He had experimented with the various makes of antitoxin in the market and had observed no injurious effects from any of them.

Dr. R. T. Hewlett confined his remarks to tetanus antitoxin. He first gave a brief outline of the methods employed by Behring, Roux and Vaillard, and himself, in obtaining tetanus antitoxin. He pointed out that the antitoxin issued by Tizzoni differed from the others in that it was obtained by precipitation of the serum by means of alcohol; in the other cases the serum was issued either in the usual liquid form, or was reduced to a solid by being dried *in vacuo* over sulphuric acid. All these antitoxins possessed a very high immunizing power, which should never be less than 1 to 1,000,000. The mortality of tetanus under the old methods of treatment was about seventy-five per cent. The speaker had collected statistics of 61 cases treated with antitoxin, and of these 22, or thirty-six per cent., died. It is probable that these figures are somewhat too favorable, but after making all allowances, the antitoxin treatment of tetanus is undoubtedly an advance.

Dr. Nestor Tirard referred to the results of the antitoxin treatment of diphtheria at the Evelina Hospital. The pulse gained strength, and in some cases diminished in rate; the temperature either fell or remained the same—in no case did it rise; the nervous system gained in tone, and the membrane speedily diminished and did not form again. With regard to ill-effects, it was found that albumin was found in the urine in many cases, but this was also often noticed before the antitoxin had been used at all, and it was unaccompanied by any symptoms referable to interference with renal function. A rash had been noted in three cases; it was always of the nature of an urticaria, and gave no trouble. Post-diphtheritic paralysis had not been observed. While it was possible that the greatly diminished death-rate might be due to an unusually favorable epidemic, yet the cases treated had been very severe in their clinical features.

Dr. W. Gayton was not much in favor of the antitoxin treatment of diphtheria. The reduction in the death rate is slight (not more than five per cent.), and may well be due to a mild character of the disease at the present time. The number of cases complicated with nephritis is much greater, and paralysis is more common. The experience of himself and his colleagues at the Northwestern Fever Hospital might be summed up thus: Those cases that under the old treatment would probably have died still were fatal under the new. Those which might get better recovered in about the same proportion, while the mild cases improved no more rapidly—indeed rather the contrary, considering the frequency of the incidence of rashes, than those without it.

Dr. Foord Caiger had employed antitoxin in two hundred and thirty cases of diphtheria, and was impressed with the value of the remedy. There were fewer cases with heart failure, but more of paralysis—a fact that could readily be explained by the greater number of severe cases that recovered. The membrane, which before the use of antitoxin was adherent, on an average, 4.6 days, now fell off in 2.6 days. In the nasal form the acrid discharge was soon checked and the patients rendered more comfortable. In laryngeal cases the benefits were most marked; both the membrane and swelling soon disappeared, and the number of cases requiring tracheotomy was reduced from seventy per cent. to forty-three per cent. The mortality was also lessened, and in cases that eventually terminated fatally the duration of life was extended—lengthened an average of very nearly three days. The speaker gave much larger doses than were customary. He began with 50 c.c., and gave sometimes as much as 180 c.c. in the first three days. He believed that the results were much better if large doses were given.

Dr. Fraser discussed the modes of testing the strength of antitoxin, and said he considered them faulty, as tending to convey an exaggerated idea of the strength of the remedy. Instead of the antitoxin being given before or at the same time with the toxin, the test should be made to conform more nearly to what occurs in practice by administering the remedy some time after the toxin has been taken.

Mr. Bokenham said that the bulk of the fluid to be administered was a serious difficulty in private practice; cases were known to him in which the parents had withdrawn a consent previously given when they saw the size of the syringe to be used. He thought he had overcome this objection in a fairly satisfactory manner. By a process of drying, combined or not with previous concentration at a low temperature *in vacuo*, he had succeeded in reducing the serum to a condition of thin golden scales; 100 c.c. yield on an average between 10 and 11 gm. of dry scales. These are readily soluble in about two and a half to three times their weight of water, and the activity of the

solution thus made is almost identical with that of the original serum. He had heard of no ill-effects following its use; it keeps perfectly, and may be used with a comparatively small syringe.

Dr. Klein, in closing the discussion, spoke approvingly of the use of dried serum, and he believed it would be found less likely to produce a rash than the ordinary form.

Dr. Washbourn said that the cases upon which Dr. Gaynor based his unfavorable opinion were altogether too few to have any particular value one way or the other, yet what little they did show was in favor of the new remedy, since the mortality had been reduced five per cent. The report was very unsatisfactory, in that nothing definite was said as to the dose or the mode of administration of the antitoxin.

Antivenene in Snake-poisoning.—Dr. T. R. Fraser read a paper upon the induction of artificial immunity to snake-bites. It has long been suggested that the feats of snake-charmers were rendered possible through the production of artificial immunity. If this be the explanation, the protection must have been obtained, in most cases, at least, by the introduction of the venom into the stomach. It is generally asserted that snake-venom is innocuous when taken into the stomach, yet it does not necessarily follow that it is incapable of producing protection when swallowed. To test this, Dr. Fraser experimented upon cats and white rats, and found that immunity could be secured by the stomach administration of the venom. The blood-serum of serpents, as shown by some of the speaker's experiments, also contains a substance which possesses antidotal properties against their own venom as well as against that of other species. This antitoxic substance he called antivenene. The antidotal action of antivenene seems to be rather of the nature of a chemical reaction than of a physiological antidote. With regard to the administration of antivenene, several successive doses would appear to be more effectual than one large one. It should be injected at the seat of the bite, before the ligature, if applied round the limb, had been removed, and before excision. It will probably be found that 20 c.c. is sufficient for the initial dose. Dr. Fraser exhibited two preparations of antivenene, one in the usual liquid form of remedies used in serotherapy, the other the blood-serum dried *in vacuo* over sulphuric acid. The dry antivenene is readily soluble in water, and retains unimpaired the original antidotal power of the liquid preparation.

Dr. Stokvis, of Amsterdam, said that he was much interested in the possible effects of the epidermic application of antivenene. He stated that in the Dutch colonies it is customary for the snake-catchers to prepare themselves before starting by rubbing all over their skin a powder made from the dried heads of snakes, with their poison-glands. As a result of this precaution they either are not bitten, or they are rendered immune against the effects of bites.

Dr. Fraser said that he had not tried epidermal application of antivenene, but as immunity could be produced by absorption through the epithelial lining of the stomach it was quite possible that inunction would act similarly. It was worthy of trial.

Second Day, Thursday, August 1st.

Revision of the Pharmacopœia.—The second session of this Section was taken up almost entirely with a discussion concerning the revision of the British Pharmacopœia—what articles should be dropped, what new remedies admitted, whether the new forms, such as tabloids, granules, etc., should be included; whether the details of the making of poultices should find a place, etc. The chair during the discussion was occupied by Dr. Lauder Brunton.

The discussion was opened by Dr. Leech, of Manchester, who, as a member of the General Medical Council, was desirous of learning the views of general practitioners in regard to the changes to be made in the next revision.

Drs. Carter, Stockman, Fraser, and others took part in the discussion.

Drs. Harley and Surveyor then presented a communication on the "Action of Beta-naphthol and Bismuth Subnitrate as Intestinal Antiseptics." This was followed by a paper by Dr. C. D. F. Phillips on the "Pharmacological Action of Berberine."

Third Day, Friday, August 2d.

Therapeutic Uses of Mineral Waters.—The discussion was opened by Dr. Fortescue Fox, who read a paper on "Strathpeffer." These are sulphur waters, and if continued for too long a period were liable to cause anæmia. They are contra-indicated also in acute congestive or inflammatory states of the abdominal viscera, in tuberculosis, acute rheumatism, albuminuria, and uncompensated valvular lesions. They are indicated in the chronic congestions and stases, commonly occurring in people of sedentary habits in later middle life. The speaker was persuaded that the waters were the main factor in the good effects of treatment at resorts of this nature, for the change of air, scene, diet, and surroundings were wholly insufficient to account for the great benefit received in so many cases of chronic disease.

Dr. S. Hyde read a paper on the "Waters of Buxton." There is quite a variety of waters found at, and near, Buxton—saline, sulphur, and ferruginous. Subacute rheumatism was often greatly benefited, although at first the treatment usually caused a return of the acute symptoms; these are of short duration, however, and rapid progress toward recovery follows, a large number of patients being completely cured. In acute gout the internal use of the waters is alone indicated, but in chronic gout the use of baths in addition is useful. In rheumatoid arthritis the combined internal and external treatment, together with massage, gives satisfactory results. Massage is a valuable adjunct in many conditions, but electricity is not particularly beneficial. Other diseases benefited by the waters and methods of treatment in use at Buxton are lumbago, peripheral neuritis, and various skin affections dependent upon gout.

Natural Versus Artificial Waters.—The speaker then referred to the fact, which was one of common observation by all who had had to do with hydrotherapy, that, however closely an artificial water, prepared synthetically, resembled a natural one, it was, nevertheless, lacking in some peculiar property which gave the character to the natural water and rendered it, therapeutically, more efficient. He was at one with the previous speaker in holding that the conditions of change of life and surroundings accompanying treatment at a spa were not sufficient to explain the benefits received.

Dr. A. S. Myrtle said there certainly was some property in natural springs which was lacking in artificial waters, however closely they resembled the natural. He referred briefly to the properties of the Harrowgate waters, and described the plan of treatment pursued by himself. He considered that strict dieting was unnecessary while undergoing the treatment; patients might have anything in reason, food and drink, provided it did not disagree and was taken in moderation. He was in the habit of recommending for breakfast "anything you like, but not too much of it," and just the same for lunch and for dinner. The sulphur waters at Harrogate were the only ones used externally, the sulphuretted hydrogen contained in them being sedative in nervous conditions and in affections of the gastric and bronchial mucous membranes. The other waters were stimulant, diuretic, and tonic. In chronic diseases of the heart the waters were very useful, but should be employed with great care.

Mr. W. Tomlins read a paper on the "Brine Baths of Droitwich." After referring to the large amount of saline constituents which these waters contain, the cases suitable for the treatment were discussed. Attention was also drawn to the attractiveness of the scenery and to the favorable climatic conditions of Droitwich.

Dr. Parsons referred to the value of the spa treatment in diabetes and other diseases.

Dr. Cuffe and others also took part in the discussion.

Loretin.—Dr. Herbert Snow read a paper on this organic iodine compound discovered by Claus, of Freiburg, which is possessed of aseptic properties. It is a yellow, crystalline powder, but slightly soluble in water, and forming emulsions with ether, oil, and collodion. It forms neutral salts with alkalies, which are freely soluble in water. Loretin is odorless and non-poisonous, and is, Dr. Snow said, superior in germicidal power to some of the preparations now in favor with surgeons. It is also a good deodorant, destroying the fœtor of sloughing cancerous sores. Dusted into deep wounds it prevents suppuration, and no bad symptoms had been observed after its use. Applied to the skin or to a granulating sore it is perfectly unirritating.

Guaiacol by Hypodermic Injection.—Dr. F. R. Walters read a paper on the "Subcutaneous Use of Guaiacol." When injected under the skin guaiacol is found to be very irritating, and producing sloughing, but when injected into the muscular tissue the irritating properties are less marked, and very considerable doses may be administered without causing constitutional disturbance.

Yeast Fungi in Tuberculosis.—Dr. de Backer, of Paris, read a paper on the "Treatment of Tuberculosis by Living Ferments." Yeast fungi are made use of and are injected in the living state subcutaneously. The speaker believed that the beneficial therapeutic action of these living ferments, an action which he had now been observing for a considerable time, and which he regarded as little less than marvellous, was to be explained on the theory of phagocytosis.

SECTION ON PATHOLOGY.

First Day, Wednesday, July 31st.

The Process of Repair.—Dr. Samuel Wilks, Chairman of the Section, took this as the subject of the annual address. All about us, he said, change is ever going on; and not only in the world around us, but also in the entire universe, as far as we can learn by the evidence furnished by the telescope and the spectroscope, this same endless succession of growth and decay goes on. Just as the body grows and decays, as a whole, so do its several parts. We may see the two processes of production and destruction going on in the tissues whenever these are subjected to any special stimulus, such as injury or other morbid influence. In speaking of any unnatural condition in the body, we commonly employ the term "morbid," but this is not strictly correct, for only a portion of what is found is really pathological, the rest being the result of a true physiological process. When employing the terms "morbid" or "disease," we do not recognize, as we should, the reparative process that goes hand in hand with the destructive one. With regard to injuries, we seldom have any difficulty in recognizing this reparative action, and in many cases of internal disease also we can readily distinguish the physiological from the pathological. In valvular heart disease, for example, we know that the hypertrophied cavities are the manifestation of a conservative process; and, in like manner, hypertrophy of other hollow viscera is the attempt of nature to overcome obstruction, and is truly conservative and not pathological. There are, however, other more complex states, in which it is difficult to distinguish clearly between pathological and physiological changes. It is possible that the two processes are more intimately associated than we have hitherto believed, and that a mutual relation of a chemical or electrical nature may exist between them. Thus it has been shown that if one electrode is placed upon an ulcer the latter will heal rapidly, while a sore is being produced at the point of application of the other electrode. The two processes are also seen going on before the eye in almost any ulcer, for along with the destruction we see, during the process of granulation and secretion, that new material is being formed. One reason why this double process is so often overlooked is, doubtless, owing to the fact that the reparative material is not equal in organization and similar in structure to the original tissue which it replaces. The complex parenchymatous structures are not renewed, after injury, as are the simpler ones of bone or connective tissue; we do, however, occasionally see true regeneration of glandular or nerve tissue. Still this is true repair, even if imperfect and partial, and we have been wrong in calling the process morbid, instead of reparative. This distinction is a useful one in the matter of prognosis and treatment, as well as of a purely pathological interest. The speaker illustrated his meaning by several examples. As regards phthisis, he said, nothing was more common than an error in prognosis, and this simply because there has been a confusion in the mind of the profession between the constructive and destructive changes present in the lungs. In fact, the very signs which are the strongest evidence of a beginning reparative process are regarded by many as the unmistakable signs of disease. He recognizes the existence of a cavity, and at once condemns his patient, forgetting that the physical signs, dull tympanitic note, pectoriloquy, sinking in of the chest-walls, and absence of vibration all point to the presence of a cavity with hard walls, the result of a reparative action following the destructive process. The destroyed portion has been walled off from the healthy part of the lung by this fibrous barrier, which the examiner has looked upon as a sign of disease rather than of a protection against further spread of the disease. Unfortunately, it is not alone the tyro who make this deplorable mistake, for the speaker had often had occasion to note the surprise of old practitioners on seeing their former phthisical patients alive after they had condemned them to speedy death.

This case of phthisis is, perhaps, the commonest example, where the constructive and destructive processes have not been sufficiently distinguished; but the same may be seen in cirrhosis of the liver. This organ may be observed during life to be first enlarged and then become nodulated and shrunken; among other signs of the disease which the text-books describe is an enlargement of the veins on the surface of the abdomen. These were thought at one time to be due to some pressure on the vena cava, but this is really not the case, and the appearance is now shown to be due to an enlargement of the epigastric vein in connection with the opening up of the old umbilical vein, which often becomes as large as a goose-quill. Through this the portal blood flows and finds a free passage into the vena cava and systemic circulation. The patient in this way is relieved from an engorgement of the portal system and from the consequent dropsy. This enlargement of the veins is, therefore, a sign of a reparative character. And probably this is not all, for when the cirrhotic organ is examined carefully and microscopically we find that, although the nodules are composed mainly of atrophied hepatic tissue, there has also been an attempt to replace it by a new formation of cells and vessels. New blood-vessels may be seen and apparently new ducts, as well as cell growth. Now, although these new elements are not perfect enough to take on the function of the liver, there can be little doubt that they do relieve the circulation in a disabled organ.

There are other cases in which the two processes of

construction and destruction are even more closely interwoven, so that it is often impossible to distinguish between them and to assign the right place to each. We should study these with greater care and more intelligently, for the discovery of the several influences exerted in the production of each is a matter of great practical importance. A consideration of them also shows that pathology is governed by the same laws as those which exist elsewhere throughout the realm of Nature, and it therefore must take its place on an equivalent footing with the other sciences.

The Mosquito as the Intermediate Host of the Malarial Parasite.—Dr. Patrick Manson then read a paper entitled "Some Facts in the Life-History of the Malaria Parasite," in which he advanced the theory that the micro-organism was conveyed to man by means of the mosquito. He began by describing the forms of the parasite seen in the blood of malarious patients, and showed how these varied in their appearances according to the stage of the disease during which they were obtained. The flagellate forms, he said, are only developed outside the body and never within the circulation. In their earliest stages they are merely masses of pigmented granular protoplasm, which can be seen to thrust out the characteristic flagellæ. These separate themselves later from the parent cell and play an important part in the development of the micro-organism after they have escaped from the body. The intra-corpuscular elements are destined to carry on the life of the parasite within the body, whereas the flagellate forms maintain the continuity of the species outside the body. But it has been asked, how the flagellate forms escape from the circulation? In reply to this the speaker referred to the researches of Surgeon-Major Ross, of Secunderabad, which suggested the probability that the mosquito was an intermediate host of the parasite. This observer had found that the parasites resisted destruction in the stomach of the mosquito, and he had also observed that they occurred much more frequently in the flagellate form in the blood of this insect than in blood drawn from the finger of a patient with malaria. The development of the plasmodium in this intermediate host is also evidenced by the fact that the crescent forms all become spheres. Dr. Manson then quoted an instance of a man who by accident had swallowed the contents of a bottle containing malarious mosquitoes, and who, although he had never had the disease nor had been exposed to it, yet developed malaria in eleven days. The disease is apparently not communicated directly to man by the insect, but it is probable that the parasites are added to water or soil on the death of the mosquito, and by that means are carried into the human body. Malaria is, therefore, to be regarded as one of the water-borne diseases.

Dr. Thin objected to this hypothesis of Dr. Manson, adducing, among other arguments, the fact that in Sierra Leone malarial fever is exceedingly prevalent, but mosquitoes are few. He agreed, however, with Dr. Manson, if it be admitted that these insects are the intermediate host, that drinking-water probably forms the means of communication to man. He believed that the flagellæ play some part in the life-history of the organism, though he was not yet prepared to say what, and are not, as asserted by Marchiafava, due to the convulsive movements of the protoplasm in its death-struggles.

In reply Dr. Manson said that the parasite must have some third form not yet discovered in which it can remain latent in the body for a long time, until the conditions favorable for its development occur, at which time the patient develops an attack of fever. While he recognized the fact that there were many objections to his theory, yet he hoped, with the more complete investigation of what was as yet an entirely new field, that these would be removed.

Exophthalmic Goitre.—Dr. A. Foxwell reported a case of acute exophthalmos which had recently been under his care, in which pronounced changes were found post mortem in the brain. These changes were the following: 1. Chronic inflammation and sclerosis of the pia, covering part of the vermiform process, and of that covering the fourth ventricle and also of the middle commissure of the third ventricle. 2. Acute softening of the surface of both thalami. 3. Excessive vascularity of the surface of the brain of the internal capsule, of the cerebellum, and of the medulla—in the middle of the medulla, at any rate—leading to occasional hemorrhages. 4. Sclerotic changes, involving portions of the tegmen, pyramids, and the nuclei of the fasciculus gracilis and cuneatus, and of the tenth pair of nerves.

Thyroidectomy.—Dr. George R. Murray then read a paper upon the effects of removal of the thyroid gland in the lower animals, and said that these effects in rabbits were strikingly like to the symptoms of myxœdema in man. He showed a number of photographs illustrating animals operated upon, in which the skin lesions, the swelling of the neck, the apathetic appearance, etc., were well shown. These symptoms, he held, were very similar to those observed in the human subject of myxœdema.

Syringomyelia.—Dr. J. H. Targett presented a communication on "Syringomyelia and Joint Disease," in which he reported a number of cases of this affection that had been under his care, in which the articular lesions were observed to bear a striking resemblance to those met within the arthropathies of locomotor ataxia. He likewise dwelt in some detail on the other manifestations of the disease, namely, muscular atrophy, trophic skin affections, the curious condition in which there is insensibility to pain and temperature changes, while the ordinary sensibility of the skin remains unimpaired.

The Nature of Cancer.—Dr. Braithewaite opened the discussion on this subject with a paper in which he contended that the cause of the disease was a mould fungus that he had discovered in cancerous tissues. This fungus was present in the soil of certain districts and was carried in the drinking-water, so that cancer was another of the increasing number of diseases that have been found to be carried in water.

This paper was discussed at some length by Mr. D'Arcy Power, Dr. Russell Wells, Dr. Bousfield, and Mr. Shattock, who held that Dr. Braithewaite's conclusions were based upon a misconception of the forms which he had observed in the microscopical examination of cancerous tissue. The appearances described by the reader of the paper were, they maintained, due to changes in fat cells and elastic tissue produced by the methods used in the preparation of the specimens, and they held that the so-called spores were in reality crystalline substances deposited in colloid media.

The Chemistry of Carcinoma and Sarcoma.—Dr. Hewlett read a paper on Ehrlich's diazo-reaction in cancer, in which he asserted that the micro-chemical reactions of the so-called cancer parasites are wholly unlike those of the coccidia, with which they are usually associated.

The discussion was continued by Mr. Blake, who read a paper on the "Occurrence of Cancer in Chalk Valleys," and by Dr. Herbert Snow, the title of whose communication was the "Insidious Marrow Infection of Mammary Carcinoma." The latter reported several cases showing the danger of this infection being passed over unrecognized, as might very readily happen, by reason of the ill-defined character of the symptoms.

In closing the discussion, Dr. Braithewaite said that the arguments of his opponents failed to convince him that he had made such a serious error as they seemed to think. Indeed, the cases reported by one of those who had taken part in the discussion bore out remark-

ably his theory of the water-borne nature of malignant disease.

SECOND DAY, THURSDAY, AUGUST 1ST.

Peripheral Neuritis.—The greater part of the session of the second day was occupied with the discussion on the pathology of this affection.

DR. SEYMOUR J. SHARKEY said that the symptoms of peripheral neuritis have long been known, and Graves suggested that they had their origin in disease of the peripheral nerves, but it was only in 1864 that Duménil showed that such a pathological condition existed in the disease. As usually happens, when a new field like this is opened up, a large number of conditions previously not understood have been attributed to this cause, and we shall probably have to strike from the list many diseases at present referred to inflammation of the peripheral nerves. The subject, indeed, is still in its infancy, and there are many things yet to be learned. It is a question whether we have not been trying to draw too sharp a line between the peripheral and the central nervous system; whether we have not been too anxious to limit the pathology of many of these diseases to the nerves, while the various agents which produce them cause alteration in the centres as well. Alcohol, lead, the poisons of acute specific diseases, and many others, are certainly productive of wide-spread central changes, at the same time that they specially affect the peripheral nerves. Another question is whether the condition is truly one of inflammation. Are we justified in speaking of a change in nerves as inflammatory in the absence of those vascular phenomena which are usually looked upon as proof of inflammation? The pathological condition found post mortem is often segmentation and breaking up of the medullary sheath and nothing more. This is called "parenchymatous neuritis." In other cases nothing at all is found. The speaker thought it would be more correct to speak of peripheral nerve-intoxication where nothing is found post mortem, of peripheral nerve-degeneration where the only change is breaking up of the white sheath of Schwann, and of peripheral neuritis when the vascular phenomena of inflammation are present as well. The granular degeneration of muscles, whether fatty or albuminous, and that of many cells in the body, such as those of the liver, is not the result of inflammation only. Why, then, should breaking up of the medullary sheath into droplets be called neuritis? It may or may not be true that we cannot yet separate these cases clinically, but it may be possible to do so some day. If this distinction between nerve-degeneration and nerve-inflammation were made, many cases, such, for instance, as are now sometimes classified as "dyscrasic peripheral neuritis" would receive a more reasonable explanation as cases of degeneration.

Again, it is possible that we have not learned to appreciate the significance of the changes in nerve-substance found post mortem. Lesions supposed to be those of parenchymatous neuritis have been found after death when there were no symptoms pointing to that condition during life. It is possible that ordinary post-mortem changes have been mistaken for pathological lesions. In multiple neuritis the peripheral ramification of the nerves are first and most affected. This may be because they are more exposed to the action of the poison, or perhaps less able to resist it than the more central portions. Another interesting point, the speaker said, is that certain poisons appear to have a special affinity for certain nerves.

In alcoholic neuritis the extensor muscles of the limbs, and especially of the legs, almost invariably fall first a prey to the poison; in lead-poisoning, the extensors of the fingers and wrists; in diphtheria, the muscles of the throat and internal muscles of the eye. Still more remarkable is it that the selective power of these toxic agents may exert itself on the motor filaments or on the sensory almost exclusively. In lead-poisoning, for instance, sensory alterations are hardly complained of at all, and the same is often true of diphtheria, whereas in cases of alcoholic neuritis a stage of the most acute sensory disturbance may long precede the advent of paralysis. Indeed, there is some ground for supposing that even the trophic and vaso-motor nerves may be specially picked out in some cases. There are grounds for supposing that the remarkable vascular and trophic changes which characterize Raynaud's disease are the result of a special affection of the vascular and trophic nerve-filaments or the centres from which they radiate. We do not know as much as we might about the so-called reaction of degeneration. The alterations which occur are very variable, sometimes being but slight, sometimes profound. In the latter case they indicate, no doubt, a very marked disorganization of nerve and muscle. But we do not know what the slighter changes or their absence may signify as regards the pathological changes in the nerves.

Now that it has been shown that atrophic paralysis may result from disease of the peripheral nerves, the question arises whether we have any means at our disposal enabling us to distinguish between anterior cornual disease and peripheral nerve disease. Again, cases of paraplegia due to an extensive affection of the spinal cord, in which, nevertheless, there is no alteration in sensation, are not uncommon, and similar affections of the spinal cord and its surroundings may result in paraplegia with pain and sensory disturbances. Dr. Sharkey asked how such diseases of the spinal cord were to be distinguished from peripheral neuritis. This has generally been done by the presence of an affection of the sphincters in the former and its absence in the latter. This, however, the speaker maintained, is not a safe criterion. He had lately had a case of painful paraplegia under his care in which the sphincters were involved, and in which nothing was discovered at the post-mortem examination. On microscopic investigation of the nerves proceeding from the pelvis an intense neuritis was found. Another question is that of the cause of the peripheral neuritis and muscular atrophy which occur in association with joint disease. This has not yet received a satisfactory explanation. Other points raised by the speaker, and which he hoped would some day receive a satisfactory explanation, were the absence of knee-jerk in many cases of diabetes, the cause of Raynaud's disease, the question whether peripheral neuritis ever gives rise to spasmodic affections, the possibility that many so-called functional diseases of the viscera are the result of temporary inflammation or degeneration of nerves due to the action of some poison.

DR. W. M. ORD spoke of the coincidence of anæmia, ulcer of the stomach, and valvular heart troubles. He had thought that possibly the presence of a gastric ulcer had caused nutritive disturbances in the heart, or perhaps the two conditions were due to a common cause—some nerve-lesion. The circular margin of ulcer of the stomach offered a presumption of its nervous origin.

Post-mortem Nerve-lesions.—DR. RUSSELL WELLS read a paper on "Post-mortem Degeneration of Nerves," in which he described the results of a study undertaken by himself and Dr. W. H. Wilson. In patients dying from various diseases quite apart from nerve-lesions, the appearance of the medullary portion, as seen under the microscope, varied according to the time after death at which the preparation was examined. The earliest changes were breaking up of the medullary sheath and variations in the readiness with which the nerve-fibres stained with reagents; the axis cylinders did not take part in these changes. The loss of the medulla gives rise to appearances which render the nerves indistinguishable under the microscope from nerves taken

from cases of neuritis. Dr. Wells said, however, that he had not seen as a post-mortem change rupture of the axis cylinder, which writers on neuritis describe as occurring in that affection. He was of opinion that the changes met with in neuritis are not always due to post-mortem decomposition, because in the case of animals in which neuritis has been produced artificially the nerves are usually examined immediately after they are killed, and yet the nerves show alterations in structure.

DR. MOTT thought that peripheral neuritis was of interest in view of the theory of Marie that it is due to modifications in the ganglion cell with which the nerve is in anatomical continuity. That in diphtheria changes occur in the cells of the anterior horn as well as in the nerves, and that the paralysis was in some instances permanent and associated with wasting, was in favor of this view. He believed that the reason why alterations in structure occurred in the end plates of motor nerves in peripheral neuritis was their remoteness from the seat of nutrition in the ganglion cell. Fibrous tissue met with around the nervous tissue in various cases of nerve-degeneration he believed to be secondary to that degeneration.

DR. ORMEROD suggested that, as Dr. Hughlings Jackson had shown that the smaller nerve-cells were more likely to be affected than the larger by poison, it was reasonable to assume that the smaller terminal fibres were more readily affected than the larger trunks.

SIR T. GRAINGER STEWART thought that an affection of peripheral nerves was the only explanation of the combination of the motor, sensory, and nutritive changes met with in this disease. He thought the following clinical points were worthy of note: 1, The possibility of perfect recovery from so marked a lesion of the nerves; 2, an affection of peripheral nerves offers a ready explanation of the transitory paralyses met with in the early stages of locomotor ataxy; 3, the capriciousness of neuritis in the selection of nerves; 4, the not infrequent deaths in this disease due to the involvement of vital nerves. He said that hypodermic injections of strychnine, as soon as the first acute stage was passed over, were much more efficacious than the administration of the drug by the mouth.

DR. HAMILTON questioned the correctness of the nomenclature in peripheral neuritis, for he believed the appearances were entirely due to degenerative changes, and not to inflammatory processes at all.

DR. SAUNDBY was of the opinion that in many cases the changes were in reality due to inflammation of the nerves. He evidenced in support of this view the tenderness which occurs over the nerve-trunks in certain forms of neuritis, as well as the swelling which accompanies this tenderness.

Vaccinia and Small-pox.—DR. S. MONCKTON COPEMAN read a long paper in which he gave the details of a successful attempt to cultivate the micro-organism of variola and to inoculate therewith a calf, obtaining from the latter a lymph with which a successful vaccination was performed. He had discovered a year ago the presence in specially stained specimens of vaccine lymph, taken before full maturity of the vesicles, minute bacilli, often in considerable numbers and in practically pure culture. These bacilli cannot be found in mature lymph, for the reason probably that they have given place to spores. After several attempts he succeeded in cultivating this micro-organism in the hen's egg. He began by first cleansing the surface of the egg with corrosive sublimate solution and afterward with alcohol, and then breaking a small hole in the shell by means of a sterilized needle and forceps. Through the opening thus made he mixed the yolk and albumin of the egg by means of a platinum needle, and then carried out the inoculation by means of a glass capillary pipette which had recently been drawn out in the blow-pipe flame. For these inoculations he employed variolous crusts which were rubbed up in a small glass mortar with a minimal quantity of sterilized normal saline solution. After the inoculation the small hole in the egg was closed up, and the eggs were placed on beds of cotton-wool and kept in the incubator at a temperature of 37° C. Here they were left for varying periods of time, a month being the period which was eventually found to be that which was most desirable. On opening an egg thus treated the speaker found a creamy material, which had replaced the ordinary egg contents. This material, examined under the microscope, appeared to be a pure culture of one organism only—viz., a bacillus which morphologically was not to be distinguished from the bacillus previously found in early vaccine lymph.

Attempts to grow this bacillus in various subcultures were invariably unsuccessful, but inoculations of calves gave positive results. With the lymph obtained from these calves children were vaccinated and the operation "took" well. The experiments, however, were not as satisfactory as they might have been, for it was necessary to use calves at a vaccine station which were at the same time vaccinated in some other part with the calf lymph employed at that station. Every possible precaution was taken in the way of sterilizing instruments and keeping the incisions protected as far as possible against accidental inoculation with lymph from some part of the same or other calf into which the ordinary animal vaccine material had been inserted. Nevertheless, it is possible that, in spite of all precautions, accidental inoculation with ordinary lymph may have occurred; or possibly the simultaneous inoculation of the calves with egg culture and with ordinary vaccine lymph may have in some way influenced the manifestation witnessed on the areas wherein the egg lymph was inserted.

The experiments would, however, be repeated with all these possible sources of error eliminated. Should these prove successful it is not too much to believe that we may eventually be able to elaborate not only a vaccine but an antitoxin for treatment of a person actually suffering from the disease, as we now treat the subjects of diphtheria.

DR. HAUGHTON thought that there was something more than mere microbic infection in the production of small-pox—that insanitary conditions were of nearly, if not quite, equal importance.

DR. DENHAM had noticed that the vaccine from a calf approaching puberty was not so efficacious as that taken from a younger animal. He confirmed a statement which had been made by the reader of the paper that the mixing of lymph with glycerine and storing for some time led to the total destruction in it of saprophytic organisms.

In closing the discussion, DR. COPEMAN, referring to vaccine points, said that they are bad, and that if used at all they should be made of celluloid, which can be sterilized, rather than ivory, which cannot be so satisfactorily sterilized owing to the interstices in it. In answer to a question, he stated that he did not believe that the psorosperms produced in the rabbit's cornea after inoculation had anything to do with the production of small-pox, and he said that they had never been found in vaccine lymph itself.

Pernicious Anæmia.—DR. HUNTER then read a paper on this affection in which he held that it was a disease *sui generis* and not related to the forms of anæmia associated with cancer and other diseases. His reasons for this conclusion were that there are not the same pathological changes in the blood in the latter as in pernicious anæmia, and that the extreme degree of blood-change is always associated with marked pathological changes in the liver, kidney, and spleen, such as are not found in traumatic and other anæmias. Dr. Stockman had advanced the view that the main difference between pernicious anæmia and other forms of anæmia lies in the presence of hemorrhages in the

former and not in the latter, but the speaker said that he had failed to produce pigment deposits in the liver by injecting large quantities of blood into the peritoneal cavity of rabbits, and further, that in his experience hemorrhages in pernicious anæmia were very rare except into the retina and meninges.

DR. COPEMAN thought that urobilin occurred only in those cases of pernicious anæmia which were associated with high temperature, and he thought that there were other cases in which just as profound changes occurred in the blood without the deposition of pigment in the liver.

THIRD DAY, FRIDAY, AUGUST 2D.

Lymphadenoma.—DR. W. G. SPENCER opened the discussion on this subject. The term, he said, was one applicable to all neoplasms composed of lymphadenoid tissue resembling in structure a lymphatic gland. Until our knowledge of these growths is enlarged it is better to rest satisfied with some general term of this kind. In a study of the etiology of the affection we may follow the analogy of tuberculosis and distinguish a local disease, lymphadenoma, and a general disease, lymphadenomatous. There are two types of the local affection. The first is simple lymphadenoma, which is simply an overgrowth of lymphadenoid tissue excited by some cause acting continually upon this tissue from the surface of the skin or mucous membrane. In malignant lymphadenoma there is a tendency in the cells to proliferate without the incitation of the continuous local irritation. The connective-tissue cells of the septa and capsule also participate in this overgrowth. Since there is no source of irritation, acting from without, which is sufficient to keep up the continued multiplication of cells, the cause must be looked for within the tumors themselves. Then there is the general affection, lymphadenomatosis, in which lymphadenoid tissue, wherever existent, is attacked, and in which we find also the general symptoms cachexia, anæmia, hemorrhages, irregular temperature curve, and an increased proportion of white blood-cells. Hodgkin's disease, lymphatic cachexia, splenic leucæmia, and various other names have been applied to this disease, but they are confusing and ought to be dropped. If a classification be attempted, it is better to adopt one based upon the way by which the virus, if there be one, enters the system. Thus we find cases in which the infection apparently occurs through the intestinal tract, others in which the channel is the lungs. Much experimental work is being done to determine whether there is a micro-organism acting as the cause of the disease, but there are still the usual contradictory and negative results inseparable from the early stages of such investigations.

MR. J. JACKSON CLARKE said that in his opinion there was no distinction to be made between Hodgkin's disease, lymphosarcoma, and lymphadenoma. He thought lymphadenoma frequently went on to true sarcoma. In cases of deep-seated mediastinal lymphadenoma, a diagnosis was often made possible by infiltration of the skin. He had found lymphomatous growths in various organs in leucæmia. Lymphadenoma was often found associated with osteoarthritis and gout.

DR. MURRAY LESLIE related a number of cases showing the existence of a close relationship between lymphadenoma and leucæmia and splenic anæmia. The number of leucocytes and hæmocytes depends on the relative involvement of blood-destroying structures. Dr. Leslie believed that lymphadenoma is an infectious disease, and offered the following arguments in favor of this hypothesis: 1, Certain cases seem to owe their origin to exposure to foul air; 2, micrococci and other organisms have been found in the affected structures; 3, the close analogy which exists between this and tuberculosis and other microbic diseases; 4, affection of the cervical glands would point to infection by the mouth, of the mediastinal glands by the lungs, and of the mesenteric glands and Peyer's patches by the alimentary canal; 5, pyrexia and night sweats are present, as in other diseases of micro-parasitic origin; 6, the beneficial effects of arsenic are probably to be attributed to its germicidal action, and are comparable with the action of mercury in syphilis. The speaker would place lymphadenoma among the granulomata, along with syphilis, tubercle, and leprosy.

DR. G. N. PITT said that true lymphadenoma consists of an adenoid overgrowth limited to adenoid tissue, which never fungates or infiltrates, and which destroys only by pressure on vital structures. He had seen tubercle and lymphadenoma associated, and he thought the difference between neoplasms and infectious granulomata might turn out to be less than at present supposed. When there is leucocytosis the spleen is more frequently enlarged, though, on the other hand, a temporary and variable leucocytosis may occur apart from splenic enlargement. He did not agree with Dr. Spencer, who had said that if improvement took place under the use of arsenic, the disease must be lymphadenoma, for he had seen an undoubted spindle-celled sarcoma melt away under the action of this drug.

DR. SNOW said there were three distinct affections characterized by enlargement of the lymphatic glands, viz., 1, Simple lymphoma; 2, Hodgkin's disease, a general enlargement of glands throughout the body, often occurring during pregnancy or after exposure to cold or wet, accompanied by elevation of temperature, and shown under the microscope to be a cirrhosis of the gland; 3, lymphosarcoma or lymphocarcinoma, a true cancer, and showing all the features of a malignant growth, viz., cell proliferation, erosion of adjacent tissues, and progressively fatal tendency.

In closing the discussion DR. SPENCER said that lymphoma should be applied to a growth of lymphatic vessels, lymphadenoma to one of the lymphatic glands. He did not feel at all certain as to the microbic origin of the neoplasms. As to leucæmia, that was a symptom only and not a disease.

The Diazo-reaction.—DR. HEWLETT then presented a communication on Ehrlich's diazo-reaction of the urine in typhoid fever. The same reaction, he said, is obtained with morphine even in a 1 to 5,000 solution. This was the only foreign substance, however, with which he had been able to obtain a reaction. The reaction can be obtained as early as the sixth day in cases of typhoid fever, but the speaker did not regard the test as especially reliable or as one of positive diagnostic value; negatively, however (its absence showing that the affection was not typhoid fever), he regarded it as very valuable.

Microbes in the Air.—DR. ST. CLAIR THOMSON reported the results of a number of experiments conducted in collaboration with Dr. Hewlett, to determine the fate of micro-organisms in the respired air. They had found that fewer bacteria were inhaled through the nose in ordinary breathing than was commonly supposed, and that most of these were arrested at the entrance to the nostrils. Indeed, the mucous membrane of the nose, in health, was truly aseptic.

Hypertrophic Pulmonary Osteoarthropathy.—DR. F. R. WALTERS reported a case of hypertrophic pulmonary osteoarthropathy, and presented the patient to the Section. He thought that the disease was the result of the action of toxins upon the tissues. It was essentially different from acromegaly.

A paper on "Psorospermosis" was then read by Drs. Danett and Surveyor, and another on the "Growth of the Choleraic Vibrio and other Bacilli in Sunlight" by Dr. Westbrook.

After a vote of thanks to the presiding officer, Dr. Wilks, the sessions of the Section were brought to a close.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON ORTHOPEDIC SURGERY.

Stated Meeting, May 17, 1895.

L. W. HUBBARD, M.D., CHAIRMAN.

Bending of the Neck of the Femur.—DR. ROYAL WHITMAN presented a boy, about eleven years of age, with bending of the neck of one femur, causing considerable adduction, but not to the degree which he had seen in some other cases. The deformity was a rare one. He had seen only six cases. There was limitation of motion in all directions, and some pain was present, sometimes very severe. These cases were usually mistaken for hip-disease or dislocation.

Congenital Dislocation of the Shoulder; Replacement after Trimming the Head of the Humerus.—DR. A. M. PHELPS presented a boy, nine years old, who after birth, the labor having been instrumental, was found to have dislocation of the humerus backward under the spine of the scapula. The doctor suggested that it be left until the child got older, and later another physician pronounced it a case of paralysis. Other physicians and surgeons had since seen the boy and were of opinion that an operation was not advisable. After consultation with Drs. Gibney and Morris, Dr. Phelps decided to operate. Sixteen days ago he cut down on the head of the bone, which was underneath the spine of the scapula, liberated it, felt of the glenoid cavity, found it nearly as large as a quarter of a dollar, considered whether to enlarge the cavity or trim the head of the bone, and decided to do the latter, for the reason that, had he enlarged the cavity it would still have been necessary to shorten the humerus in order to replace it and the result would have been, in bringing the two raw surfaces together, anchylosis of the joint. The case seemed to possess some unique features, differing, of course, from old dislocations forward under the acromian or backward into the axilla, and also in the manner of adapting the articulating surfaces to each other.

The Treatment of Postural Deformities of the Trunk by Means of Rapid and Thorough Physical Development.—This was the title of the paper of the evening, by DR. JACOB TESCHNER. He commenced by saying that the results of the different forms of treatment of postural deformities have been generally slow and unsatisfactory up to the present time. He claimed that a weakened or rudimentary condition of certain muscular groups, or of the muscular system generally, is the most important etiological factor in these deformities. Development of the full strength of the individual, of the entire muscular system, and thorough muscular education, are the desiderata in treatment. The amount of benefit derived from gymnastics is in proportion to the will, strength, and development which are necessary to partially or completely reduce a postural deformity. Gymnasium and class work for deformities are strongly objected to. So are all supporting or immobilizing appliances, because they interfere with perfect muscular freedom.

The important points to be observed in the development of strength and muscle, and in muscular education, are correct attitude, ease, grace, and rhythm of motion, and automatic and independent and full action of only those groups of muscles which are called into play by the performance of each separate exercise, and each group of muscles automatically exercised until it is thoroughly tired. No muscle can be properly developed unless it be tired by frequent and uninterrupted automatic contractions and relaxations.

Taking the stand-point that: 1, Lack of strength and lack of muscular development; 2, habitual faulty position with superimposed weight; and 3, lack of co-ordinating power or lack of muscular control, are the more potent etiological factors in producing deformities. He corrects deformities by reversing these conditions: 1, By developing the muscles and their strength; 2, by acquiring an habitually corrected position with superimposed weight; and 3, by educating all the muscles to proper co-ordination and complete control.

A series of twenty-six dumb-bell exercises were demonstrated by a nude patient. Heavy work with dumb-bells weighing from five to forty pounds each, and with steel bars weighing from twenty-six to seventy-eight pounds, was also shown by different patients. An exact record is kept of the work done by each patient at each visit. After the work they are showered with cold water and rubbed down with alcohol. The heavier the weight held above the head, the more the patient must exert him- or herself to improve the attitude in order to maintain the equilibrium; hence the greater the weight, the greater the correction of the deformity.

Nine cases were reported, with charts and photographs, of which five were exhibited. One case of deformity of the sterno-costal articulations of the right side, and six cases of mild curvatures and round-shoulders practically cured, and two cases of old and firmly fixed scolioses (one from infancy) which were greatly improved. All the patients improved in general health. Measurements and strength tests were made according to the Sargent system and recorded upon the Sargent charts. The chest capacities, chest depths, girths, breadths, and strength tests are generally increased, the abdominal depths are decreased, and the feet, the foundation of correct posture, are improved, inasmuch as all flat feet become shorter, and the normal feet grow. No bad effect upon the hearts of patients could be detected, and their general improvement, and increase in weight, should prove that they are not overworked.

Employs Mechanics and Exercise.—DR. BRACKET, of Boston, said he had had no practical experience with the particular method described by Dr. Teschner. He looked upon lateral curvature as a vice of growth. While the patient had assumed an abnormal position, growth went on and made the faulty position permanent, unless some means were taken to correct it. The spine being more flexible on one side than the other, tended to bend toward the concavity and to become rotated. Although during active physical exercise the spine could be made to straighten itself in a measure, and this process could be repeated, yet during the intervals there was a tendency to resume the abnormal position. He believed, therefore, in mechanical treatment, supplemented by physical development. By apparatus one could correct the faulty position and maintain it in a positive way, while by exercise growth could be encouraged in the corrected position and overcome the tendency to relapse. A careful record should be kept of one's cases both by outline and by photograph.

The Dangers of the Proposed Method.—DR. H. A. WILSON, of Philadelphia, thought it would be impossible for the physician to give personal supervision of this work and treat many cases. If it were transferred to a masseur or gymnast, it would lead to such abuses as were seen in all cities. He must acknowledge that he had felt some anxiety when he witnessed the small patient going through such severe labor, and the danger would certainly be real should it be prescribed without the immediate supervision of a doctor. Gymnastic exercises without intelligent supervision often led to asymmetrical development of the muscles of the body and to deformity.

DR. J. YOUNG said Dr. Teschner's plan of treatment of these cases was entirely opposed to that which he was in the habit of employing. He was accustomed to prescribing the Swedish movement cure, which implied a moderate exercise of the desired group of muscles, giving time also for compensatory development of the muscles of the heart and respiration. He had found that unless development of the muscles under the control of the will was brought about slowly, there would

not be sufficient compensatory development of the heart and respiratory muscles. The treatment by muscular exercise, therefore, should take time. The use of massage was important, and electricity had its place. The condition of rotation was one which likewise deserved special attention.

Dr. R. W. Lovett, of Boston, thought the greatest objection to the treatment described in the paper was that the exercise was of the two sides equally. He was of opinion that special attention should be given the weaker muscles. While gymnastic treatment was powerful for good, it was equally powerful for evil. The more he saw of gymnastic treatment in lateral curvature, the more he became impressed with the necessity for extreme care. Two years ago he had first put some cases under the Swedish movement cure, the Lyng system, by a lady who had had special opportunities, and although he was at first a sceptic, he had since become convinced that the method was a valuable one. The weaker muscles were picked out and exercised and strengthened, while the stronger opponents were isolated. The patients came twice a day. Nothing but a cot and a bar were necessary. Milder cases might become perfectly straight in the course of some months. Forcible correction was also resorted to in other than the mildest cases. He felt like Dr. Wilson, that there was some danger connected with the severe form of exercise prescribed by Dr. Teschner.

Dr. H. Lilienthal had seen some of Dr. Teschner's work, and believed that it would accomplish what had been claimed for it.

Dr. Reginald H. Sayre thought the method was liable to result in undue muscle strain. The direction given the patients to breathe easily and regularly during the exercises, could not be followed while the various muscles of the body were under strain; it was natural under such conditions to hold the breath. Young tissue, as well as old friable tissue, was liable to overstrain and injury. There was greater danger of harm in the deformed patients than in persons of normal form. In some instances there was practically no muscle to work upon, and it was necessary to give the bones proper support during growth in order to avoid further deformity.

Dr. Samuel Ketch thought minor deformities could be corrected by ordinary means. There was greater difficulty in rotary lateral curvature. The rotation deserved particular attention, and no case could be considered cured until this element had been eliminated. Regarding rapid physical development by muscular exercise, he might say that during the past year he had watched persons training in a noted gymnasium of the city, and had observed that deformity was not uncommon. One of the teachers, a physician, showed lateral curvature of the spine. It seemed to him that the heavy exercise put upon small children for a short time would result deleteriously in the future. It was a question whether the gain which had been made in the cases reported would be retained without some support or continuing the treatment. He thought most good would come from increasing the lateral flexibility of the spine and keeping the patient in as good position as possible.

Dr. Teschner closed the discussion. Regarding apparatus, he had tried it and had found that while it had some effect in changing the contour of the spine, it was less in correcting the seat of the deformity than in producing deformity where none had existed before. Some of the gentlemen had spoken of dangers connected with the physical training which he had described. On the other hand, he could point to danger from the use of mechanical treatment, and mentioned an instance or two in which syncope had resulted from the pressure upon the sternum, etc.

As to flexibility of the spine, he claimed that the method which he advocated was most efficient in this direction. One could not wait for correction by the development of the muscles which were at fault when, as sometimes appeared to be the case, they were scarcely present even in the rudimentary state. He saw no reason for slow correction of the deformity when it could be brought about rapidly. It was a mistake to suppose that the voluntary muscles were developed without proportional growth of the cardiac and respiratory muscles. The lung capacity had been markedly increased, there had been no cardiac symptoms, and beyond doubt the heart had developed in proportion to the rest of the muscular system. He impressed the fact that he gave each case his personal attention, besides having an experienced assistant.

Surgical Suggestions.

Gastrectomy.—(1) The smallest amount (a few drops in the first case) of anæsthetic possible should be used; (2) all antiseptics should be avoided in the abdominal cavity; (3) the extra-peritoneal method of resection should be adopted, the posterior part of the ring of sutures is surrounded by gauze, and the situation of the remaining sutures should be permanently extra-peritoneal, the anterior wall of the stomach is covered in by a flap of skin; (4) the patient should be fed early by the mouth.—Langenbuch.

In Prolapse of the Rectum, sometimes much relief is obtained by injecting, before going to the closet, from ℥ vij. to ℥ viij. of warm water, and afterward an ounce of cold water, allowing it to remain.—Keen.

Treatment of Burns.—

Aristol	5–10.0
Olive-oil	20.0
Vaseline, Lanoline, āā	40.0

—Haas.

Gonorrhœa.—

Perchloride of mercury	1 part
Antipyrin	100 parts
Distilled water	10,000 parts

The injection should be used four times a day and retained as long as possible. The addition of antipyrin prevents smarting.—Vatier.

Chordee.—

℞. Ex. opii	gr. j.
Camphoræ	gr. x.
Ol. theobrom	q. s.

M. et ft. Suppository No. I. Sig.: Use at bedtime.

—Ricord.

Gonorrhœa, Second Stage.—

℞. Hydrarg. chlor. corros	gr. 1/8
Acidi carbolici	℥ iss
Zinci sulpho-carbolate	gr. xxiv.
Boro-glyceride (fifty per cent. sol.)	f ʒ ij.
Aquæ rosæ, q.s. a.d.	f ℥ viij.

M. Sig.: Use as injection after urinating.

—White.

Women affected with metritis or displacements often suffer with dry cough without any disease of the respiratory organs.—Pozzi.

Incontinence of Urine.—

℞. Sodii benzoatis, Sodii salicylatis, āā	gr. xx.
Fld. ext. belladonnæ	gtt. ij.
Aquæ cinnamomi	℥ iv.

M. Sig.: A teaspoonful four or five times daily.

—White.

Tricophytosis.—

Chrysarobin	gm. 10 to 25
Salicylic acid	gm. 5
Ointment of styrax	gm. 5
Ichthyol	gm. 5
Simple ointment	gm. 5

—Du Castel.

Cold Bathing during menstruation is a beneficial measure, provided women accustom themselves to it by bathing every day for at least eight days before the period. Houzel holds that cold salt-water baths facilitate the menstrual flow, increase the duration of genital life, and increase fecundity.—DEPASSE.

Salol in Non-parasitic Sycosis.—Twenty to forty grains to the ounce of petrolatum were employed.—CANTRELL.

Fractures.—The object of the surgeon in treating fractures about the joints should be: 1. To allow free circulation in the limb. 2. To obtain complete rest for the injured structures until they assume their normal condition. 3. To posture so that the callus exudation shall not unduly hamper the joint movements.

Apoplexy.—Apoplexy occurring in early adult life is much more frequently due to syphilis than embolism, and syphilis is a factor in a third of all apoplexies, at least in large cities. Apoplexies are increasing in dispro portionate frequency. The disease does not especially affect brain workers if they live temperately, but rather spares them. An attack is sometimes a conservative agent, calling a halt to excessive activity and intemperate living, and actually prolonging life. About one-fourth of those stricken with apoplexy die from the attack (hemorrhages being the most dangerous, thromboses, especially syphilitic, being least so). The average duration of life of those who have and survive one shock is over five years. The chances of a second attack before the fourth year are always considerable, yet do not amount to fifty per cent. and are inconsiderable so far as hemorrhages are concerned. Thromboses are much more apt to recur than hemorrhages.—DANA.

Acute Typhlitis.—I have rarely seen a case of acute typhlitis in which the large bowel was not full of old fæces, and I have still more rarely seen a case in which the colon could be unloaded in which recovery did not take place. So true is this, that of late years I have nearly always regarded the emptying of the colon as ending the immediate danger to life, provided, of course, that the inflammation has not proceeded to the point where an abscess has formed or perforation taken place.—STOKER.

Bactericidal Properties in the Vaginal Secretion of Pregnancy.—Not only is the vaginal secretion in normal pregnancy free from pathological germs, but it has a distinct germicidal power. Experiments were made in a great number of pregnant women by introducing into the vagina different kinds of germs, and then at stated intervals withdrawing secretion for examination, and it was found that the secretion was equally active whether the vagina contained the "normal secretion" or the so-called pathological secretion described by Doederlein. In these experiments the streptococcus was killed first, the staphylococcus and the pyocyaneus needing almost twice as much time. The vagina was found clear in two days at longest. Syringing the vagina with antiseptic solutions has the effect of reducing or completely destroying its germicidal powers. Hence prophylactic syringing should be given up. It does no good, and much harm. Even in pregnancy with gonorrhœal infection it is best omitted. Disinfection of the internal genital passages should be abandoned as part of the routine of antiseptic midwifery.—KROENIG.

Corneal Ulcer.—Aristol is recommended in powder form for indolent corneal ulcerations with suppurating base. It is thickly applied with a brush and the eye kept closed for a time. A five per cent. ointment is useful in ulcerative blepharitis, being preferable to the yellow precipitate ointment on account of its causing less irritation. This ointment has given good results in obstinate, recurring hordeola when rubbed into the edges of the lids at night.—HEUSE.

Facial Erysipelas.—

℞.	Ergotine	gm. 1.30
	Liquid extract of ergot	gm. 8
	Lanolin	gm. 15
	Fresh lard	gm. 45
M.	For external use.	

—LEES.

Novel Treatment of Fracture.—Cut down on every oblique fracture of the leg, expose the fragments, bring them into accurate apposition, drill holes and fasten by steel screws. There is immediate relief of pain by this method, absence of tension and discomfort due to extravasation of blood into the tissues, and shortening of the period of treatment. This is especially to be recommended in the laboring man, to whom time is money.—ARBUTHNOT LANE.

Rhythmic Tractions of the Tongue.—1. Lingual tractions should be moderate to produce their effect; tractions too forcible cause an inhibition of the respiratory reflex. 2. The best mode of practising traction is to use no special instrument, but to seize the point of the tongue with a bit of linen between the fingers. 3. The process is not superior to other methods, especially insufflation, and that it would be culpable to employ it exclusively.—PINARD.

Post-Partum Hemorrhage.—Flooding after the application of the forceps must always be expected, since the instrument is usually employed because of uterine inertia, a source of hemorrhage. The danger comes when the placenta is expelled.—TARNIER.

Painful Fissures of the Nipples have, for some time past, been treated by the application of cocaine, either in the form of an ointment or a liniment. It has been found, however, that when thus employed, the secretion of milk is diminished and the erection of the nipple prevented. These objections have led Dr. Joire, of Lille, to use cocaine with the direct object of checking the secretion of milk when necessary. He recommends a solution of one grain of cocaine in ten grains of water and ten grams of glycerine, and he advises that this should be used as a lotion to the nipple five or six times a day. He explains the arrest of secretion by the anæsthesia of the nipple which results.—*The Lancet.*

Disinfection of Knives for Operation.—Boiling in soda solution is required for complete asepsis of operating knives. The latter are not rendered dull by the treatment, but are doubtless often injured by contact of the blades with other instruments and with the vessel. Small narrow tin boxes containing racks in which the knives may be placed with edges free should be used. The bottom of the box has several perforations. The boxes are placed in a vessel of water and boiled. Knives should afterwards not be placed in carbolic solution, which dulls. Care is not required to have an exact 1 per cent. solution of soda, because a stronger solution does not injure. A chemically pure soda should be used. If powdered an even tablespoonful; if crystallized three tablespoonfuls to the pint is sufficient.—IBLE.

Silver Sutures in Hernia Wounds.—For about one year I have sewed all of my hernia wounds with silver wire and have covered them with silver foil. Without exception the wounds have healed absolutely *per primam.* Not a single stitch-abscess has been observed either during or subsequent to the healing of the wound. Such absolutely perfect healing of the hernia wounds we have not had heretofore, and I am convinced that the use of silver as a suture material has contributed somewhat to this result.—DE GARMO.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE LATE DR. BRISTOWE—HEALTH OF LONDON—DR. BRUNTON'S PROMOTION — THE COMMANDER-IN-CHIEF.

LONDON, August 31, 1895.

THE death of Dr. Bristowe will have been learned with regret on your side of the Atlantic as well as ours, for his reputation as a teacher and writer, as well as a sound physician, has for many years been very extensive, and not a few of the visitors from the States have observed his clinic at St. Thomas's Hospital. Dr. Bristowe's health had been failing for two or three years—indeed he had scarcely been the same since the shock of his brother's death, in 1892, soon after which he was struck down by influenza. This left a legacy of ill health. He went to Monmouth for a change, and there the end came within a week of his arrival, heart-failure being the immediate cause. Dr. Bristowe was the son of a medical man and was born in 1827. He was educated at King's College and St. Thomas's Hospital, and graduated at the University of London. He distinguished himself as a student, and his subsequent career was always onward. He received many honors in the profession and bore them with becoming modesty. His "Theory and Practice of Medicine" appeared in 1876 and at once took high rank as a text book—a position it has maintained through the seven editions that have been called for. His book on "Diseases of the Nervous System," which was published in 1888, was a collection of important cases, and I believe only failing health prevented him from bringing out similar works on other diseases. He was president of the Neurological Society, and had occupied the same office in other societies. The nervous system seems to have been a favorite study with him, and his opinion on nerve diseases was regarded as one of the most reliable to be obtained. As may be noticed in his writings, he was reluctant to prescribe drugs unless he felt there was a clear indication for them. Hence in some quarters he was looked upon as a sceptic in therapeutics; and yet that idea scarcely represents his attitude. Students found that if they could give a solid reason why, he was ready to approve their suggestions; but he was opposed to the routine ordering of medicine, and would often limit his prescription to a bitter infusion. His clinical teaching was of the very highest order, and he devoted himself to it with a zeal and patience which was greatly appreciated. Among extra professional accomplishments may be mentioned painting, and it is whispered that in youth he had thought of following art as a calling. He was also somewhat of a poet, and published a volume of verses.

Diphtheria is still increasing. Small-pox remains without any marked tendency to decrease. A suspected case of cholera occurred last week, but bacteriological examination showed that it was not so.

Dr. Lauder Brunton has at last got his advance, and becomes full physician to St. Bartholomew's Hospital—where he has been assistant physician for over twenty years. Among all the inequalities that occur, the long waiting at Bartholomew's ought to be remedied. It was at this hospital that the late Mr. Wormald was kept in a subordinate position when he had become President of the College of Surgeons. Verily doctors do give their gratuitous services freely enough for the public to form a poor estimate of their value.

The Duke of Cambridge is really to give up the commandership-in-chief. The army medical staff thus gets rid of one who never appreciated its services. Lord Wolseley is to succeed, but he is not much of a friend to the Medical Department, I fear.

ALKALINE INJECTIONS IN GONORRHŒA.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Dr. Philip Jaisohn's article in the issue of your journal for September 7, 1895, entitled "Alkaline Injections for the Treatment of Gonorrhœa," I have read with great satisfaction.

Ever since 1882, that is, since I read a certain paper of Küchenmeister, I have treated the first stage of manifested gonorrhœa by means of injections of diluted lime-water (1 to 4), and have found that Küchenmeister was quite correct in saying that by such treatment we are enabled to do away with those well-known painful symptoms of the acute inflammation of the urethra. Küchenmeister claims that the lime-water acts on the infected mucous membrane of the urethra even more promptly than on diphtheritic membranes of nose and pharynx, namely, by dissolving the superficial layer, and thus removing the nutrient soil for the microbes.

The theory of this treatment impressed me favorably, and since I found it confirmed by practical experience I often spoke to specialists on genito-urinary diseases about it, but none would ever pay attention to my remarks.

I ask the patients to repeat those injections frequently every hour in the beginning, if they can conveniently do so, and continue less frequently for three or four days. Precaution is to be taken that the water for dilution be distilled, and that the solution is not deteriorated by exposure to air.

A. ROSE, M.D.

336 EAST FIFTEENTH STREET.

New Instruments.

THE STOMACH-DOUCHE AND ITS USES.

BY M. GROSS, M.D.,

NEW YORK.

WHILE in ordinary lavage of the stomach the fluid is carried into the organ by its own weight, this is effected in the case of the stomach-douche by simple elevation of the reservoir or by certain pressure apparatus. The stomach-douche, therefore, is intended to irrigate the organ with fluid under great pressure, so as to exert a therapeutic effect upon the walls of the stomach.

The first favorable effects of the stomach-douche in gastralgia were reported by Malbranc,[1] from Kussmaul's clinic, and since then favorable results from its use have been noted also by Ewald, Boas, and others in various, particularly nervous, affections of the stomach. To Rosenheim[2] belongs the credit of having rehabilitated the stomach-douche, and he, too, was the first to point out the great difference between a simple lavage and an irrigation by means of a douche.

Ordinary lavage is performed for the purpose of cleansing the interior of the stomach of the remnants of food encumbering its walls and causing, besides, various functional disturbances by their decomposition. Equally important is the cleansing of the stomach of mucus, which adheres more or less firmly to the wall and tends to neutralize any existing diminished secretion of hydrochloric acid, while it also prevents the contact of food, agitated by the gastric peristalsis, with the wall of the organ, thereby diminishing or abolishing the stimulation necessary to the secretion of hydrochloric acid. It is customary, too, to perform lavage in order to strengthen the muscular coat by the stimulation of the gastric wall, or to increase the secretion,

[1] Berl. Klin. Wochenschr., 1878, p. 41.
[2] Therap. Monatshefte, August, 1892.

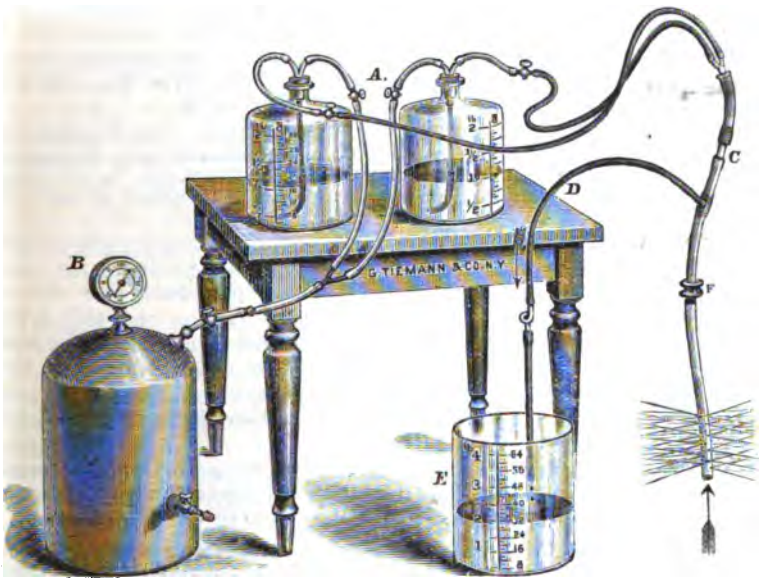
or again, in other cases, to inhibit an increased secretion (*e.g.*, in continuous acid secretion) by the introduction of chemical solutions. But is it possible to attain the objects here enumerated by ordinary lavage of the stomach?

The stream of liquid introduced within the stomach through the tubes generally used strikes merely the portion of the wall adjoining the opening of the tube with a slight pressure. Moreover, the accumulated fluid can but unnecessarily encumber the organ; the agitation of the fluid within the stomach, which we are able to effect by elevating the reservoir and then rapidly lowering the tube, is, as is well known, not always sufficient to thoroughly cleanse the interior of the organ; tough, adhering mucus is either not reached by the agitated water or else the force is not sufficient to detach it.

All this proves that we may expect perfect results from simple lavage of the stomach only in exceptional cases; but it is different when the fluid introduced may be forced over all portions of the interior surface of the stomach by corresponding pressure. This is effected by the stomach-douche by irrigation of the cavity of the organ.

Rosenheim employs for gastric irrigation a tube devised by him, provided with numerous small openings in its lateral wall and a larger opening at its end; the latter opening has a smaller diameter than the tube, so that the efflux should be rather restricted; the terminal opening serves at the same time for a rapid evacuation of the fluid introduced. But this tube, too, does not come up to our expectations, for the lateral pressure, being diverted, is diminished by the terminal opening; besides, it is impossible to prevent overfilling of the stomach, in which case the tube is submerged and the effect of the lateral spray is thus counteracted. It is only an empty cavity of the stomach, which can be reached from every direction, that can be thoroughly cleansed and thus rendered more accessible for other therapeutic purposes.

The stomach-douche devised by me will satisfy all



the above-mentioned requirements. The description and mode of application of the apparatus will show its advantages. The apparatus consists of (1) two graduated bottles (*A*) of a capacity of one to two litres, in which the fluid to be employed is kept under constant pressure, easily regulated by means of a condenser (*B*) or an ordinary air-pump. Two reservoirs are supplied to enable the physician, if necessary, to irrigate the stomach alternately with fluids of varying temperature, or perhaps for rinsing after the use of a chemical composition. (2) A double tube (*C*); the external one, in the length of about five to six centimetres perforated in all directions by numerous small afflux openings; while the internal one (*D*), completely isolated from the outer, serves merely for the rapid, instantaneous afflux of the fluid. The fluid escaping through the inner tube is received into a graduated vessel (*E*) intended for the control of the quantity of fluid returned. Should the inner (return) tube be obstructed by remnants of food or mucus, slight expression or aspiration will suffice to restore the flow.

The tube is introduced as follows: Commencing behind at the eighth or ninth dorsal vertebra (the region of the cardiac orifice) the tube is measured along the back and the side of the neck as far as the level of the teeth and the length marked by a sliding mouthpiece (*F*); the tube is then introduced as far as indicated by the slider, and by blowing through the inner tube we ascertain whether the tube has just passed the cardiac opening, in which case the air no longer escapes upward through that opening. When the end of the tube has passed the cardiac opening I first blow a few times into the stomach so as to unfold it as much as possible; then I advance the tube about five or six centimetres, exactly the length of the perforated portion of the outer tube; the tube must depend free into the cavity of the stomach, surveying the field of operation, as it were.

The advantages are, briefly: 1. Constant pressure upon the fluid introduced. This pressure can be exactly regulated and interrupted when desired. The flow is not weakened at the end of the tube, since the latter is completely closed at the button. 2. All parts of the interior of the stomach are reached. 3. The fluid introduced is immediately removed by the return tube: in other words, the fluid which reaches the stomach in the form of spray always finds the organ empty; the stomach is not encumbered by a thick stream striking the wall; finally, there being an immediate escape of such chemical solutions as may have been introduced, there can be no intoxication by their passage through the pylorus into the intestine.

As an experiment, I may take one of my patients affected with chronic mucous inflammation of the gastric mucosa, introduce the ordinary tube so as to cleanse the stomach of mucus, etc., and the water, even in different positions of the patient, finally escapes perfectly clear. Then, introducing my douche, I am still able to remove additional tough mucus, and this I have repeatedly verified.

The effect of the stomach-douche is mechanical, chemical, and thermic. The mechanical effect is to be looked upon as a stimulus which produces a condition of excitation in nerve and muscle: by the force of the stream—an internal massage, as it were—we produce a direct and reflex stimulation of the vaso-motor nerves and thereby secondarily improve the circulation; the peristalsis is stimulated and the smooth muscle fibres respond more readily to tactile irritation. The agitation of the peripheral-nerve termini is propagated as far as the centres and transmitted by them to the motor fibres; a more intense oxidation of the blood within the muscle fibres is effected; sympathetic nerves and ganglia are directly stimulated; thus secretion and reflexes are produced in the organic muscular fibres and functional disturbances are overcome (Schreiber). In order to increase the stimulation of the muscular fibres I often employ an interrupted stream.

Thermic Effect.—By using warm water we secure the effect of a local bath; increased irritation of the sensory gastric nerves is reduced, reflex spastic contractures of the muscles are removed, and by the improved

circulation the vegetative processes in the wall of the stomach are favored. I intensify the thermic effect by the alternate production of warm and cold water. The stimulation of nerves and vessels by the action of cold is heightened by preceding heat.

Chemical Effect.—Malbranc used warm carbonated water (38° C.) and siphon. In these cases the carbonic acid acted as a local anodyne. For dissolving mucus we employ artificial Emser salt: chloride of sodium, 2 parts; carbonate of sodium, 1 part. For stimulating the secretion of hydrochloric acid we may use, not rarely with good results, table salt, one teaspoonful to the litre of water. Infusions of hops and quassia, cinchona bark, condurango bark, stimulate the muscles and motor nerves of the stomach, as well as the secretory nerves and those of the sensory nerves which transmit the sensation of hunger. Solutions of liquor ferri sesqui chloridi (½ to 1,000) have been used by me with striking results in anæmic and chlorotic patients. Nitrate of silver (½ to 2,000) was first used by Reichmann in gastrorrhœa for the purpose of reducing the secretion of hydrochloric acid. It will often relieve the symptoms of superacidity, though it does not cure that condition. In hyperæsthesias (the sensations being present when the stomach is empty, as opposed to gastric ulcer, in which the pain usually depends upon the presence of food) and erosions good symptomatic results have likewise been obtained with silver nitrate. The same may be said of hypersensibility (increase of hydrochloric acid need not necessarily cause symptoms). In gastrorrhœa the silver nitrate produces, aside from the amelioration of symptoms, a diminution of the hydrochloric acid, though not in every case (Rosenheim). Chloroform water (50 to 60 gm. of chloroform are agitated with one litre of water; the excess of chloroform sinks to the bottom of the vessel, and the supernatant water is drawn off for use), too, has been used with good effect in hypersensibility. In order to prevent intoxication from the use of silver nitrate solution or chloroform water, these liquids should not be left in the stomach for more than one-half to one minute, and the organ should then be washed out with warm water. Antiseptic effects are produced by solutions of salicylic acid (1 to 1,000).

776 Madison Avenue.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending September 14, 1895.

	Cases.	Deaths.
Tuberculosis	95	114
Typhoid fever	31	8
Scarlet fever	20	1
Cerebro-spinal meningitis	4	4
Measles	60	4
Diphtheria	151	21

Birth of Child without Rupture of Membranes.—Dr. Forman observed this rare occurrence in the case of a woman aged twenty-two years, seven months advanced in her second pregnancy (*The British Medical Journal.*) She was suffering from pleuro-pneumonia, the temperature having risen to 103.6° F. A few minutes after cupping-glasses had been applied to the bases of the lungs the patient felt a desire to defecate; this was followed by a single pain which expelled the entire ovum with a little blood. There was no further escape of blood. Forman arrived a few minutes later. He found between the patient's thighs a big cyst with transparent walls. The mother was free from all the evils which may follow precipitate delivery; the uterus contracted well. The wall of the cyst was then cut; about a pint of amniotic fluid escaped. A female child was seen; there was no pulsation of the cord, but after active measures the infant breathed well and took the breast. It weighed 3 pounds 6 ounces, and measured over fourteen inches; the placenta weighed a little under a pound. The cord was very gelatinous, and measured eighteen and one-half inches in length. Judging from the position in which the ovum lay—outside the vulva—it seemed that the breech had presented, and that the placenta had been inserted very low down without being prævia. The child lived only sixteen hours, and the mother had a bad attack of empyema. Forman quotes a considerable number of cases of membranes unruptured at birth.

The Secretary of Agriculture on Rheumatism.—According to a newspaper interview Secretary Morton has improved upon the salicyl treatment of rheumatism, since he has discovered a means of prevention. He suffered with the disease, he said, for many years. One day, twelve years ago, someone told him that rheumatism generally followed kidney trouble, and that this disease was largely due to the starch in potatoes. Thereupon Mr. Morton stopped eating potatoes. He has eaten none in twelve years, and it is just that long since he has had a rheumatic twinge.

NEW BOOKS RECEIVED.

While the Medical Record *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

The Urine in Health and Disease, and Urinary Analysis Physiologically and Pathologically Considered. By D. Campbell Black, M.D. 12mo, 246 pages. Illustrated. Published by Lea Bros. & Co., Philadelphia, Pa.

Clinical Lectures on Diseases of the Nervous System. By Dr. W. R. Gowers. 8vo, 279 pages. Price, $2. Published by P. Blakiston, Son & Co., Philadelphia, Pa.

Physical and Natural Therapeutics. The Remedial Uses of Atmospheric Pressure, Climate, Heat and Cold, Hydrotherapeutic Measures, Mineral Waters, and Electricity. By Dr. George Haymen. 8vo, 426 pages. Illustrated. Published by Lea Brothers & Co., Philadelphia, Pa.

An Introduction to Pathology and Morbid Anatomy. By T. Henry Green, M.D. 8vo, 598 pages. Illustrated. Published by Lea Brothers & Co., Philadelphia, Pa.

Disorders of the Male Sexual Organs. By Eugene Fuller, M.D. 8vo, 241 pages. Illustrated. Published by Lea Brothers & Co., Philadelphia, Pa.

A System of Surgery. Edited by Frederick Treves, F.R.C.S. 8vo, 1,152 pages. Illustrated. Published by Lea Brothers & Co., Philadelphia, Pa.

Lectures on Appendicitis and Notes on Other Subjects. By Dr. Robert T. Morris. 8vo, 163 pages. Illustrated. Published by G. P. Putnam's Sons, New York. Price, $2.

A Text-book of Practical Therapeutics, with Especial Reference to the Application of Remedial Measures to Disease and their Employment upon a Rational Basis. By Dr. Hobart Amory Hare. 8vo, 740 pages. Published by Lea Brothers & Co., Philadelphia, Pa.

Index Catalogue of the Library of the Surgeon-General's Office, United States Army. Royal octavo, Vol. XVI. By the Government Printing Office, Washington, D.C.

Alphabetical List of Abbreviations of Titles of Medical Periodicals Employed in the Index-Catalogue of the Library of the Surgeon-General's Office, United States Army. From Vol. I. to Vol. XVI., inclusive. Government Printing Office, Washington, D. C.

The Science and Art of Obstetrics. By Theophilus Parvin, M.D. 8vo, 845 pages. Illustrated. Published by Lea Brothers & Co., Philadelphia, Pa.

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Original Articles.

SOME ORIGINAL INVESTIGATIONS, SHOWING THE ANTAGONISM BETWEEN MORPHINE AND COCAINE.[1]

BY JOSEPH WILLIAM STICKLER, M.S., M.D.,

ORANGE, N. J.

SOME time ago my attention was called to the apparent antidotal effect of opium in a case of cocaine intoxication. The patient in question had taken two ounces of a four per cent. solution of cocaine in about two hours. Being unable to sleep and being very nervous after having taken this large dose, he took about half an ounce of laudanum, which in the course of one hour relieved the nervousness and induced sleep. Except for some mental hebetude and a sense of muscular prostration, the patient was in fair condition all the next day—in good enough condition to attend to his business.

It seemed to me that such a result could only be explained by the antidotal effect of the laudanum. In order to determine whether my supposition was true I made some observations, the details of which, and the conclusions deduced therefrom, I respectfully ask you to consider. The observations were made on forty pigeons, two dogs, and four men, and in this work I was kindly assisted by Drs. William D. Arnold, Walter Dodge, and H. E. Matthews.

First Series.—Beginning at 11 A.M., October 12, 1894, I injected pigeons Nos. 1 and 2, with morphine, grain one-quarter. 11 A.M.: Pupils of pigeon No. 2 contracted, No. 1 unchanged. Both birds a little dull and unsteady. 11.13 A.M.: Pupils of pigeon No. 1 contracted. 11.15 A.M.: Pigeon No. 1 very unsteady. 11.22 A.M.: Gave pigeon No. 1 second dose of morphine, grain one-quarter. 11.23 A.M.: Gave pigeon No. 2 second dose of morphine, grain one-quarter. 11.54 A.M.: Both birds quiet. Rather drowsy, but awake and susceptible to impressions. 12.07 P.M.: Gave No. 1 an injection of one-half grain of morphine, and at 12.10 P.M. gave No. 2 one-half grain of morphine; in a few moments both pigeons were drowsy and disinclined to move when approached. 2.29 P.M.: Injected into abdominal cavity of pigeon No. 1 two grains of cocaine, aqueous solution. 2.35 P.M.: Mild convulsions. Staggering gait. Head and neck thrown back, feet extended forward, tail and wings spread, pupils dilated. 3.06 P.M.: General condition much improved, makes efforts to walk, but is unable to properly co ordinate the muscles of locomotion. Respiration 80 and panting. 3.52 P.M.: Respiration is 52. Stands by bracing himself with wings and tail, keeps his bill open and sometimes makes a hissing sound during the respiratory act. Moves about on table from time to time, using his wings as supplementary helps. 5.45 P.M.: Died. 2.56 P.M.: Injected pigeon No. 2 with two grains of cocaine. The injection was made into the abdominal cavity. It flew about the laboratory as soon as released, and finally alighted upon one of the doors, where it rested quietly. 2.58 P.M.: When alarmed, lost its balance and flew to the floor. It could not stand. Developed convulsive movements. Head and neck drawn back. Bill open and respirations very rapid. Wings outspread, legs thrown directly back, and eyelids in constant motion. 3 P.M.: Head drooping. Respirations still rapid, and very shallow. Constant tremors. 3.02 P.M.: Gasping for breath. Breathing less rapidly. Eyes open and staring. Slight convulsive movements of neck. 3.02½ P.M.: Died. Morphine contracted pupils. Cocaine dilated them.

Second Series.—1.36 P.M.: Injected into abdominal cavity of pigeon No. 3 (no morphine having previously been given) two grains of cocaine. It became unconscious at once, and was placed in a basket. At 2.20 P.M., when I returned from lunch, he was dead. 2.32 P.M.: Injected into abdominal cavity of pigeon No. 4 (no morphine having previously been given) two grains of cocaine, and the bird was dead in less than sixty seconds. The syringe was scarcely emptied before the pigeon's head and neck were thrown back. Its wings outspread, and general convulsive movements developed, one or two gasps accompanied these manifestations, and life was extinct. Pupils of these birds dilated.

Third Series.—11.30 A.M.: Injected one grain of morphine subcutaneously into a dog weighing about six pounds. 12.18 P.M.: Dog lying down. Head stretched out and face evincing distress. Nausea and vomiting a few moments after injection. 12.25 P.M.: If touched, walks away from the place where he was lying, and after a while lies down again. 12.30 P.M.: Moves about voluntarily but has a staggering gait, and shows great weakness in his hind legs. 1.03 P.M.: Injected another grain of morphine. 1.12 P.M: Rolled over on side and appeared very drowsy. Would get up and walk away when approached. 3.29 P.M.: Quite lively, trots across the room, but shows weakness in his hind legs. Injected one grain of cocaine into abdominal cavity. 3.32 P.M.: He soon began to run about the room, elevating each front foot as high as possible when in motion. Salivation constant and extreme. The urine flows freely. He suddenly fell upon right side, crying loudly. He next had convulsive movements. 3.34½ P.M.: Tonic convulsions. The front legs held out in front, stiff and straight. 3.36 P.M.: Quiet, and legs relaxed. 3.37 P.M.: Dead.

Dog No. 2 weighed about thirteen pounds. Injected at 11.30 A.M., into his abdominal cavity, one grain of morphine. He soon became nauseated and then vomited six times, after this he became quiet. 12.18 P.M.: Does not notice what is going on in the laboratory, or will not move if touched. Panting. 12.29 P.M.: Injected one grain of morphine. 12.58 P.M.: Rolls over on his side but regains his position. 1.35 P.M.: Injected two grains of morphine. 2.48 P.M.: Hind legs paralyzed. Very quiet. 2.59 P.M.: Injected two grains of cocaine. 3.13 P.M.: Injected two grains of cocaine. Almost immediately tongue was protruded from mouth. Profuse and constant discharge of saliva, and urine ran freely and steadily for some time. During this time he lay on the floor with his legs extended, and a wild expression of face. Head drawn to right side. 3.30 P.M.: Salivation still more decided. 3.48 P.M.: Injected two grains of cocaine. 3.55 P.M.: Head rolls from side to side. 3.56½ P.M.: rolls over on side. Head drawn

[1] Read before the Medical Society of New Jersey at its last annual session at Cape May, June 25, 1895.

back. Front legs stretched out. Hind legs drawn up. 4.03 P.M.: Tonic convulsions. 4.10 P.M.: Convulsions cease. Looks quite natural, tries to get up and walk, but cannot, as hind legs are still paralyzed. Moves about by reaching forward with his front legs and dragging his body. Sometimes moves rapidly in a circle. 4.18 P.M.: Had another convulsion, but not as severe as the other. 4.20 P.M.: Appears brightly. 4.30 P.M.: Throws body on hind legs and then revolves rapidly. Sight seems impaired, as he often hits his head against various things in the laboratory. 4.40 P.M.: Making rapid revolutions, using hind legs as pivotal points. 4.45 P.M.: Seems to be resting. 4.55 P.M.: Very lively. More strength in hind legs, occasionally rises on them. 5 P.M.: Salivation and urination have ceased. Seems to act like a dog scared at something, and would make violent efforts to get away.

After 5 o'clock P.M., Dr. Walter Dodge watched this interesting specimen of the canine species, and his experience with him was a somewhat lively one. At times he would remain perfectly quiet, then he would make a few trips around the laboratory at a rate of speed that would astonish a streak of chain lightning, and he was not over-particular what he "took in" on the way. On one of his rounds he put his head into a cuspidore, and with that as a helmet, he whizzed around the laboratory about twenty times. Then again he got tangled up with the blackboard frame, and with that on his back, he went around the laboratory table at the rate of about one hundred and fifty times to the minute. The doctor, thinking that it would be wise to get out of the way of this active animal, perched himself upon a high stool and placed three or four chairs in front of it as a protection. Thus barricaded he felt comparatively secure. The dog, however, ran under the chairs and got under the stool on which the observer was standing, and by means of a tremendous effort upset stool and doctor, the latter coming down on the dog, a result he evidently was not looking for, as he gave a howl and "lit out" at a rate that assured the doctor that, whatever paralysis he had suffered from a comparatively short time before, had entirely disappeared. Part of the time he was entertaining Dr. Dodge in the manner stated and part of the time he was quiet. The following morning he was perfectly normal, except that he looked disgusted with everything that reminded him of his experiences of the day before; he was therefore given his freedom.

Fourth Series.—Injected into abdominal cavity of pigeon No. 5, two grains of morphine at 10.35 A.M., June 7, 1895. 10.40 A.M.: Dull, and shows some lack of co-ordinating power on attempting to walk. 10.55 A.M.: Disposed to be quiet, but can fly when thrown into the air. 11.04 A.M.: Injected two grains of cocaine into abdominal cavity. 11.06 A.M.: Toppling backward and forward. Bill open and respiration somewhat quickened. Wings partly spread. 11.13½ A.M.: On side. Tail spread and wings extended. 11.37 A.M.: Dead.

Injected into pigeon No. 6 two grains of morphine at 10.38 A.M. 10.42 A.M.: Drooping. Winking rapidly and totters when he walks. Pupils contracted. Respiration slow. 10.55 A.M.: Can fly well. General condition good. 11.10 A.M.: Injected two grains of cocaine into abdominal cavity. 11.12 A.M.: Wings outstretched. Legs extended backward. Bill open. Pupils dilated. 11.17 A.M.: Dead.

Injected into pigeon No. 7 two grains of morphine at 10.45 A.M. 10.50½ A.M.: Drowsy and staggering. 10.55 A.M.: Can fly. 11.02 A.M.: Tilted forward on chest, but can walk and fly. Pupils contracted. 11.19 A.M.: Injected two grains of cocaine into abdominal cavity. 11.21 A.M.: Fluttering about. 11.23 A.M.: Dead.

Injected into pigeon No. 8 two grains of morphine at 10.47 A.M. 10.50 A.M.: Drowsy and a staggering gait. Pupils contracted. 10.55 A.M.: When thrown into the air, can fly well. 11.02 A.M.: Tilted forward on chest, but is strong enough to walk and fly. 11.19 A.M.: Injected into abdominal cavity two grains of cocaine. 11.21 A.M.: Convulsive movements. 11.23 A.M.: Dead.

Fifth Series.—Injected into abdominal cavity of pigeon No. 9 one grain of morphine at 10.15 A.M., June 7, 1895. Pigeon almost immediately became quiet, but not sleepy. Pupils contracted. 11.24 A.M.: Injected one-half grain of cocaine into abdominal cavity. 11.26 A.M.: General convulsive movements. Tail and wings spread. 11.37½ A.M.: Dead.

Injected into abdominal cavity of pigeon No. 10 one grain of morphine at 10.56 A.M. Pigeon became quiet in a few moments, but was easily aroused. Pupils contracted. 11.26 A.M.: Injected one-half grain of cocaine into abdominal cavity. 11.28 A.M.: Head thrown back, wings outstretched. Pupils dilated. 11.35 A.M.: Dead.

Injected into pigeon No. 11 one grain of morphine at 10.57 A.M. 11.29 AM.: Injected one-half grain of cocaine into abdominal cavity. 11.35 A.M.: Convulsions. Injected one-half grain of morphine into abdominal cavity. Bird became quiet and conscious. Breathed easily and remained quiet until 12.11 P.M., when it died.

Injected into abdominal cavity of pigeon No. 12 one grain of morphine at 10.58 A.M. Became quiet and sleepy in a short time. Pupils contracted. 11.31½ A.M.: Injected into abdominal cavity one-half grain of cocaine. The pigeon soon began to totter, but remained upon its feet until 11.40½ A.M., when it died.

Sixth Series.—Injected into abdominal cavity of pigeon No. 13, at 2.33 P.M., June 7, 1895, one-half grain of atropine. At 2.41 P.M. injected into abdominal cavity one-half grain of cocaine. Pigeon lived.

Injected into pigeon No. 14 one-half grain of atropine. Five minutes later injected one-half grain of cocaine. Pigeon died in fifty seconds.

Injected into abdominal cavity of pigeon No. 15 one-half grain of atropine at 2.46 P.M. 3.50 P.M.: Injected one-half grain of cocaine. Pigeon died in seven minutes.

Injected into pigeon No. 16 one-half grain of atropine at 3.47 P.M. Later injected one-half grain of cocaine. Pigeon died in sixty seconds.

Seventh Series.—Injected into abdominal cavity of pigeon No. 17 one-half grain of atropine at 12.32 P.M., June 8, 1895. 12.09 P.M.: Nauseated. 12.39 P.M.: Injected one grain of cocaine into abdominal cavity, and pigeon died in twenty seconds.

Injected into pigeon No. 18 one-half grain of atropine at 12.04 P.M. 12.09 P.M.: Nauseated. 12.32 P.M.: Injected into abdominal cavity one grain of cocaine. Pigeon died in five minutes.

Injected into abdominal cavity of pigeon No. 19 one-half grain of atropine at 12.05 P.M. Nauseated a little later. 12.29 P.M.: Injected into abdominal cavity one grain of cocaine. Pigeon died in seventeen seconds.

Injected into abdominal cavity of pigeon No. 20 one-half grain of atropine at 12.07 P.M. Nauseated a few moments later. 12.26 P.M.: Injected into abdominal cavity one grain of cocaine. Pigeon died in fifteen seconds.

Eighth Series.—Injected into abdominal cavity of pigeon No. 21 one grain of morphine at 11 A.M., June 8, 1895. 11.28 A.M.: Manifestly stupid. 11.59 A.M.: Injected three-quarters of a grain of morphine. Half an hour later very stupid. Pupils contracted. 1.14 P.M.: Injected one grain of cocaine into abdominal cavity. 1.23 P.M.: Pigeon dead.

Injected into abdominal cavity of pigeon No. 22 one grain of morphine at 11.22 A.M. 11.28 A.M.: Quite willing to sit still. 11.56 A.M.: Injected one grain of morphine. 1.24 P.M.: Injected one grain of cocaine into abdominal cavity. 1.27 P.M.: Totters about when walking. 1.28 P.M.: General convulsive movements. 2.05 P.M.: Pigeon dead.

Injected into abdominal cavity of pigeon No. 23 one grain of morphine at 11.05 A.M. 11.28 A.M.: Disposed to be quiet. 11.43 A.M.: Injected one grain of morphine. The second dose made the pigeon very quiet. 1.18 P.M.: Injected into abdominal cavity one grain of cocaine. 1.22 P.M.: Pigeon dead.

Injected into abdominal cavity of pigeon No. 24, one grain of morphine at 11.07 A.M. 11.15 A.M.: Rather stupid and tottering. Pupils contracted. 11.28 A.M.: Very quiet. 11.45 A.M.: Injected one grain of morphine. 12.48 P.M.: Injected into abdominal cavity one grain of cocaine. 12.51 P.M.: Tottering gait. Pupils dilated. Quiet. 12.56 P.M.: Marked convulsive movements. 1.20 P.M.: Pigeon dead.

Ninth Series.—Injected one-quarter of a grain of cocaine into abdominal cavity of pigeon No. 25 at 12.10 P.M. 12.12 P.M.: Pupils widely dilated. Tail spread. Gait tottering. 12.14 P.M.: Fell down. Staggers about. 12.15 P.M.: On back. Head thrown back. Bill open. Respiration rapid and labored. 1.22 P.M.: Active convulsions. Eyes closed. Wings and tail spread. Unable to stand or fly. 1.40 P.M.: Standing and apparently recovering. Can use wings. 1.50 P.M.: Suddenly fell forward. Gasped once or twice, and then died.

Injected into abdominal cavity of pigeon No. 26 one-quarter grain of cocaine at 12.15 P.M. 12.18 P.M.: Unsteady. 12.23 P.M.: Vomiting, and except slight shiverings, showed no effects of the drug.

Injected into pigeon No. 27 one-quarter grain of cocaine at 12.18 P.M. 12.27 P.M.: Pigeon on back with wings extended. Pupils dilated. 12.29 P.M.: Pigeon dead.

Injected into abdominal cavity of pigeon No. 28, one-quarter grain of cocaine at 12.21 P.M. Paralyzed almost immediately. 12.24 P.M.: Completely prostrated. Respiration is very rapid and panting. 12.25 P.M.: Dead.

Tenth Series.—Injected into abdominal cavity of pigeon No. 29 one grain of morphine at 11.09 A.M. 11.28 A.M.: Disposed to be quiet. 11.39 A.M.: Injected one grain of morphine into abdominal cavity. 12.41 P.M.: Injected one-quarter grain of cocaine into abdominal cavity. 12.43 P.M.: Convulsive movements. 12.48 P.M.: Dead.

Injected into abdominal cavity of pigeon No. 30, one grain of morphine at 11.10 A.M. 11.28 A.M.: Quiet, but easily aroused. 11.35 A.M.: Injected one grain of morphine. 12 M.: Injected one-quarter grain of cocaine. 1.30 P.M.: Gait tottering. 1.44 P.M.: Dead.

Injected into abdominal cavity of pigeon No. 31 one grain of morphine at 11.12 A.M. 11.16 A.M.: Vomited. 11.28 A.M.: Resting quietly. 11.47 A.M.: Injected one grain of morphine. Bird became quiet in a few moments. 12.43 P.M.: Injected into abdominal cavity one-quarter grain of cocaine. 12.51 P.M.: Gait tottering. Bill open. Pupils dilated. 1.40 P.M.: Can fly and is quite natural in appearance. This pigeon made a good recovery.

Injected into pigeon No. 32 one grain of morphine at 11.13 A.M. 11.28 A.M.: Sitting quietly on floor. Easily disturbed. 11.52 A.M.: Injected one grain of morphine. 12.46 P.M.: Injected one-quarter grain of cocaine into abdominal cavity. 12.51 P.M.: Tottering gait, and pupils dilated. 1.40 P.M.: Pigeon can fly and is rapidly becoming normal. Made a good recovery.

Eleventh Series.—Injected into abdominal cavity of pigeon No. 33 one-half grain of cocaine. Pigeon died in thirty seconds.

Injected into pigeon No. 34 one-half grain of cocaine. Died in sixty seconds.

Injected pigeon No. 35 with one-half grain of cocaine. Died in twenty seconds.

Injected pigeon No. 36 with one-half grain of cocaine, lived three minutes. In each instance, the pupils were dilated.

Twelfth Series.—Injected pigeon No. 37 with two grains of cocaine subcutaneously. Died in sixty seconds. This bird stood perfectly still a few moments after injection, then suddenly died. Pupils dilated.

Injected subcutaneously pigeon No. 38 with two grains of cocaine at 11 A.M. In a very short time convulsions developed. I then injected into abdominal cavity one grain of morphine, convulsions ceased, bird became quiet, and died at 12.14 P.M.

Injected into abdominal cavity of pigeon No. 39 one grain of morphine and one grain of cocaine. Pigeon died in two minutes.

Injected into pigeon No. 40 one grain of morphine and one-half grain of cocaine. Pigeon lived one minute.

The following observations were made in the presence and with the assistance of Drs. George Bayles, Thomas P. Fitch, Mefford Runyon, and H. E. Matthews. In these cases I gave only the same quantity of morphine and cocaine that I administered in private practice. My wish was to demonstrate to others what I had already witnessed.

Thirteenth Series.—Mr. E——, aged thirty-eight, lungs, heart, kidneys, and other organs in good condition. Skin warm and dry. Before administration of cocaine, pulse 66. Respirations, 24. Temperature, 98⅘° F. 7.58 P.M., October 12, 1894: Patient took one grain of cocaine (in aqueous solution) into mouth and held it there five minutes, then swallowed it. His pupils began to dilate four minutes later. Pulse, 72; respirations, 28. Sialogogue effect pronounced in five minutes. 8.08 P.M.: Patient felt elated. Hands moist. 8.12 P.M.: Pulse, 68; respiration, 20. Pupils quite widely dilated. 8.14 P.M.: Mental exhilaration not quite so pronounced. But said that the sense of muscular fatigue he had when he came to the laboratory had all disappeared, and he felt as if he could walk to Newark and back. 8.21 P.M.: Pulse, 72; respirations, 20; temperature, 98½° F. 8.31 P.M.: Palms of hands moist, otherwise condition the same. 8.39 P.M.: Gave hypodermic injection of morphine, grain one-quarter, in forearm. 8.45 P.M.: Pulse, 80; respirations, 20. Feels a little heavy. Pupils very slightly contracted. 8.50 P.M.: Pulse, 72; respirations, 20. Palms still moist. Did not complain of dry throat or mouth. Pupils somewhat more contracted than at time of previous observation. Feels slight muscular fatigue. No nausea. 9.01 P.M.: Respirations, 20; pulse, 78, strong and regular. 9.05 P.M.: Temperature, 98½° F. Not at all sleepy or inclined to lie down or keep quiet. Rather talkative. This patient went to his home about one mile distant, and had a comfortable night, except that he was wakeful until three or four o'clock the next morning.

Mr. E. B——, aged twenty-one, in perfect health. Prior to administration of cocaine, pulse, 66; respirations, 24; temperature, 98⅘° F. Skin warm and dry. 7.58 P.M.: Took one grain of cocaine in aqueous solution into his mouth, retained it there five minutes, then swallowed it. 8.01 P.M.: Pupils dilated. 8.05 P.M.: Pulse, 80, regular and strong; respirations, 28. Pupils quite widely dilated. Sialogogue effect pronounced. 8.10 P.M.: Pulse, 76; respirations, 26; pupils, same. 8.15 P.M.: Feels elated and inclined to use his muscular system. 8.21 P.M.: Temperature, 99½° F. 8.30 P.M.: Pulse, 74; respiration, 22; temperature, 99° F. Pupils a little less dilated than before. 8.39 P.M.: Hypodermic injection of morphine, grain one-quarter into forearm. 8.45 P.M.: Says he feels comfortably, "just a little heavy," but not inclined to sleep or lie down. 8.52 P.M.: Pulse, 72; respirations, 20. Palms still moist, and does not complain of dry mouth or throat. 9.05 P.M.: Temperature, 98⅘° F. Feels perfectly fresh and wide awake. 9.11 P.M.: Pupils normal. No nausea or headache. He walked about one mile to his home, and with the exception of some wakefulness had a comfortable night.

Fourteenth Series.—Mr. J. B——, aged seventeen. In perfect health. Prior to hypodermic injection of morphine, pulse, 80; respirations, 18; temperature, 97½° F. Skin slightly cool. Face warm. Pupils quite widely dilated. 7.43 P.M.: Administered hypodermically in forearm one-fourth grain of morphine. 7.49 P.M.: Pulse, 80, full and strong. 7.52 P.M.: A slight dizziness, and in five minutes later, pulse 88. 8.09 P.M.: Pulse, 80; respirations, 18. 8.14 P.M.: Pulse, 80. Pupils remarkably contracted and patient decidedly sleepy. Face pale, and skin cool and dry. 8.22 P.M.: Says, legs are tired. Pulse, 80, and thready; respirations, 16. Patient manifestly sleepy. 8.25 P.M.: Gave patient one grain of cocaine by mouth. He retained it there five minutes before swallowing it. 8.35 P.M.: Pulse, 80 and strong; respirations, 18. Pupils slowly expanding. 8.38 P.M.: Feels nauseated. 8.40 P.M.: Still feels sleepy. 8.45 P.M.: Not so sleepy. Nausea disappeared. Walks about. 8.48 P.M.: Pulse, 68; normal in character; respirations, 18. Pupils dilated. 8.55 P.M.: Pulse, 72; respirations, 20. 9 P.M.: Vomited. 9.02 P.M.: Feels brighter. This man drove home, a distance of two miles. He was somewhat wakeful during the night.

Mr. B——, aged fifty. Except for a slight cold, was well. Prior to subcutaneous injection of morphine, pulse, 90; respirations, 20; temperature, 99½° F. Pupils normal. 7.42 P.M.: Injected into forearm one-fourth grain of morphine. 7.50 P.M.: Pulse, 84. Otherwise no change. 7.55 P.M.: Pulse, 88. 8. P.M.: Pulse, 84, fuller and stronger. 8.07 P.M. Pulse, 72; respirations, 20. 8.12 P.M.: Pulse, 80. Pupils remarkably contracted. 8.18 P.M.: Said he felt muscular weakness. Was quite drowsy. Pulse, 66; respiration, 22. 8.25 P.M.: Patient took into his mouth one grain of cocaine, held it there five minutes, then swallowed it. 8.35 P.M.: Pulse, 72 and stronger; respirations, 22. Pupils still contracted. Not so tired or sleepy. 8.40 P.M.: Pulse, 74 and strong; respirations, 18. 8.45 P.M.: Feels as well as ever. Pulse, 72; respirations, 18. He walked some distance to get his horse and wagon, and then drove home.

At this point I may say, that the above results are in harmony with those I have obtained in the treatment of patients in private practice. I have also witnessed the following effects of cocaine: 1. Lengthening of respiratory act. Ten seconds frequently being consumed before the process was completed. 2. Expiration was sometimes lengthened to such an extent as to occupy ten or fifteen seconds of time. 3. The entire muscular system energized and stimulated so that the patient could walk or work a long time without fatigue, however tired before the administration of the drug. 4. Intellectual faculties revived and sustained in active operation a long time. 5. Wakefulness of a temporary character, if the cocaine were given in small doses and for a brief time. Insomnia of a more or less permanent type if the drug were continued any length of time. 6. Decided impairment of appetite. 7. Most marked and prompt stimulation of sweat-glands, salivary glands, and kidneys. 8. Involuntary flow of urine when dose is excessive. 9. Great prostration following withdrawal after prolonged or excessive use. 10. First quickening, then slowing, of respiration. 11. Pulse somewhat quickened and strengthened.

Remarks and Deductions.—The following remarks apply only to pigeons: 1. They are extremely susceptible to cocaine. One-half grain will almost always kill in a few seconds. One-quarter of a grain is usually fatal in a few moments. 2. One grain or more of cocaine is always fatal in a few seconds or minutes. 3. Its administration is always followed by convulsive movements, if a toxic dose be given. 4. It invariably quickens respiration and renders it gasping and shallow, when a lethal dose has been given. 5. It always dilates the pupils, and makes the heart beat more rapidly and forcibly if a medical dose be administered. 6. It causes a staggering gait when given in excess. 7. When a non-toxic dose is administered, nausea and vomiting follow, then some tremors which last a short time, and the bird appears quite natural. 8. When injected subcutaneously its characteristic effect is somewhat delayed, but it finally obtains. 9. When injected into abdominal cavity it acts almost instantly. The difference in time between the two methods is only a few moments. 10. The average time pigeons lived after intra-abdominal injections of two grains of cocaine, one grain of morphine having been previously administered, was $2\frac{8}{10}$ minutes. 11. Average time pigeons lived after intra-abdominal injections of two grains of cocaine, two grains of morphine having previously been given, $11\frac{8}{10}$ minutes. 12. Average time pigeons lived, injected with one-half grain of cocaine (intra-abdominal), previously treated with one grain of morphine, was fifteen minutes eight seconds. 13. Average duration of life of pigeons into whose abdominal cavities one-half grain of cocaine has been injected, previously treated with one-half grain of atropine, was two minutes eight seconds. 14. Average time pigeons lived after injection of one grain of cocaine into abdominal cavity, half-grain of atropine having previously been given, was one minute thirty-eight seconds. 15. Average time pigeons lived after injection of one grain of cocaine into abdominal cavity, two grains of morphine having previously been given, was twenty-five minutes six seconds. 16. Pigeons treated with three-quarters of a grain of morphine, then with one grain of cocaine, lived nine minutes. 17. Pigeons into whose abdominal cavities one quarter of a grain of cocaine was injected, no morphine having previously been given, lived thirty-eight minutes thirty-two seconds. 18. Pigeons treated with two grains of morphine (injected into abdominal cavity), then with one-quarter of a grain of cocaine, lived on an average of fifty-five minutes fifty-five seconds. 19. Pigeons into whose abdominal cavities one-half grain of cocaine was injected had an average life of only one minute two seconds. 20. Two grains of cocaine injected subcutaneously, killed in sixty seconds. 21. One grain of morphine and one grain of cocaine injected into abdominal cavity of pigeon caused death at the end of two minutes. 22. Pigeons injected with two grains of cocaine subcutaneously, then with one grain of morphine, lived one hour and five minutes.

I wish now to institute, if possible, a striking comparison of results, which will make clear the point these investigations are intended to prove.

First, in relation to the pigeons. Taking into account all the birds treated. Those having first morphine, then a lethal dose of cocaine, had an average life of forty-four minutes and eight seconds. Those having first atropine, then a lethal dose of cocaine, had an average life of one minute and forty-two seconds. Those having only a lethal dose of cocaine had an average life of one minute and two seconds,

This comparison shows conclusively, so far as pigeons are concerned, that morphine and cocaine are manifestly antagonistic to each other. It further shows that atropine furnishes almost no protection (probably none) against the prompt and violent action of cocaine.

As far as the dogs are concerned, it would seem that while two grains of morphine do not successfully antagonize one grain of cocaine, four grains of morphine will serve as an antidote for four grains of cocaine.

A comparison of results furnished by the investigations upon the man, clearly shows the mutual antagonism between the two drugs. Morphine contracted the pupils. Cocaine dilated them. Morphine retarded pulse-rate somewhat, but did not alter its force perceptibly. Cocaine accelerated the pulse and strengthened it. Morphine diminished the number of respirations to the minute. Respirations were in-

creased in number by cocaine. (When any considerable quantity of cocaine is taken, respirations are cut down in number and altered in character, as already indicated.) The morphine produced a sense of muscular fatigue and drowsiness. Cocaine energized and made active the muscular system and had a "waking-up effect" upon the intellectual faculties. Morphine caused dryness of throat, mouth, and skin, also impaired functional activity of kidneys. Cocaine increased the moisture of the throat, mouth, and skin, and increased the functional activity of the kidneys.

Thus it is seen that those two agents are opposed to each other in their therapeutic action upon man. I have given to patients who have had severe pain, one-fourth grain of morphine and one-fourth grain of co caine hypodermically, and not only has the pain been relieved, but there has been no drowsiness, nausea, or vomiting to interfere with attention to the business of the day. When morphine is to be given at night in comparatively small doses, it is best not to use cocaine, as it is likely to prevent sleep, so decided is it in its effect upon the brain.

The very rapid diffusibility of cocaine has been made prominent in these investigations. When given hypodermically, a constitutional effect of the most decided character was produced in a little less than fifteen seconds. Even when held in the mouth in a small quantity, a constitutional effect was produced in two minutes by local absorption. In this short time there was some dilatation of the pupils and a beginning sense of muscular and mental exhilaration. Diaphoresis was also experienced.

At this point let me quote a case which is an additional demonstration of the value of cocaine as an antidote for opium.

Dr. H. E. Matthews, my associate in laboratory work, was called to treat a case of opium poisoning. Being interested in my investigations, he concluded to use cocaine as an antidote. The details of his experience are as follows:

Mrs. R——, on June 6, 1895, about 6.45 P.M., during a quarrel with her husband, took a three-ounce bottle of laudanum which was nearly full, and drank all but about half an ounce of its contents. When Dr. Matthews saw her, twenty minutes later, her pupils were contracted and she was greatly excited; so greatly excited that he considered her respirations, 16 to the minute, due in a large measure to the nervous disturbance. Her pulse was 80. He gave her six grains of hydrarg. sulph. flava, which in five minutes made her vomit a clear fluid which had neither the color nor odor of laudanum. He concluded, therefore, that most of the poison had been absorbed. He then administered hypodermically one-half grain of cocaine. At 7.40 P.M., she was more quiet in manner, but felt more vigorous. He then gave her hypodermically one-quarter grain of cocaine. In one hour she was perfectly normal and in her general condition, her pupils being well dilated.

I doubt if permanganate of potash or atropine would have given as good a showing as that.

In conclusion, let me say that in any case of opium poisoning, I would first employ an emetic, then I would give hypodermically one-fourth to one-half grain of cocaine; wait twenty minutes, and if no decided effect had been obtained I would give another injection of one-fourth grain; after waiting another twenty minutes I would repeat the dose if there were no manifest improvements in the case. I think three separate doses of one-quarter grain each at intervals of twenty minutes, is the best plan to follow, on acoount of the very quick diffusibility of the drug and its sustained effect. During this time I would administer coffee by mouth or rectum as a supplementary heart stimulant, and in extreme cases employ artificial respiration.

While I urge this method, I hope with becoming deference to the opinion of others, concerning other plans of treatment, I urge it with the honest conviction that it is an improvement upon the atropine and permanganate of potash methods.

NUCLEIN IS NATURE'S ANTITOXIN, AND SOME OF THE FUNDAMENTAL PRINCIPLES UNDERLYING OUR MODERN THERAPY.[1]

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A LITTLE over five decades have just crept by us since the great Schwann communicated the results of his discoveries on animal tissues to the French Academy, which became the foundation to a budding science upon which since then an imposing structure has been built.

Closely following upon Robert Brown's and Schleiden's work, Schwann published, in 1839, his famous microscopical researches, and came to the conclusion that all possible tissues of both animals and plants consisted of cells, or of materials derived from cells, it seemed that the primary units—molecules, so to say, of which all living beings are built up, had finally been discovered. A small piece of structureless, granulated, jelly-like substance—the sarcode in animals and the protoplasm in plants—surrounded or not by a thin membrane, and containing a nucleus, this was the primary unit, giving origin to all the most complex and varied tissues.

This conception gave a formidable impulse to science and to scientific philosophy altogether, the more so as it was soon followed by a most important discovery which established the close resemblance existing between the subdivision of cells and the phenomena of sexual reproduction in plants and animals. Twenty-two years later, another still more important step was made in the same direction when Max Schultz published his memoir "Das Protoplasm," and proved that the granular, jelly-like substance of the cells is identical in both the animal and vegetable kingdoms, that it is the very seat of all physiological activity, as it is capable of movement, of nutrition, of growth, of reproduction, and even of sensibility, or, at least, of irritability. Many must certainly remember the effect produced by the broad generalization based upon Max Schultz's ideas by Haeckel in Germany, and Mr. Huxley in his well-known lay sermon, "The Physical Basis of Life."

However, if protoplasm were the seat of physiological activity; if it could move, grow, reproduce itself, and display irritability, was it still to be considered as a structureless, granulated jelly or slime? It was a world in itself, and the microscope had to be directed toward the further study of this world. So it was, by Lionel Beale, Schultz himself, Strasburger, and most of the famous histologists. Discovery upon discovery was the reward of this work, and the recent researches of Strasburger, Fleming, Guignard, and Fol, while fully confirming the broad generalization laid at the foundation of modern biology, revealed a wide series of new facts having a direct bearing upon the question of heredity which is so much debated now in connection with Weismann's views.[2]

[1] Read before the American Medical Association, May 7, 8, 9, and 10, 1895. Section, Practice of Medicine.

[2] Strasburger: Ueber Kern-und Zell-Theilung in Pflanzenreiche, Jena, 1888; Guignard, in Bull. Soc Botanique de France, 1890, tome xxxvi., and Comptes Rendus, 1891, tome cxii., pp. 539, 1074, and 1320; tome cxiii., p. 917; W. Fleming, in Archiv für Mikrosk Anatomie, 1891, Bd. xxxvii., p. 249, and Anatomischer Anzeiger, 1891, p. 78. An immense literature has suddenly grown up upon this subject; excellent

From the above-mentioned researches it became evident that protoplasm itself consists at least of two different substances—one of them a minute net-work of very delicate fibrils, while the other, an apparently homogeneous substance, filling up the interstices between the net-work. Then it was observed that the nucleus, which makes a necessary constituent part of cells, has a still more complicated structure of subdivision of the cells, and those of reproduction. It consists of a nuclear plasm, surrounded by a very thin membrane; contains very often a still smaller nucleolus; and within the nuclear plasm the microscope discovers extremely thin threads, or fibres, consisting in their turn of extremely thin minute granules, or sporules—the whole appearing as a ball of thread coiled up somewhat roughly. The albuminous matter of which these threads consist receive the name of "Nuclein," and the threads themselves were named chromatin fibres, owing to their affinity for coloring matter. The transformation in the nucleus which has just been described received the general name of Karyokinesis, or nuclear movement. (The names, as seen, are simply descriptive.) This being the usual aspect of the nucleus, a series of modifications begin within it, when the moment arrives for a cell to subdivide. The nucleolus disappears; the beaded threads, or fibres, shorten and become thicker. They assume the shape of minute hooks, which join together (by the tops of the bendings) in one point, the pole. By the same time the membrane of the nucleus is reabsorbed, and the surrounding protoplasm of the cell penetrates within the nucleus, thus mixing up together with the nuclear plasm. Thereupon a most important change follows. Each of the thickened nuclein fibres, or threads, splits in its length, and the number of the threads being thus doubled, one-half of them is attracted toward a radiated spindle-figure in one part of the cell, while the other half arranges in the same way in its opposite part. The two radiated figures thus separate, and only then (if the nucleus subdivides in giving origin to two new cells) a membrane, or parts of a membrane, grow between the two. After the separation, the fibres either coalesce with their ends or return to the shape of a ball of thread.

It is a whole world undergoing a complete cycle of modifications. And yet this is not all. It appears from Strasburger's work that all the cells are not quite alike, but that the number of nuclein fibres varies from eight to sixteen in the different families of plants, the individuality of the types thus seemingly depending upon their number; while Guignard found that with several plants the cells which will be destined, after the division of the mother-cell, to become the reproductive organs, will always have but one-half of the normal number of fibres (say twelve), while those which are destined to become the vegetative organs will have the full number — say twenty-four.[1] The former will acquire the full number of fibres only after fecundation. Are, then, the cells differentiated from the first movement of their bi-partition? And what part does the number of chromatine fibres play in that differentiation?

Further complications are discovered through the study of the protoplasm itself. It was known some time ago that there are, in the animal cells, two peculiar spots surrounded by rays of sarcode, which were named spheres of attraction, or directing spheres, or centrosomata, or simply "centres." The same minute centres have now been found by Strasburger and Guignard in vegetable cells also, and it appears that these bodies essentially belong to the protoplasm—not to the nucleus—take a leading part in the phenomena of reproduction. Professor Fol, who carried on his researches with eggs of sea-urchins, saw that when the elements of the male cell have entered the female cell, the centre of the former separates from the top of its nucleus and joins the centre of the latter. Both lie close to one another; then they become elongated and take positions on the opposite sides of the nucleus, which is now formed by both coalesced nuclei, surrounded by a radiation of the fibrils of protoplasm. Then begins what Fol terms the "quadrille of the centres." Each of them divides into two half-centres, and all four move, so that each half-centre of the male cell meets and coalesces with one half-centre of the female cell, and the two newly formed centres become the poles of attraction for the spindles of the nucleus. The act of fecundation is thus not a simple coalescence of two nuclei, originated from two separate individuals, as was first supposed; but it also consists of the union of each two of the four half-centres originated in the protoplasm.

The interest attached to these minute changes is great, on account of their influence upon the theory of heredity. The observations of Fol, and the quite analogous observation of Guignard as regards plants, would only confirm the doubts expressed by Sir William Turner in his address before the Microscopical Society[1] as to the germ plasm being so isolated from the cells of the body generally as to be influenced by them and to be unaffected by its surroundings; and they would give further weight to his restrictions upon Weissmann's theory of heredity. However, the questions at issue are so complicated and so delicate that further research is necessary before positive conclusions can be drawn.

But what is protoplasm itself? What is this jelly-like matter which exhibits all phenomena of life? Science has not yet given an absolute answer to this great question. On the one side, we have the germs of an opinion, shared by some biologists who are inclined to see in protoplasm an aggregation of lower organisms. Thus R. Altmann[2] and I. Strauss[3] consider that the granulations of protoplasm are the essential and fundamental elements of the organic being. As to the cell, it is not, in Altmann's opinion, an elementary organism, but a colony of elementary organisms which group together, according to certain fixed rules of colonization. They constitute the protoplasm as well as the nuclear plasm, and they are the morphological units of all living matter. These granules, he maintains, are identical with microbes; their shape, their chemical reaction, their movements, and their secretory functions are similar; but the granules of the protoplasm differ from bacteria in not being capable of a separate existence. They can only live in cells. It is absolutely impossible to say, at the present time, how far this view may find indorsement in later research, though it must be mentioned that it is derived from elaborate investigations into the cells of various glands and their secretions, and that it finds support in facts accumulated by many well-known anatomists.[4] It must also be added that some biologists, namely, J. C. Vogt,[5] go a step further and maintain that all micro-organisms, and all cells of more complicated organisms are structures of a fourth or higher order; they are colonies of polyblasts, which themselves consist of monoblasts, or those granules which are distinguished in the protoplasm and the nuclear plasm. But, on the other side, we also have the other extreme view, supported by the authority of

résumés of the whole question have been given in English up to 1888 by Professor McKendrick, in Proceed. Glasgow Philos. Society, vol. xix.; and to the end of 1890 by William Turner in an address, The Cell Theory, Past and Present, delivered in October, 1890, before the Scottish Microscopical Society (Nature, vol. xiv., p. 2 et seq.).

[1] Report upon which the Prix Bordin was awarded to Guignard, in Comptes Rendus, December 21, 1891, p. 917.

[1] See note 1.

[2] Die Elementar-organismen und ihre Beziehungen zu den Zellen. Leipzig, 1890, with 21 plates.

[3] Sur la Morphologie de la Cellule bacterienne in Journal de Micrographie, t. xv., October 25, 1891.

[4] The author names Giamizzi, Ranvier, Renant, and partly Henri Martin.

[5] Das Empfindings prinzip und das protoplasma auf Grund eines einheitlichen Substanzbegriffes. Leipzig, 1891. Journal of the Microscopical Society, February, 1892.

Professor O. Bütschli, who sees in protoplasm nothing but a foam, quite similar to the foams which may be artificially produced, and who maintains that all phenomena observed in living protoplasm are simply physical and chemical processes.

The great question as to what protoplasm is, evidently will not be solved soon, but the above-mentioned researches will give an idea of the problems which at this moment absorb the attention of biologists. One important step has certainly been made, the complicated structure of protoplasm has been recognized and the exploration of the vital processes in living matter now stands on a firm footing.[1]

Having in the foregoing traced and given the most modern views underlying the principles upon which our modern therapy is founded I have still a few words to say regarding my own views on "nature's antitoxin," which most evidently exists in the protoplasm, and is constantly formed in the living body by the leucocytes for economical and protective purposes. This substance is known to us now as "nuclein."

This cellulized substance, nuclein, takes upon itself the task of performing many complex functions in the physiological economy, and one of the most important, besides that of providing the tissues with its entire nutriment, is to protect its tissues from being invaded by such poisons with which the body is constantly threatened. In fact nuclein is nature's immunizer, and it is also the most important matter in all nature, for it alone is the bearer of life. With slight changes it forms not only the bodies of all plant cells, but also the white and yolk of the egg, flesh and blood, the substance of the brain and nerves, milk and cheese, the skin and hair of animals. While in lifeless nature nearly every kind of stone has a different chemical constitution, in the world of life one and the same fundamental substance forms the basis of the bodies of plants, animals, and men.

We find a very important device that mother nature has provided the cell with a hard shell in case or warfare with bacteria and other poisons which bodies in their momentary lives are endangered with. This soft protoplasm, or "nuclein," as we learned before, would not be able to resist the presence and assault of strange bodies; it is therefore that it is surrounded with a hard shell or envelope, which it prepares as a dwelling and for its protection in a similar manner as the snail forms its shell by secreting over its surface a matter which soon hardens into a firm, transparent enclosure. This shell, known as cell-wall, does not show the most minute opening, but incloses the protoplasm perfectly tight. We might, therefore, liken the cell to an egg, in which the soft living contents are concealed in the hard shell.

But in nature nothing is great and nothing little, and there is room, even in the smallest of nature's cells, for the greatest diversity and development of the powers of life, etc., a continuous formation and transformation, origin and decay, a constant change of matter is going on in every cell; reception and assimilation of food, inspiration and expiration; certain atoms which have become of no use for purposes of life are cast aside, others are taken up from without in their places; as on this food and change of substance depend the renovation of the cell and the maintenance of its life. Evidently not solid substances are appropriated, for we know that the cell is inclosed in a perfectly closed envelope, but liquid and gaseous foods can be easily absorbed. Although the most perfect microscopes have never made any holes visible in the cell-envelope, there is not the slightest doubt that this envelope is porous. Therefore we may understand that, when a cell is placed in a fluid, the envelope absorbs it to fulness, and conveys to the inner protoplasmic body as much as it requires; and, inversely, certain parts of the cell-juices, which the living protoplasmic body does not need for itself, are transpired through the pores of the envelope and become applicable to the use of other cells; and the same may take place with air and gases, etc.

From the many experiments the evidence gathered has shown conclusively that the leucocyte plays the important *rôle* in the physiological life of the beings—as well as in the cell in the vegetable world. That the cell is the manufacturer of an immunizing substance has been again proven by the most recent experiments of Dr. Pheiffer, of Berlin, which substantiates those of mine and others before him. In the last number of *Modern Medicine and Bacteriological Review* there appears an article of exceptional interest, inasmuch as it contains an original article by Professor Metchnikoff, whose theories on phagocytosis are so well known, and goes far to elucidate the idea that the leucocyte is the manufacturer of nature's antitoxin and thereby the normal physiological immunizer.

The interest in this article by Professor Metchnikoff, "The Extra-cellular Destruction of Bacteria in the Organism," lies in the critical comment upon some of the conclusions deduced by Dr. Pheiffer from his experiments on the destruction of cholera vibrios in the peritoneal cavity of guinea-pigs. Dr. Pheiffer observed this destruction of cholera vibrios when the latter were introduced into animals previously vaccinated against this germ, and also in the case of unprotected animals when the vibrios were injected together with a small quantity of serum from vaccinated animals. In both cases Dr. Pheiffer found that they were destroyed outside the cells in the peritoneal fluid, and he believes that this bacteria-killing fluid is secreted by the cellular elements in consequence of a special excitation produced by the injection of cholera vibrios, and that the immunity acquired by guinea-pigs is independent of phagocytosis. Professor Metchnikoff, however, regards this as an episode in the battle between bacteria and phagocytes, and maintains, on evidence supported by experiments, that the leucocytes secrete this bacteria-killing fluid while undergoing the process of degeneration due to the injection of Pheiffer's mixture of vibrios, serum, and broth. That, although unable to engulf the vibrios, they are able still to destroy them by their secretions (nature's antitoxin). Metchnikoff points out that if before introducing the vibrio mixture a few cubic centimetres of broth be injected into the peritoneal cavity, the leucocytes will gather together in great force after a few hours, and if the vibrio mixture be then introduced phagocytosis does take place, and the cholera bacteria are more rapidly destroyed by this process of intra-phagocytosis than by the extra-cellular destruction produced by the condition of Pheiffer's experiments. I must myself agree with some of the views of both these gentlemen. For the last two years this question has interested me so much that I undertook many varied scientific and clinical experiments founded on the foregoing ones just cited. I must say that my clinical experience has also given me proof sufficient to warrant my conclusions. My observations were directed toward diphtherias of different grades, cancers, fevers, and phthisis, with different preparations of the nucleins—among them my own[1]—made from the fish eggs, and that one known as proto-nuclein, also with serums, without culture and in the attenuated form, and the antitoxin diphtheria. Some of my observations with the nucleins in diphtheria, follicular tonsillitis, and pseudo-diphtheria have already been reported and printed in several of the leading American and foreign journals. These clinical truths as reported gave me further stimulus to carry on the more extensive ones, which will follow this present paper. It also gives me great pleasure to see that I foreshadowed that the serums alone, and without the at-

[1] Professor R. Greef's exploration of the motor fibrils of the amœba terricola (Biologisches Centralblatt, November, 1891, pp. 590 and 663) may be mentioned as an illustration of such researches.

[1] The egg nucleins are manufactured for me by special process, and can be supplied by Mr. Oscar G. Kalish, chemist, Twenty-third Street and Fourth Avenue, New York City.

tenuation, have the power of exhibiting their strong bactericidal powers. My own researches are corroborated by those later ones of Pheiffer and Metchnikoff.

In all my work the microscope was not neglected, as I found it a most important witness in my clinical cases regarding the blood counts for its leucocytotic potency.

The efficacy of the antitoxin of diphtheria, and those which have serum as their base, if my conclusions be justifiable, must therefore be dependent upon the nuclein in the serum, and thus its value does not lie in the attenuation of the serum, but in the nuclein that the serum contains, the attenuation being only an extra dynamic irritant by means of which leucocytosis is produced—so giving rise to an increased amount of nuclein, or bacteria-killing fluid, as shown above. This, and this alone, can explain the therapeutic value of antitoxins. From all I have been able to learn from my clinical and experimental studies and from the exhaustive work upon kindred subjects by those gone before, I incline to the belief that both Pheiffer and Metchnikoff have given us the partial solution of this most valuable and interesting problem of immunization and protection against all diseases in that they and myself hold that the immunity is brought about by the bursting of the leucocyte, filled with its ripe or cellulized substance, which in turn is given by the circulatory fluids to the organs whenever and wherever it is needed. The subject is far too recent and yet in its infancy, but it is upon it that our modern therapy must be based.

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SOME OF THE CONDITIONS REQUIRING SPECIAL CARE AFTER ABDOMINAL SECTION.

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The mortality after abdominal section is largely dependent upon the thoroughness with which the patient is prepared for the operation, and the readiness with which complications are met after the operation is completed. In emergency cases, where no time can be taken for preliminary treat nent, the after-care of the patient becomes a question of the greatest importance. The after-care of the ordinary case is a source of great anxiety to the operator until the danger period is past, but the emergency case is one that involves greater responsibility and anxiety.

We shall not speak of the after-care of emergency cases, but of the after-care of the ordinary case. That the patient may have the best chance for recovery after a section, she should be given the benefit of everything known to science which will contribute in any way to her comfort and welfare.

I shall not consider in detail the preparation of the patient for the operation, but I wish to emphasize one or two important points. It would be quite impossible to establish any fixed rules to be followed in all cases, yet we might say that all cases should have hot baths daily for several days preceding the operation. One of the most annoying conditions to overcome is constipation; it is almost always present. Where time will permit a good routine to observe is this: Five to eight grains of calomel in the evening, followed by sulphate of magnesia in the morning, and every second morning for a week or so, by a saline purge. This, in conjunction with full doses of strychnia given three or four times a day, and proper attention to a diet which does not constipate, will be found efficient. Now that we understand so well the evil effects of the bacillus coli communis, we can better appreciate the necessity of putting the intestinal tract in a good sanitary condition. In addition, the preliminary use of strychnia puts the patient in a better condition to secure an easy and prompt evacuation of the bowels following the operation.

I also attach much importance to a careful examination of the urine. If the kidneys are found defective in the performance of their function, the condition is corrected as far as possible by careful medication, quantities of lithia water, and hot baths. If marked organic disease of the kidney exists, we are made aware of the true condition before the operation and select the anæsthetic that is least likely to be harmful.

The patient always complains of severe pain directly after regaining consciousness, but if she is prepared mentally before the operation for this condition, and told of the great necessity for avoiding morphine, as a rule she can be persuaded to bear the pain. At the end of eight or ten hours, if she has not been given morphine, she rarely complains of pain, but if one dose is given, its use will have to be continued for three or four days at frequent intervals, thus complicating the convalescence. I am seldom compelled to give morphine after an operation; in fact, I have given it to but one patient in two and one-half years. I occasionally give codeia, which does not relieve the pain so thoroughly, but gives some relief. It does not have the bad effect of morphine, and it satisfies the nervous patient's desire that something be done to relieve the pain.

Another condition with which we have to contend is extreme thirst. Almost the first thing a patient asks for is a drink of water, but it must not be given. She must have absolutely nothing in the stomach for twelve to fifteen hours, as it increases the tendency to vomit. Another reason for refusing water is, if we withhold all fluids, the excess of fluid in the peritoneal cavity will be more readily absorbed. After twelve or fifteen hours, if there is no vomiting, give a teaspoonful of hot water, as hot as the patient can stand. It quenches thirst better than cold and has a tendency to prevent vomiting. The thorough physic from the salines, plus the section, creates a great thirst. To allay this and supply the body with water I give an enema of twelve ounces of a saline solution within an hour after the operation, repeating it every four or five hours for twenty-four to thirty-six hours. The patient complains comparatively little of thirst if thus treated.

Ether is more likely to cause vomiting as the patient is returning to consciousness. As vomiting is one of the complications following operations, and once started is difficult to control, everything likely to cause or aggravate it should be avoided as far as possible. It is one of the most annoying conditions with which we have to deal, and, as a general rule, the less you do in the way of medication the first six hours after the operation the better it will be for the patient. Put absolutely nothing into the stomach; give the patient nothing for the vomiting. I frequently have to oppose the views of the family attendant in these cases. He wants to give the standard remedies for vomiting and insists upon it. I have found it to be a fact that the more we put into the stomach the first six hours, the longer the patient will continue to vomit. What she needs, and the best treatment for this condition, is to withhold everything from the stomach.

If, however, the patient continues to vomit for ten or twelve hours or longer, you may look for a cause other than the anæsthetic, probably sepsis, septic peritonitis, or both. Patients as a rule do not vomit longer than six to eight hours after an operation, when the nausea is due to the anæsthetic alone. If, in addition to the vomiting, the patient has a quick pulse, is restless, or the abdomen is distended, the vomiting requires our closest attention, for now it is all important that it be stopped. It is now evident that it is not from the anæsthetic, but is due to a septic condition, and the sooner we can get the bowels moved the better

for our patient. In fact, the vomiting will not be controlled until the bowels are thoroughly evacuated. For this condition I use a fourth to one-half grain dose of calomel rubbed up with a little sugar of milk, placed dry on the tongue every thirty minutes. If the vomiting occurs oftener than every thirty minutes, repeat the dose after each attack of vomiting. This, with a small mustard-plaster over the stomach, with hypodermics of strychnia given every three to four hours, is continued until the bowels are moved. I pursue the same course of treatment for the gaseous distention of the bowels. From six to eight hours after commencing the calomel, I order enemas of two ounces of glycerine with as much warm water, to be repeated in an hour. If this does no good, I use an enema composed of two quarts of warm water, an ounce of turpentine, and two ounces of glycerine, through a rectal tube, passed far up in the colon, instructing the patient to retain it as long as possible. Even if there be no movement, the patient will frequently pass great quantities of gas with the injection and feel much relieved. If the bowels move, the vomiting is at an end at once and convalescence established. Suppose we have done all this and the bowels have not moved? In many of these cases the patient has stopped vomiting by this time, or at least does not vomit so frequently. I then give a seidlitz powder every half-hour or hour, or a solution of citrate of magnesia, two ounces every hour, or sulphate of magnesia, a teaspoonful every hour, and repeat enemas every hour or two. I continue the hypodermics of strychnia in full doses. I persist in this line of treatment until the bowels are thoroughly moved.

There are many dangers following these operations, but those most frequently met with are shock, the influence of the anæsthetic, and hemorrhage. These may be partly guarded against by careful preparation of the patient and thorough work by the operator, yet they cannot be entirely obviated.

As a prevention from shock, two ounces of whiskey with four ounces of warm water should be given per rectum one hour before the anæsthetic and a hypodermic of one-twentieth of a grain of strychnia twenty minutes before. If the patient suffers severely from shock during or following the operation, she should have one-fortieth of a grain of strychnia, hypodermically, within three-quarters of an hour after the first dose. If necessary, I would continue the strychnia in one-fortieth grain doses every two hours, until four more doses have been given. This will give the patient's heart strength and reduce her pulse. She should be kept as quiet as possible, surrounded with blankets and jugs of hot water, and the surface of the body not exposed to the atmosphere. I have little confidence in whiskey, given either per rectum or hypodermically, while the patient is suffering from profound shock. Our main reliance must be upon strychnia, digitaline, and nitroglycerine. I frequently combine one or both of these remedies with strychnia. The nitroglycerine is a good remedy for temporary effect, but its effects only last a few minutes, therefore we must rely chiefly upon the strychnia and digitaline.

The bad influence of the anæsthetic upon the heart, kidneys, and the lungs is recognized by everyone. The risk can in some measure be anticipated by proper preparation of the patient. The danger of suppression of the urine is less in sound kidneys than in diseased ones, therefore the necessity of careful examination of the urine, chemically and microscopically, so that we may know something of the condition of the kidneys before the operation. Other things being equal, chloroform is safer in the presence of renal disease and ether in cardiac disease. If there is no contra-indication, I prefer chloroform as the routine anæsthetic. I have found the detrimental effects of ether by diminishing the secretion of urine so universal that I have discarded it altogether in my abdominal work, except in a few rare instances of heart lesion. In such cases where I feel that the danger to the heart from chloroform overbalances the danger to the kidneys from ether, I use the latter.

I wish to emphasize the fact that a man experienced in giving anæsthetics is of great value, and his service greatly increases the patient's chances for recovery. One who will give his undivided attention to the administration of the drug; who is ever watchful of the patient's condition; who is not in any way interested or absorbed mentally in the operation; one who is not ambitious to become an operator himself, and in his desire to witness the details of the operation or some unusual condition encountered, neglects his responsible duty, is to be desired, and in all large cities the services of such a man can be secured. My anæsthetizer, Dr. Colter, uses from a drachm and a half to three drachms of chloroform, keeping the patient under surgical anæsthesia from thirty to forty minutes. It is very rarely that he uses more than three drachms. By thus minimizing the amount of the anæsthetic we lessen the danger to our patient, and that may make all the difference between recovery and death in the ultimate result. Notwithstanding careful preparation of the patient for days preceding the operation, where examination has revealed a lesion of the kidney, and in a few cases where no such lesion could be detected, suppression of the urine has followed the operation. In some of the most obstinate cases the patient has secreted six or eight ounces of urine the first twenty-four to thirty hours, and then there was entire suppression followed by coma.

The following two cases will serve as illustrations of suppression of urine following operations, both in the presence and absence of organic disease of the kidney:

Case I.—Mrs. S——, aged fifty-two, operated upon May 16, 1892, under chloroform for the removal of a very large ovarian cyst. The legs and feet were œdematous when admitted on May 3d. She had secreted but a few ounces of urine in twenty-four hours for several weeks previous. Large quantities of albumin were present and microscopical examination showed granular casts. The day of admission and up to the following morning she suffered so much from dyspnœa that it was thought best to tap her. Several gallons of fluid were drawn, giving temporary relief, and more urine was secreted for the next few days. On the morning of the 16th it was thought best to make the radical operation, notwithstanding one-fifth of the bulk of the urine was albumin. The first eighteen hours after the operation the patient secreted seven or eight ounces of urine and then for a few days from two to six ounces daily. In spite of catharsis by salines, and sweats, the kidneys refused to act. She was so feeble that I feared to use pilocarpine and resorted to corn-pack sweats, which acted nicely and relieved the coma for eight to twelve hours. She again relapsed into her comatose condition and the sweating process was repeated at intervals of ten to eighteen hours. We administered digitaline and strychnia hypodermically, and gave large quantities of lithia water. Her strength was sustained by liberal supplies of liquid nourishment. On the fifth day the function of the kidneys was resumed. The patient made a good recovery and went home at the end of five weeks and is now enjoying good health.

Case II.—A resident of Louisville, twenty-eight years of age, married three years, was visiting friends in this city. Since her marriage she had had a number of attacks of inflammation in the abdomen. The present attack commenced as her previous ones, but more severe. In the fourth week of her present illness I was called to see her in consultation with her physician, Dr. Van Meter, of this city. She was very ill, had a high temperature, rapid pulse, chills, sweats, and vomiting. She had a tumor in the pelvis somewhat larger than a cocoanut. From her clinical history and physical ex-

amination I diagnosed suppurating tumor in the pelvis. She was admitted to the hospital on November 5, 1893, and a section was made on the morning of the sixth. A double pyosalpinx and two suppurating ovaries, holding fully a pint of pus, were removed. The anæsthetic was chloroform. She rallied nicely and secreted eight or ten ounces of urine the first twenty-four hours. The next six hours she became drowsy. At the end of twelve hours she was catheterized and less than an ounce of urine removed. Notwithstanding the fact that she had free purgation with salines, profuse sweating from pilocarpine at intervals of eight or twelve hours for the following five days, she was so thoroughly comatose that she was unable to answer questions. For fully twenty-four hours of that time she could not be aroused at all. She was sustained by hypodermic injections of strychnia, digitaline, and nitroglycerine. Pilocarpine had such a weakening effect on her heart that we substituted corn-packs. This acted nicely. On the seventh day she secreted seven ounces of urine and the eighth day twenty ounces, and from that time the kidneys acted nicely without any stimulation. She made a complete recovery and was discharged December 16th, and is now enjoying good health. Only a trace of albumin could be detected in the urine at any time, and never anything abnormal under the microscope. Knowing as we do that suppression of the urine is one of the most fatal complications we have following these operations, the happy termination of these cases is a matter of congratulation and an argument in favor of the treatment adopted.

One of the conditions to be dreaded, especially following inflammatory and suppurating diseases in the pelvis, is hemorrhage. We have been thorough in our operation; liberated all the organs by breaking up the adhesions. We have quite a good deal of hemorrhage during the operation, and the collapse necessarily following the manipulations and loss of blood; we find the patient is not bleeding more than a general oozing when we put her to bed, and so feel perfectly secure. As she rallies we find the hemorrhage starts up. There is bright-red blood welling up through the drainage-tube and soiling the dressing. If the hemorrhage is not too severe, we keep the drainage-tube dry by repeated pumping as often as every ten or fifteen minutes. If the hemorrhage is persistent or increases in quantity, making a profound impression on the patient, reopen the wound and secure the bleeding point. The reopening of the wound is a serious procedure, but under these circumstances there is nothing else left to do, and if this is to be successful it must be done promptly. If we delay until the patient has lost a greater quantity of blood, her life will be sacrificed. It is now a question of saving the patient from a death by hemorrhage, just as if you had a hemorrhage from the stump of an amputated limb; not so quick, but quick enough. I have little doubt that many patients have been lost from this cause. With the patient in the Trendelenburg position, it is not a difficult matter to find the bleeding point and secure it. It may be that the ligature has slipped or cut through the pedicle, or possibly a bleeding point has been overlooked during the operation; but no difference what the source of the hemorrhage, it must be controlled or the patient will surely die. There is nothing in this work that tries my courage as a hemorrhage under these circumstances. The following cases very fairly illustrate accidents of this kind:

Mrs. M——, of Troy, operated upon in the Woman's Hospital, April 1, 1891, for the relief of a chronic inflammation in the pelvis. Adhesions were extensive and firm. Both appendages were removed. The patient suffered from nausea following the operation. There was the usual amount of drainage from the drainage-tube during the day. The patient was very unruly, not heeding the instructions of the nurse; she persisted in straining desperately at each act of vomiting, and at 11.30 that night while retching felt something give way in the abdomen and called the nurse's attention to it. On inspecting the dressings, they were found saturated with blood and blood running from the drainage-tube. I was notified by telephone and at once repaired to the hospital. I reached the patient within an hour after the accident and found her semiconscious, and a pulse that was scarcely perceptible. With the assistance of two nurses, without removing the patient from the bed, I at once cut the stitches in the abdominal wound and found that the ovarian artery was cut through by the ligature and the pedicle more than half cut off. This was seized and ligated without difficulty, the abdomen was irrigated and closed, and the patient had no further trouble from this source. She made a prompt recovery. I have no hesitation in saying the patient would have died within a very short time without surgical interference.

We occasionally see large varicose veins in the pedicle in operation, both for the removal of ovarian cyst and fibroid tumor; these are a source of post operative hemorrhage that has not been duly recognized by the profession. I reported a case of this kind operated upon in October, 1892, where the vein ruptured on the proximal side of the ligature the second day following the operation. On January 21, 1895, I removed a large fibroid tumor from Miss W——, Mt. Vernon, at my private hospital. It was observed there were very large varicose veins on one side. This condition was commented upon during the operation. Everything went well, the incision was closed. While applying the dressings we noticed blood running from the drainage-tube. I immediately cut the stitches, reopened the abdomen and found a pint or more of blood in the pelvis and a rent in the vein on the distal side. The vein was ligated separately. The patient made a good recovery. If the drainage-tube had not been placed in this patient, we would have had no means of knowing of the hemorrhage until too late to save her life. The shock from the loss of blood would have been misconstrued as the shock of the operation. Enough has been said to emphasize the statement made before, that these are trying cases which do not admit of any half-way measures.

MASTURBATION IN THE ADULT.

By EDGAR J. SPRATLING, M.D.,

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MASTURBATION being in itself a habit fraught with dangers to its devotee just in proportion as the nervous stamina of the individual is lacking, one would naturally think with horror of its octopus-like grasp within the walls of every institution intended for the care and treatment of those unable mentally or morally to stand on an equality with his free fellow-man. And well may those in whose care the insane are placed regard it as an arch enemy, for hand in hand with its boon companion, sodomy, it stalks through every ward, entangling its victims more hopelessly with each passing night.

In women the road to its cure is an endless and monotonous journey, for nothing short of ovariotomy will be found to deserve even the term palliative; clitoridectomy, anatomically and physiologically, could be but a failure, blistering only cruelty.

Among men the case is not so hopeless, for there anatomy is partly in the operator's favor. Of the treatments we might speak of blistering the glans penis, but only to condemn it as an uncalled-for cruelty; the possible beneficial effect is so transient, while the untoward effect is often so lasting upon the patient mentally in the way of a feeling of resentment, that it is doubtful if one could ever justify such a proceeding.

The various kinds of apparatus that are intended to

prevent the mobility of the foreskin, are one and all to be let alone as unsatisfactory and unsuccessful, if not actually mischievous, by concentrating the patient's attention to that locality. Preventing the opportunity for the practice is simply out of the question. Castration is not to be considered for many and very obvious reasons.

Complete section of the dorsal nerves of the penis (as I have previously advocated) is a rational procedure, but rather too radical for constant routine practice. The cases require the greatest care in the selection for this operation, and even then with all due care one will generally have to encounter the most strenuous objections and later the bitterest reproach and condemnation from the patients and from their relatives—though the object sought may have been obtained.

In all cases, taken as they come, circumcision is undoubtedly the physician's closest friend and ally, offering as it does a certain means of alleviation and pronounced benefit, granting as it does immunity from after-reproach. Those cases in which the glans presents a moist, semi-oily appearance, with papillæ strikingly developed about the corona, long thickened foreskin, pliant and giving, large and often tortuous dorsal veins, go to make up a picture that is exceedingly tempting to the surgeon's scissors. The whole operation, when the scissors and continuous suture are used, takes only from four to six minutes—and time is a great consideration, especially in the case of the insane, even though local anæsthetics may be used. To obtain the best results one must cut away enough skin and mucous membrane to rather put it on the stretch when erections come later. There must be no play in the skin after the wound has thoroughly healed, but it must fit tightly over the penis, for should there be any play the patient will be found to readily resume his practice, not begrudging the time and extra energy required to produce the orgasm. It is true, however, that the longer it takes to have an orgasm, the less frequently it will be attempted, consequently the greater the benefit gained. Tubes, rings, clamps, and directors, devised as aids in circumcision, are worse than useless on account of the time involved in their manipulation, and also because they necessitate the use of a knife instead of scissors, thus inducing more hemorrhage, and most likely necessitating interrupted sutures instead of the continuous. We may not be sure that we have done away with the possibility of masturbation, but we may feel confident that we have limited it to within the danger lines, which is the primary object sought, as we are from the outset striving for the hygienic, not the moral, benefit—the latter is usually too far from our reach to even consider.

The younger the patient operated upon the more pronounced the benefit, though occasionally we find patients who were circumcised before puberty that require a resection of the skin, as it has grown loose and pliant after that epoch. Mental depression following circumcision is practically unknown, and the only patients in whom there is any but the most pronounced physical gain, are those above fifty years old. And we might note, too, that after that age masturbation seems to have very little influence on the health, the patient seemingly having passed the period at which the drain can do much harm. Many of the boys and younger men begin to show marked gain in weight and even in mental activity within ten days after the operation. Generally the patients do not object to the operation when its nature and object are fully explained to them; indeed, some of the most intelligent insist on it being done, acknowledging their inability to free themselves of their habit voluntarily.

Bequest to the New York Post-Graduate Medical School and Hospital.—The New York Post-Graduate Medical School and Hospital has received a gift of $5,000 from the estate of the late Henry M. Cram.

THE VALUE OF PHENYLHYDRAZIN-HYDROCHLORATE IN THE DIAGNOSIS OF DIABETES MELLITUS.

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THE employment of phenylhydrazin as a test for the detection of grape sugar has been a subject of comment and observation since its first employment by Fischer, of Erlangen; and the subsequent endorsements by Von Jaksch and Utzmann in Europe, and of Bond in this country, have contributed a measure of prominence to the salt second to that of no other agent. Some observers have been most laudatory in their opinions of its worth, and would make it an agency of supreme value. My interest in the general subject of urinalysis, and the recollection of a signal disappointment with the salt, has prompted an investigation of the matter, and while the inquiry has brought forth no results of significant novelty, it has yet shown me at once the value and the demerits of the test in the final adjudication of the grave and momentous question as to whether a given urine is, or is not, the index of diabetes mellitus.

It has been my endeavor, in a research extending over some months, to consider the agent from the stand-points of—1, delicacy; 2, the influence of substances and "constituents" in the urine (adventitious and constant); 3, uniformity of response, with certain presence of glucose; and 4, its comparative value as a test. I have made the observations with both water and urine for solvents, and have taken at different times such drugs, etc., as would probably modify my own urinary excretion. In some instances I have employed the urine of physically sound soldiers living in barracks.

The method followed in the work has been, in the main, as follows: A space of three centimetres of a test-tube is filled with the salt; an equal quantity of sodic acetate having been added, the tube is filled half full of the suspected solution and then shaken to dissolve. The liquid is slowly raised to the boiling-point and kept there for thirty seconds, when the tube is immersed in cold water and the sediment examined in one hour, and again in twenty-four hours. The result, in presence of glucose, should be masses of brilliant, canary-yellow, acicular crystals, taking the general form of sheaves, an arrangement similar to the crystals of tyrosine, rarely found in urine.

This technique I have varied in many ways, hoping that departures from a standard procedure might influence the result. The boiling has been prolonged for various periods, from thirty seconds to half an hour (in the extended ebullition the solution is kept at original strength by immediate condensation and return to the flask); solutions have been cooled gradually, and the sediments examined at different times, from a few minutes to a week, after the experiment. It may safely be considered that these variations are of no material influence. I advert to this because of the varieties of technique advocated by different authors.

A carefully prepared ten per cent. solution of glucose in urine is taken and diluted as one requires, through decimal gradations, to one-tenth per cent., and so on. Each dilution is treated as shown above, and the results carefully noted. With solutions of from ten per cent. to one and one-half per cent. strength, the reaction is characteristic and constant. There is a brilliant yellow precipitate, showing the microscopic characters noted above. These crystals are most abundant in the stronger solutions and decrease in number and show alterations of definitive character, *pari passu*, with the attenuation of the solution, until at one per cent. strength they become comparatively rare, with a patent change in morphology, showing in many instances as

small globular bodies, central to a number of delicate, sharp radii, or spicules, resembling somewhat the crystal of ammonum urate ("hedgehog"). The preservation of a crystalline character is unequivocal, though much patience is often demanded in finding them. Below one-half per cent., the reaction is practically negative. Numerous bodies appear, wanting in shape and color the qualities of phenylglucosazone (the product). The prevailing type is a round, dark-brown body, showing no crystalline structure, and refracting light much as does a fat cell. There are also to be found small polygonal plates, slightly brown at the periphery. Both the foregoing structures are in no sense characteristic or recognizable as phenylglucosazone.

The reduction is little, if at all, influenced by other material in the urine. Excess of urea and uric acid provoke no change; the urine of a carbohydrate diet (urea 23 to 27 gm. in twenty four hours) reacts abundantly; the ingestion of benzoic acid and subsequent elimination of hippuric acid, in excess, is responsive when glucose is present (the urine of herbivora is a suitable vehicle); the salicylates, camphor, turpentine, asparagin, and the various synthetic antipyretics, have no influence; a urine rendered light green by use of phenol, and reacting with the tri-nitro phenic coloration to nitric acid is suitable. All of the above agents provoke no response unless glucose be added. Subsequent to this admixture the reaction is unimpeded. With large doses of chloral the urine gave a precipitate of small reddish-brown globular bodies, similar to those noted above, as coming from very weak glucose solutions. Glucose added to this urine results in the characteristic crystals, accompanying the globular bodies.

As to the uniformity of the test's response (sugar in quantity being present) my experimental work is affirmative. From the notes of a case occurring in civil practice some years since, I think its unfailing indication of sugar to be assailable as a general proposition. The urine in question was given me by Dr. Bryson, of St. Louis, and had long been considered sugared. Just at this time I was working with phenylhydrazin and had been much gratified by the truly splendid results of its employment. I applied the test to the urine in question, and was surprised to find it unresponsive. All the usual reduction tests had been responsive, and under fermentation the urine lost in specific gravity the approximate equivalent of six per cent. sugar. During some months I made frequent attempts to obtain phenylglucosazone, but always unsuccessfully. The fermentation was sedulously used for control. I thought the presence of sugar unequivocally shown, and regret that the polariscope was not employed to emphasize the fact. Other urines examined with the same salt were responsive, as were aqueous solutions of glucose.

After a protracted experience with the test I have concluded that while it has great merits it is certainly amenable to criticism. For delicacy the copper (Fehling's) test has proven, in my experience, its superior. Fermentation is equally delicate and significant. Solutions of one-half per cent. strength may be estimated, even quantitatively by yeast, while the faintest response with phenylhydrazin is difficult of establishment.

In the instance of failure noted above the classical uncertainty of the ordinary reduction tests was met by fermentation, and Marshall's glycosuric acid was excluded by the same agency.

In my opinion the singularity of the result must be attributed to one of those occult and mysterious products of excretion which, by its presence, in some unfathomable manner, inhibits the reduction. In the light of contemporaneous discoveries and identifications this view seems not untenable, and while my own sedulous efforts have failed to show any source of modification, I can easily imagine the ultimate definition of the matter in the hands of the trained physiologist.

Failure in this instance has certainly furnished me with a timely caution, and emphasized the conviction that, aside from fermentation and the polariscope, we possess no single test absolutely final to a decision of the glycosuric character of urines.

My experience leads me to think that phenylhydrazin may have a great measure of value in inquiries of this kind, but I cannot esteem it a *summum bonum*, and should, personally, prefer fermentation.

Its greatest source of value seems to me to lie in its constancy to glucose only, for if phenylglucosazone appear, one may safely consider glucose present. Quantitatively I have found the test of no value. I have endeavored to establish a satisfactory scale from the number of crystals appearing in the field, but they are inconstant and ununiform. A word of caution respecting the salt used is *à propos*. Merck's preparation is reliable, while others I have found unsatisfactory.

DIAGNOSIS AND CHRONOLOGY OF ABORTIONS.[1]

By EDWARD A. AYERS, M.D.,

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THE weak spot in the relations of our profession to the management of abortions is our want of accurate knowledge of the anatomy and physiology of the uterus, decidua, and fœtal membranes, and particularly of the chronology of the membranes in the first three months of pregnancy. Embryology is a very incomplete science as yet, and a most difficult, though fascinating, department of biology. A famous writer said of his essay, "I have not had time to write a short one." Our authors and investigators have not had time to simplify embryology. Virtuosity is impossible in the pioneer. Space has not been given to the various parts of the subject of embryology in proportion to their relative clinical needs. Thus the fœtus has been splendidly described. And it is truly a beautiful picture to observe through the microscope's widening eye the solid field of uniformed cells line and deploy until the forming outlines of liver, lung, or spleen appear. To witness the formation of a calibre out of a lamination of cells is a profoundly impressive suggestor that "there is a divinity doth shape our ends," and that thrills the scientific heart. But the development of the fœtus has little part in our proper understanding of cases where life or health are at stake from an interrupted pregnancy. Its length, weight, and limb formation largely comprise the important points.

In the study of the fœtal membranes and decidua, our text-books develop the subject by following separately a single tissue, as the amnion or allantois, from their origin to their formation, leaving the mind much confused when we endeavor to comprehend their advancement as a whole.

For the handling of patients in abortion we need to know how the tissues are arranged at four weeks, six weeks, eight weeks, ten weeks, and three months. If we have this knowledge, the uterus becomes as glass, and the questions of treatment are answered almost as soon as asked. The complexities of embryology, taken at any one period, are sufficiently difficult of comprehension, when we consider that the anatomical arrangement of the embryo and its membranes changes greatly from week to week, that what is to-day largely decidua and slightly ovum, is in a few days mostly ovum and little decidua; or this fortnight is mostly chorion and in the next placenta; we do not wonder that the subject has been too often relegated to the back shelf of the library.

Our society discussions generally begin and end with consideration of the causes and treatment of abortions. Shall we complete the threatened abortion, shall we dilate the cervix or use a tampon, shall we empty the

[1] A paper read before the Brooklyn Medical Society.

uterus, and if so, with a curette, or placental forceps, or the finger? Shall we use gauze or irrigation in the uterus, or both? These are important questions, but they have received a vast amount of attention compared to those involving a fine ability in diagnosis.

Will you pardon my endeavor to state some of the salient points that aim to strengthen the department of diagnosis.

The diagnostic tissues of pregnancy are: Fœtus, amnion, chorion, and decidua. As the latter has been claimed by well-known German writers not to be pathognomonic of pregnancy, it is necessary to explain my position. In 1889 I published a very carefully prepared paper on "The Decidua in the Diagnosis of Extra-uterine Pregnancy." In that paper I claimed that if decidual cells were found in the uterus, a pregnancy either within or without, that is an extra-uterine, existed, or had recently existed. Olshausen, Ruge, and others have declared against this, claiming to have found these embryonic cells in membranous dysmenorrhœa. My special point in that paper was that if we obtained by exfoliation or curettement decidual cells from the uterine cavity, and no fœtus and membranes were present in the cavity, then an extra-uterine pregnancy existed.

Without going into the discussion here, let me say that, whether I shall ultimately be proven right or wrong, I fully believe that though exceptions to the rule that decidual cells are pathognomonic of pregnancy may exist, this much may be taken, without hesitation, as a safe rule: That endometrium, which is conspicuously made up of decidual cells, and particularly where such membrane is soft and free from fibrous tissue, is the decidua of pregnancy only. The recognition of any of these four diagnostic tissues is always desirable, but not always easy, owing to the broken form in which we may receive them, and the many alterations that may take place in their structure.

The Fœtus.—There is no difficulty in recognizing the embryo, if it is present. It may be absorbed previous to the expulsion of the ovum.

The Amnion.—There is no tissue liable to be mistaken for the amnion. It is very thin, transparent, and microscopically found to be free from blood-vessels. Its surface is smooth and glistening.

The Chorion.—Normal chorion has a white, sheepskin-like base, from which radiate straw-colored villi branching into two to five single offshoots. These villi are to be differentiated from fibrous shreds only, and are therefore easily recognized. They have, instead of thread like free ends, club-like tips, which are thick enough to be recognized with the naked eye. In medico-legal testimony one would be justified in declaring the presence of pregnancy if only a single villus were obtained from the uterus. The villus consists of a single layer of flat epithelium, enclosing an afferent and efferent capillary, surrounded with a very light connective tissue. The one abnormal change of importance in the chorion is that of cystic degeneration. The metamorphosis is absolute, and the well-known grape-like mass is the result. Once seen or once felt, this pathological tissue can never be mistaken. It is a group of watery cysts of sizes ranging from a pin-head to a large grape, attached by a pedicle to an opaque membrane; and may only fill an ounce vial or a wooden pail.

The Decidua.—This is much the most difficult pregnancy tissue to recognize, because of its less distinct and individual construction, and especially its great variety of pathological appearances. Normal decidua, when exfoliated in the first week of pregnancy, has the general form of the cavity of the uterus. It presents on its outer surface somewhat the rough surface of leather, having loose fibres from having been torn from its base, the musculo-glandular layer of the uterus. Its inner surface is smooth, and like the outer surface of the skin. It is thrown into folds. Of course the arrangement of the three decidua will depend upon the period of pregnancy. The three conspicuous forms the decidua present are: The intra-uterine decidua of an extra-uterine pregnancy, in which we find a thinner membrane than in normal intra-uterine pregnancy, of uniform thickness throughout, very flexible, and having no reflexa inside. Next the form present in normal gestation, in which we find it as described above. On cutting open such a decidua we find the reflexa usually lying pendent from the upper or fundal part, not filling the cavity of the vera, thinner than the latter, and smooth on its outer part. This decidua is very vascular, and therefore red to the shade of muscle, but not of the same texture to the eye. It is about two millimetres thick in the first month, the vera and reflexa getting thinner in the second and third months. The third variety of decidua is such as we see in its most exaggerated form in the uterine mole. Do not understand me to say that a mole is decidua, as the amnion is a part of that tumor. But the mole shows the highest degree of thickening of the decidua, and is really a form of general hyperplasia. A large part of its structure is intermingled blood-clot.

Chronology.—I wish now to briefly consider the most practical phase of the subject, namely, the arrangement of the membranes at certain periods of pregnancy. The advantage of an accurate knowledge of the growth of the ovum as a whole lies in the fact that where we can name the week of pregnancy, having, for instance, secured the embryo in a partial abortion, we can decide far more scientifically what treatment the uterus requires than by simply resorting to a curette. I will consider the behavior of these tissues in abortions at the same time.

At Four Weeks.—The decidua is much the most important membrane at four weeks' gestation. The reflexa is fully formed, but does not occupy more than three-fifths of the uterine cavity. Consequently on introducing the finger within the internal os it would, after having passed the vera at that point, come in contact with a body like a polyp at a distance of a little over one-eighth of an inch. The ovum is about the size of a large hazel-nut. The chorion is fully formed on all sides, with the exception of the normal bald spot, the size of a well-dilated pupil. The amnion, on opening the chorion, will be found to embrace the embryo, but not to have expanded to more than half the distance to the chorionic periphery. The embryo will be found lying free within the amnion, and about the size of a small Lima bean. The little elevations that are to form the extremities appear upon the embryo. The latter is a little larger than a good-sized pea. The characteristics of an abortion at this time are: A hemorrhage that is apt to be classed as a severe menstruation, an effort of nature to catch up after having missed one period, the probable escape of the ovum in blood-clots unnoticed, and a temporary cessation of hemorrhage, with its recurrence in a few days, and more uterine pains, accompanied with the expulsion of the decidua. Or, instead of decidual expulsion there is a gradual disintegration of the decidua that may leave the uterus finally clean, involuted, and well, or the development of a slow endometritis, with heavy feeling, excessive menstruations, etc.

While it is best to interfere with the curette and get the uterus clean when much hemorrhage or excessive menstruation result, in the former case acting at once, and in the latter after a menstruation, yet so many women fully recover unaided, and interference carries risks, it is best to use sharp discrimination in the individual cases, letting most of them alone.

At Six Weeks.—The decidua is still prominent and important. The vera is unchanged, the serotina has grown and thickened, the reflexa is undergoing an atrophy that began in the fifth week. The latter is nearer to the internal os. The chorion has expanded to the

size of a silver half-dollar, and enjoys a luxuriant growth of villi. The amnion is nearer the periphery, but is still separated from it. The embryo has doubled in size, and its extremities show an appreciable length. The characteristics of an abortion at this period I will consider with those at eight weeks.

At Eight Weeks.—This is a very frequent period for the occurrence of abortions. It is the menstrual period that would have been, and it is the period of marked transition from chorionic nutrition to placental. This latter metamorphosis requires that the villi on three-fourths of the chorionic surface shall atrophy, with a corresponding growth at the placental site. In tissues of their delicate construction the readjustment of cell-pressures is readily provocative of capillary ruptures and so leading to abortion. At eight weeks the chorion and remnant of the decidua reflexa fully occupy the cavity of the uterus. The amnion also occupies the entire cavity of the chorion. The fœtus measures 3.5 ctm. and has the hands and feet well outlined. The decidua, having grown thinner, is less apt to come away complete, particularly as the chorion is more apt to rupture, and by the collapse resulting make it doubly difficult for the uterus to separate and expel the membranes. If the chorion escapes from the uterus without rupture, it generally escapes alone, leaving the decidua behind. This decidua should be removed at once, and the best medium for its removal is the finger. A sensitive patient will require an anæsthetic. The finger inserted within the cervix, the fundus must be pressed down until the finger can reach the fundus and thoroughly separate all the membrane before withdrawing the finger. Where the cervix is tight (it is seldom hard if there is still tissue within that should come out) the curette may be substituted for the finger. When the chorion ruptures during uterine dilatation, an unfortunate accident, it may be necessary to dilate the cervix, as it now becomes hard for the uterus to force open the former.

At Ten Weeks.—The fœtus and partially formed placenta are now the prominent parts in the uterus. The temporary villi of the chorion have largely disappeared, also the reflexa, leaving a thin layer composed of the amnion and chorion to be felt, should the finger be introduced within the cervix. The prominent characteristics of abortion at this time are expulsion of the fœtus and umbilical cord alone ; their expression with the amnion, which may or may not be unruptured ; the cord having separated from the forming placenta at its junction with the latter. The placental tissue is apt to remain in the uterus for a varying time and cause hemorrhage, and to become foul-smelling. It should be removed soon after the expulsion of the fœtus. We rarely obtain a specimen at this period of a complete exfoliation of decidua, and all the other membranes and fœtus, on account of the ease with which the sac ruptures.

At Three Months.—The placental form is now well established, and the uterine contents behave much as they do at full term, with these differences, that the placenta is less firmly put together, and is more firmly united to the uterus. There is danger, therefore, of masses of placenta being retained, even though much may be expelled.

I have time, now, for only a brief summary of the variations in the treatment of abortions that are demanded at different weeks of pregnancy. As a general proposition it is fair to say that whenever an abortion takes place, none of the tissues that are present only in pregnancy should be left in the uterus. The uterus certainly objects to fœtus, amnion, and chorion, once the ovum dies, and it cannot use the decidua either in repair or in forming new endometrium. It must get out before a healthy state can be inaugurated. It cannot be said that we should always interfere and remove these tissues, for though nature may be inefficient, there is room for much bungling on our part. Our individual judgments in given cases must decide.

At four weeks' abortion we should, as a rule, keep down hemorrhage and wait on nature. If called upon to interfere, it will be the decidua that we will needs remove. The curette, and not the finger, should be used.

At six and eight weeks the chorion will cause the most trouble. Either finger or curette may be indicated in cleansing the uterus. A strip of iodoform gauze should be introduced to the fundus to prevent secondary hemorrhage, render a foul cavity pure, to stimulate repair, and favor drainage.

At ten and twelve weeks the fœtus comes out first, and the other tissues are apt to need artificial removal. The finger is to be preferred to any instrument. Gauze should be used at these times. Small, repeated doses of ergot are desirable for twenty-four hours.

In cystic degeneration of the chorion the cervix should be dilated with a Barnes's bag, and the contents scraped out with the finger or hand. Gauze should be introduced immediately, and left twenty-four hours. Ergot is needed. In uterine mole the uterus should be let alone, barring the need of checking hemorrhage. A mole is a very solid body and comes away whole, leaving the cavity clean. Having devoted this paper to the diagnostics of abortions, I must express regret at touching upon the extensive subject of treatment in the most superficial manner.

CHANCRE OF THE TONSIL, WITH REPORT OF A CASE.[1]

By HENRY B. HITZ, M.D.,

MILWAUKEE, WIS.

Of the various forms of syphilitic infection that daily demand the attention of the physician, among the rarest is found chancre of the tonsil. Of 77 cases of chancre in the buccal cavity collected by Fournier, but 1 was upon the tonsil.

Diday collected 671 cases of erratic chancre, but did not find any back of the anterior pillars. This writer reported 8 cases in the year 1861–62. In 1891 Szadek reported 4, and Grauducheau 1. Since this time several cases have been reported in the journals, but I have not been able to get track of them. Morell MacKenzie saw but 7 cases in his long and varied experience.

The most graphic and satisfactory account of chancre of the tonsil is given by Donaldson, in the *Medical News* of August 15, 1885, the substance of which is to be found in the "Reference Handbook of the Medical Sciences," and a *résumé* of which I give as follows :

This disease is less uncommon than is generally supposed, although difficult of recognition, owing to the absence of history, and the atypical appearance of the lesion. It occurs most frequently in women for obvious reasons, although it has been innocently acquired by kissing, instruments, etc. Out of the 7 cases seen by MacKenzie, 6 were females. Owing to the exposed condition and the character of the tonsillar structure, the explanation of its appearance in this locality is plain, the large tonsillar crypts affording ample opportunity for the lodgement and ready absorption of the virus.

The signs of infection usually begin with slight redness and swelling, without perceptible induration, followed later by pain during deglutition, and increased redness ; and still later by hypertrophy and superficial erosion, having an indurated base, while more or less glandular enlargement occurs upon the affected side. The rapid hypertrophy and general tumefaction is in

[1] Read before the meeting of the Wisconsin State Medical Society, West Superior, June, 1895.

itself an important and constant sign. Second only to this is the superficial erosion, increasing to an actively ulcerating surface, usually covered with a thick grayish-white pellicle of somewhat granular character.

The glandular enlargement upon the affected side is constant and of an indolent type, but never goes on to suppuration. The difficulty of diagnosis is usually due to the absence of history, either through the reticence or ignorance of the patient, and to its unusual situation and diversity of appearance. It must be differentiated from malignant disease, especially epithelioma, tuberculosis, secondary and tertiary syphilis, diphtheria, and gangrenous ulceration of the tonsil.

Morell MacKenzie suggests that if an ulcer remains obstinately on the tonsil, in spite of treatment for four or five weeks, a suspicion of its syphilitic nature may be indulged in.

Donaldson suggests that if a lesion upon the tonsil has been of slow unilateral development, with pain and glandular enlargement upon the affected side, without febrile reaction, and is superficial, with a grayish-white pellicle; if the patient has a history or even the suspicion of syphilitic exposure, and has not been subject to simple tonsillitis; if the sore has appeared from fifteen days to three weeks after exposure; and if the whole is followed in due time by a secondary outbreak, we are certainly justified in diagnosing chancre of the tonsil.

Generally unilateral, the duration of chancre of the tonsil has been thought to be shorter than the same lesion elsewhere. In Donaldson's case the secondary eruption appeared within a week after patient's first visit, and before the sore had healed.

Having given a cursory glance at the history of this disease, I shall now ask you to review with me the following case, which came to my notice November 21, 1894:

M. R——, male, aged twenty-eight; weight, 180 pounds; family and personal history good, except for rheumatic diatheses. About eight years ago patient was treated for chancroid, and subsequently for gonorrhœa. Of late he has been dissipated, often becoming intoxicated, and while in this condition visiting houses of prostitution. About five weeks prior to the above date and several weeks after last having interviewed a prostitute, he noticed on arising one morning a slight soreness of the throat, which became progressively worse. Upon the fourth day, the pain being severe, he consulted his physician, who diagnosed "tonsillitis," and treated him accordingly for the subsequent four weeks. At the end of this period, having but slightly improved, he consulted Dr. N. Dodge, who after a casual glance at his throat referred him to me.

Careful examination revealed the following pathological condition: Upon the left tonsil was a large ovoid ulcer, about the size of a dime, the surface of which was covered with a grayish-white necrotic coat. A deep sulcus divided this surface into two vertical parts, while a small quantity of sero-purulent discharge exuded therefrom. Its base was firm and indurated, and its lower border could only be seen by forcibly depressing the tongue; when this was done it appeared elevated above the surrounding and hypertrophied tonsil, the whole mass of which approached the median line. Owing to the swelling, the pillars were forced asunder, were thickened and of an angry, dark red color, having upon their upper margins several superficial ulcers, evidently from contact with the large ulcer during deglutition. Externally there was swelling and tenderness under the corresponding angle of jaw, and notwithstanding the excess of adipose in this case, the submaxillary and left cervical glands were felt to be distinctly enlarged. Careful examination elsewhere failed to show any glandular enlargement, either in the post- or right-cervical, supra-trochlear or inguinal regions. Thorough inspection of the genitalia developed nothing but an old stellate cicatrix upon corona. The skin upon the chest appeared "blotchy," but attracted attention only in so far as its being the possible premonitor of a secondary eruption.

Having a suspicion of the probable nature of the case, careful inquiry into the patient's habits was made, but failed to elicit any other information than that of several sexual contacts with various prostitutes within the preceding three months.

Upon this visit the patient was given a placebo, and told to return in two days, at which time he appeared with a light, though unmistakable macular eruption upon his chest and abdomen, which he observed with surprise when his attention was called to it. Again the genitalia were carefully examined, with the same result as before, except that two bright maculæ were seen upon the dorsum of the penis. He complained of having had considerable muscular pain since his previous visit, with general malaise and restlessness. Pain during deglutition was less pronounced, and there was slight though marked improvement in the appearance of the throat.

There being no longer doubt as to the diagnosis, mercury was administered in the form of the green iodide in rapidly increasing doses, with inunctions at night, and patient was informed of his condition.

On the 26th he again appeared, with this time a well-marked maculo-papular eruption upon his chest, abdomen, and limbs, while upon the face and neck it was just beginning to appear. The improvement of the local lesion had rapidly progressed, although the induration still persisted. On the 28th abdominal pains, diarrhœa, and other symptoms of the systemic action of the mercury appeared, but were quelled under the administration of a lead and opium pill, and did not again appear while under my treatment.

On December 3d, at the persuasion of a friend, the patient visited Dr. A. H. Levings, who told him he had syphilis, but said nothing about the seat of the original lesion. On this day he appeared with a mild acute laryngitis. The local lesion had now entirely healed, but there was little diminution of the induration. The eruption upon the body had almost disappeared, and could be but faintly seen on the face, while upon the forearms and hands it was still pronounced.

On December 6th he was referred back to Dr. N. Dodge for systemic treatment. At this time he was receiving one and a half grain of mercury in pill-form daily, with nightly inunctions.

During the temporary absence of Dr. Dodge, on April 6, 1895, the patient again appeared at my office with large ulcers in both nasal cavities, mucous patches in the buccal cavity, a marked superficial glossitis, alopecia, and a rupia upon the scrotum.

The interest in this case centres in the primary sore, and in the subsequent rapid appearance of the secondary symptoms. Dismissing with a word its syphilitic nature, of which there is absolutely no doubt, the question arises: Was the tonsil the real seat of primary infection?

In the absence of all signs of recent venereal disease, either extra- or intra-urethral, or of any hypertrophy of the inguinal glands, the known presence of a large indolent, indurated ulcer upon the tonsil, resisting local treatment and antedating by at least five weeks (and probably longer, as pain is not the earliest symptom) the secondary outbreak; the history of prior exposure; the chain of enlarged and tender lymph-glands upon the affected side, and their absence in other regions, and the well recognized rapid appearance of the secondary phenomena when the primary lesion is located here, have led me to diagnose, without hesitation, this case as one of chancre of the tonsil, a diagnosis also unhesitatingly concurred in by Dr. J. Steele Barnes, who saw the patient with me upon his second visit.

Progress of Medical Science.

Diagnostic Ureterotomy. — Within the last year Dr. Kelly has performed three operations, at the completion of which he feared the ureter had been ligated, as it appeared in each instance to be enlarged (*Annals of Surgery*). It was impossible to ascertain certainly whether this accident had occurred without either taking out a large number of ligatures which had been placed in the ureteral area or catheterizing the ureters. In either event the danger would have been much greater to the patient than the operation about to be described. To remove all of the ligatures in the ureteral area and relegate all of the bleeding vessels would have consumed too much time, and the catheterization of the ureters would have been still more impracticable. For these reasons, he determined to resort to ureterotomy as the easiest solution of his dilemma. Accordingly he located the ureter at the pelvic brim, snipped the peritoneum over its course, and made a longitudinal incision, one-half centimetre in length, into the lumen, through which he passed a small ureteral sound down into the bladder. In two cases of the three he found the ureters free, the enlargement being simply due to the pressure of the pelvic mass previous to the operation. In the third case, however, he found that the ureter had been included *en masse* with a large area of bleeding tissue in the pelvic floor. He at once removed the constricting ligature, and was able to pass the sound into the bladder. By this simple operation much valuable time was saved, and uninterrupted recoveries in each case justified the statement that the operation is without danger. In closing the slit in the ureter, he used delicate mattress sutures in two cases. The third required four sutures on account of the persistent oozing of urine. These sutures were very lightly passed into the outer coat of the ureter, not entering its lumen. The cases in which he resorted to this operation were myoma uteri, carcinoma uteri, and dense pelvic inflammatory disease. All of the patients made complete recoveries, and there have been no apparent ill effects from the operation up to date. He used gauze-drainage in each case, and there was not the slightest urinary odor detected at any time on the dressings. For cases in which there is grave doubt as to whether the ureter has been ligated or cut, he earnestly advises this diagnostic measure.

Chemical and Pathological Characteristics of Milk.— Dr. Rotch states that the infants' digestive functions have been from time immemorial adapted to the digestion of an alkaline or neutral fluid, not to an acid one. Human milk is the food on which the greatest number of infants live and thrive, and on which the smallest number die proportionately to any other known food. Whether the moderately alkaline reaction of this milk is an important factor in the problem of infant feeding, is a question not yet decided. We should at least be very suspicious of an acid breast milk. The best results obtained in artificial feeding are those in which the food is alkaline in reaction. This is usually accomplished by the addition of an alkali. Mr. G. E. Gordon, in the course of extensive observations of milk, found that cows fed in certain parts of Kentucky upon blue grass, and also in other parts of the West, produced a milk which was alkaline, and which remained so for a number of hours after milking. Analysis of this food showed its composition of nitrogeneous and carbo-hydrate elements to be in the proportion of one to five and one third. It is known that cows fed on comparatively dry foods produce comparatively acid milk. Extensive experiments prove that cows fed freely on sugar beets, which supply a large amount of carbo-hydrates, produced a faintly alkaline milk. These experiments were conducted with the utmost care, with a large herd for three months, with the following uniform results: The cows fed partially on beets showed neutral or faintly alkaline reaction; the cows that received no beets showed a uniformly acid reaction. This milk was carried twelve miles. The milk from one-third of the herd which had been fed on beets was added to that of the other two-thirds. The reaction was even then found to be faintly alkaline. This is of great interest as showing that the product of the cow cannot only be made to correspond in reaction to that of human beings by means of perfectly natural feeding, and under perfectly normal conditions, but that this alkaline modification can be produced to such a degree that one-third of the milk is sufficient to destroy by its alkalinity the acidity of the remaining two-thirds.

A further series of experiments was undertaken to determine the source of the bacteria which are found in milk. It was found that the direct milking of the first half, performed by sterile hands, with strict antiseptic precautions, showed a milk with a comparatively large number of micrococci and fine bacilli. It was found, further, that the milk drawn through a sterile cannula was practically sterile, and that the milk drawn in the second half of the milking by hand was uniformly sterile. These experiments provided us at once with a means of producing a milk practically sterile, but not sterilized. This experiment also seems to prove that the bacteria which are found in cows' milk do not necessarily come from external sources, whether they be of the cow herself or of her surroundings, but that they may also come from some part of the milk tract between the udder and the end of the teat.—*Archives of Pediatrics.*

Total Extirpation of the Patella.—According to Dr. Kummer, total extirpation of the patella can be performed without impairing the patient's gait or markedly interfering with movements of the knee-joint: The operation is indicated in cases of tubercular osteitis of the patella, provided the articulation remains yet intact. Extirpation can actually prevent the development of articular lesions and thus save the knee-joint, provided the operation is resorted to sufficiently early. In cases of tubercular osteitis of the knee-cap, total removal of the bone offers better chances in regard to recovery than scraping out the morbid foci. Dr. Kummer adduces an illustrative case—a girl, aged twenty-five, with primary tuberculosis of the right patella, but with a perfectly intact knee-joint—in which he made excision of the bone, with excellent results. When shown to the Société Médicale de Genève, about two months after the operation, the patient was able to extend her right lower limb as under normal conditions; would kneel with perfect freedom, and without any pain or discomfort; could walk four or five hours daily without lameness or fatigue, or run up and down staircases with ease, etc. In short, the only inconvenience caused by the absence of the knee-cap consisted in a relatively weakened extension of the corresponding limb. A similarly successful case of total removal of the patella is reported by Professor Kaufmann, in *Correspondenz-Blatt für Schweizer Aerzte.* The patient, a married lady aged thirty-three, was suffering from fungoid osteitis of the left knee-cap, of eight years' standing. A month after the operation she, being frightened by a fire next door, tore off all dressings and ran out of her house, having swiftly descended a staircase. Since then her knee-joint has been perfectly movable and her gait normal. Dr. Kummer mentions further two cases of primary tubercular osteitis of the patella in boys, in which the whole of the bone was removed by Professor Th. Kocher of Berne. An interesting case of total excision of the patella for acute necrosis has also been published in *The Lancet* by Mr. Page, of Newcastle-on-Tyne. The patient recovered with a perfectly useful limb.—*Provincial Medical Journal.*

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IS CANCER INOCULABLE?

THE recent report of the death of a physician of this city as the result of supposed inoculation of cancer, while in attendance upon a case of that disease, has again revived, in the public press, an interest in the general question of alleged communicability of that form of malignant growth. The gentlemen who were interviewed on the probabilities of such a condition of things are not only wisely non-committal, but judiciously hide their identity behind the general statements of "eminent specialists."

The subject is, however, by no means a novel one. From the time that the malignancy of cancer was recognized the question of communicability has borne the brunt of the most earnest investigation, and the hope of its solution has stimulated the most ingenious experimentation of earnest investigators. The results of all such studies have been entirely negative. There are no proofs of which we have any knowledge that cancer has ever been directly or indirectly propagated from one human being to another. It is true that there is published an occasional case in which there would appear on superficial examination to be a direct relation between cause and effect, but when such are critically examined the theory of propagation vanishes in face of a conscientiously critical analysis. At best they are coincidental circumstances following the general law of accidents. Experiments in the lower animals have thus far amounted to nothing, and practically we are as much in the dark regarding the true etiology of cancer and its real methods of dissemination as ever.

The investigations in these directions have been exceedingly interesting, although mostly instructive from a negative view. Among these are the experiments of Dr. D'Arcy Power, made in 1894 and published in September of that year in the *British Medical Journal*. The animals experimented upon were very old or very young white rats, which may be assumed to be more vulnerable than adult animals which run wild. These animals were kept in low wire cages resting on soil taken from those districts in England in which cancer most prevails. This soil was thoroughly mixed with fresh cancer tissue, and kept moist with water in which cancer tissue had been ground and pulped. The rats were from time to time sprayed with a thin cancer pulp, and their mucous membranes were kept in a state of chronic irritation so that the protozoon, if any existed, might find a suitable medium for its reception and a favorable soil for its growth. The rats, six in all, lived in this way for about eleven months. Two died, one from cold, the other from intestinal perforation by a tape-worm, and four were killed. A careful examination was made in each case, but in none could a trace of cancer be found anywhere either by the naked eye or under the microscope.

These facts, although reported at the time in the MEDICAL RECORD, are interesting enough in the present connection to deserve repetition.

Again we remind our readers of a report in this journal two years ago of experiments made by Dr. Gratia, of Brussels. The results of his investigations justified the following conclusions: 1. The parasitic nature of cancer has not been satisfactorily proved. 2. The direct or indirect contagiousness of this neoplasm has not been demonstrated even in individuals of the same species. 3. In those instances in which the clinical history of a patient appears to prove inoculability, it has been shown that an exceptionally strong predisposition to cancer already existed, awaiting only the slightest and most ordinary irritation for its full development. In other words, the supposed inoculation amounted to nothing beyond a possibly determining traumatism. The latter, it seems to us, is the key-note of the whole question. A person predisposed to any disease is always an easy victim when any definite exciting cause presents itself, while one without such tendencies escapes every time. The melancholy case in point was undoubtedly one of predisposition to malignant disease, that developed in due time, the supposed inoculation from a cancerous patient having no more causative relation to it than any other purely coincidental circumstance.

THE REGISTRATION OF MIDWIVES.

IN spite of the very strenuous efforts of the medical profession of Great Britain to enforce the education of midwives and insure their proper qualification by registration, it would appear from a recent discussion in the London *Times* that the object is very far from attainment. This will be somewhat of a surprise in view of the fact that England has been supposed to be a long way in advance in her practical solution of the problem. Now, however, it is boldly stated that a large number of infant lives are yearly sacrificed, especially in the Whitechapel and other poor districts, by the incompetence of the ordinary charwoman, who regularly officiates as nurse to the lying-in woman. All this proves how futile are the present laws governing registration after years spent in the most laudable efforts in that direction. The main difficulty appears to be in the want of education of the ignorant classes to the necessity of aseptic precautions in guarding against the numerous and fatal sources of puerperal infection. The Englishman of the lower class is more than jealous of his rights, and among these of being independ-

ently dirty is not the least. His traditional right of guarding his hovel as his castle, in which the king cannot enter without an invitation, explains his stubbornness in combatting every innovation that may jar the rhythm of his jealously guarded personal privileges. In many respects the poor of this and other cities in America are on the same level, especially those in tenement-house districts. In our own endeavors, however, to insure proper qualifications for midwives, we are not to be discouraged, as with the exceptional powers of our health authorities it is quite possible to so enforce necessary regulations as may compel our lower classes to obedience, rather than to invite the opposition of argument or the disputation concerning their supposed individual rights. The fundamental principle of all sanitary laws rests upon the safety of the majority; the control of the birth-rate and the reduction of infant mortality are the chiefest of these in estimating the stability and prosperity of the State. As there is no excuse in these days for negligence in these matters, there is no argument, even in the face of the most stubborn opposition, for creating and enforcing the requisite regulations to such ends.

THE EXAMINATION FOR POLICE SURGEONSHIP.

THE civil service examination in this city for one vacancy in the surgeoncy of the police called together sixty-eight candidates for the position. This circumstance shows not only the active competition for such places, in which a salary of three thousand dollars is assured, but also proves that the profession takes it for granted that there has come at last a time when fair play in such appointments is virtually guaranteed by the new Board of Police Commissioners. The applicants were much above the average grade that appear on such occasions, and, on the whole, represented a high standard of professional attainment. We can predict that a very large proportion will pass satisfactorily. The questions asked were reasonably just, and were calculated to call forth a practical knowledge equal to the usual emergencies of the office. The average age was thirty-three years, and comprised for the most part men who are engaged in actual practice, with a large percentage of hospital graduates. While there is only one vacancy, caused by resignation, in a corps of fifteen, there will probably be altogether three additional places to be filled, in case the requisite amount of appropriation for such purpose is made.

Taking this into account in connection with the fact that one or more of the present force is beyond the age limit, there may be, by future forced resignation, a corresponding chance for six or more places to be filled. There is no doubting the fact that the time has come for the infusion of new blood in the board and the vacation of some of the places that have been so long held by political appointees. No one can doubt that from the sixty-eight applications there will be obtained much more than a sufficient number of first-class men to fill all present and future vacancies. The profession will now watch with interest the result, in the hope that the best may win.

THE MIRACLES AT LOURDES.

THE English journals contain a number of accounts of the wonderful cures that are being daily performed at Lourdes. Mr. Chauncey M. Depew, on reaching America after a European trip, also gave to reporters an interesting account of an alleged miraculous cure, of which he was personally cognizant. Lourdes is altogether having a decided "boom."

The description of the way in which the pilgrims to this place are treated shows to what an extraordinary state of nervous excitement and expectation patients who come there are subjected. Hardly anything is lacking to produce, in a most intensified way, both psychical and physical shock. The patients are brought into the grotto during the chanting of hymns and amid the noise and excitement of the multitudes about them. Just as the nerves have reached the highest possible tension, the patient is suddenly plunged into the icy cold bath; he is then withdrawn, and believes he is cured. Naturally, some extraordinary effects are produced. There can be no doubt, however, that these effects are all due to this unique combination of exciting and stimulating experiences. Nor do we question at all but that a careful investigation of the subsequent history of the numerous cases of alleged cure would show that there was a relapse in all the serious organic cases, and probably a relapse in many of the functional ones. We are informed that a young physician, well known for his careful scientific methods and for his accomplishments as a neurologist, is investigating, in a most painstaking way, various cases that are going to Lourdes, and is following up these cases after they have been through their treatment. A report upon the effects of the alleged miraculous healing from such a source would undoubtedly have a practical value as well as be of scientific interest.

SOME THERAPEUTIC TRADITIONS.

DR. WALTER G. SMITH, President of the Royal College of Physicians of Dublin, gave an address recently upon the subject of therapeutical traditions. It is always instructive to hear the judgments of practitioners of long experience upon therapeutics, and Dr. Smith's contribution on this subject contains much that is suggestive and useful. The learned orator, in giving his address, did not attempt to cover the ground of therapeutics in any systematic way. He begins by talking upon the subject of diet in its relation to diseases of the skin. He avers that many years ago he reached the conclusion that the effect of diet in the treatment of this class of cases was very slight. Some text-books upon diseases of the skin give minute dietetic details, details which he believes to be of really little value, and which would not be followed by the authors of the book if they had such diseases themselves. With the exception of such diseases as urticaria, certain

of the erythemata, and some cases of eczema, there is little reason to particularize in the matter of diet. The patient should be told to follow the simple rule of moderation in eating as well as drinking; total abstinence from alcohol is often a thing very much needed. One of the most generally believed traditions in dietetics of skin diseases, according to Dr. Smith, is the prohibition of salt food, most patients, he says, being assured that they cannot be allowed to touch a morsel of ham or bacon. Dr. Smith does not believe in this special tradition, and thinks that salt food has no special disadvantage, except that salt meats are not, as a rule, as digestible as those which are fresh.

Dr. Smith next alludes to the common belief regarding the efficacy of lithia and other alkaline water in the treatment of gout and allied affections. This is a subject to which we have ourselves often referred, and it is not necessary to go over Dr. Smith's line of argument now. He shows that the few grains of lithia or other alkaline salts present in the mineral waters cannot have any particular effect in modifying the conditions which underlie gout or lithæmia. He says that he never prescribes lithia-water to such patients, but there is no objection to their taking it if they choose. A pint of lithia-water is, to all intents, equivalent to a pint of pure water. The elaborate analyses, he adds, of the various springs, all arising, perhaps, from the same geological stratum, only prove that many persons are unable to see a joke, and cannot perceive the difference between "tweedledum" and "tweedledee."

Another therapeutic superstition which Dr. Smith attacks, with perhaps less force and justice, is the use of pills coated with keratin, or other substance which is insoluble in an alkaline medium. Dr. Smith would have us believe that the intestinal contents is not alkaline as a rule, but acid, and that, consequently, the theory on which these pills are given is false. We believe that keratin-coated pills have rather fallen out of use, while the general fact upon which they are based is true. The contents of the intestines is at times, and in certain parts, acid, to be sure, on account of fermentative changes, but the general reaction of alkaline and therapeutic measures that are based on this view may be assumed to be correct.

Heroic Treatment of Pneumonia.—There are still some people who believe in blood-letting as a remedial measure. In the *Gazette des Hôpitaux* for August 27, 1895, Dr. De Duplaa de Garat has an article on the "Specific Treatment of Pneumonia," in which he counsels bleeding from the arm upon the first appearance. The following day a second venesection is to be practised, if the fever continue, and, if there is no improvement, still another on the third day. Occasionally, says the writer, the disease is jugulated by the first bleeding, more often by the second, and usually by the third. If the latter do not suffice, however, we must bleed again on the fourth day. The patient is further depleted by an absolute fast, no food at all being allowed until the third day of convalescence. Instead of burying all his pneumonia patients, the writer claims that he cures them all without exception.

News of the Week.

Misery in Italy.—In a letter to the London *Truth* "Ouida," the novelist, writes: "Official statistics state that in Italy there are 100,000 persons dying of pellagra, 6,000,000 living on malarious land, 1,700 communes in which corn is rare, 1,400 communes with scanty and foul water supplies, 600 communes which have no doctor within reach, and over 300 communes which have no burial-place." As "Ouida," when not writing romances, is given to exaggeration, and as the journal in which her letter appeared seldom lives up to its name unless by accident, we may hope that Italy is not in quite so bad a way.

China has twelve hospitals throughout the Empire, and but twenty-five educated medical men for the population of 400,000,000.

The Morals of the British Practitioner are carefully and tenderly regulated by a number of estimable gentlemen who compose what is known as the General Medical Council. This august board of censors meets several times a year, and tries the cases of those who have tried to let their light shine before men, whether through a paid ad. or a friendly press notice. But when a lawmaker breaks the law, when a vigilant censor himself permits his name to be mentioned in the columns of a lay journal, things have indeed gone wrong. It is then the duty of the medical press to administer the rebuke that the councillor cannot be expected to administer to himself, and this is the way the *Lancet* does it: "We notice in the columns of a lay contemporary an announcement that 'Sir Dyce Duckworth, the well-known physician, has gone to America. He intends to be back in this country about September 16th.' We are too often compelled to reprove practitioners with advertising, or to call attention to their being advertised by injudicious or stupid friends, and we cannot ignore similar occurrences in the case of leaders of the profession, although we feel sure that the objectionable notice has been inserted without Sir Dyce Duckworth's knowledge or leave. The curse of publicity which necessarily attends upon those in any prominent position makes it, perhaps, more difficult for them than for humbler members to avoid this sort of thing, but owing to their position it is of all the more importance that they should take every means to prevent such notices getting into the public press." We are truly sorry for anyone writhing under the curse of publicity, but the only remedy that we can suggest to our suffering colleague is that he come to this country again and remain here, for we have so many in prominent positions that he might with less difficulty preserve his incognito.

Dr. Nelson Isham, who was the oldest living graduate of Yale Medical College, died at Little Falls, N. Y., on September 18th. He was born in Bolton, Conn., in 1805, was a member of the class of 1828, and was surgeon of the Ninety-seventh Regiment, New York Volunteers.

The Cholera in Russia.—In the province of Volhynia, Russia, during the week ending August 24th,

5,849 cases of cholera were reported, and 2,134 deaths therefrom. In the province of Podolin, for the ten days ending August 31st, 101 cases of cholera and 45 deaths were reported.

Responsibility for Remarks at the County Medical Society.—The meeting of the New York County Medical Society on Monday last was one of especial interest and excitement. The trouble arose from an appeal by Dr. Frank Van Fleet to the society against the decision of the Comitia Minora. The Comitia had decided that the society could not assume responsibility for remarks made by Dr. Van Fleet at one of the meetings of the society which resulted in the institution of a suit for $40,000 damages against Dr. Van Fleet. The remarks in question by Dr. Van Fleet were made in criticism of an advertisement of an optician published in the Directory of the County Medical Society for 1894. A very warm discussion ensued, in which the sympathies of the society were apparently strongly in favor of Dr. Van Fleet. However, the following resolutions were finally adopted:

Whereas, It has come to the notice of this society that one of its members has had suit brought against him for remarks made before this society; and

Whereas, The Comitia Minora has decided that the society has no responsibility in the matter; and

Whereas, The member mentioned has appealed to the society from the decision of the Comitia Minora, and the members of this society desire to know just what their rights and privileges are in matters of this kind; therefore be it

Resolved, That a committee of five, composed of the President of the society, Drs. Richard H. Derby, Joseph D. Bryant, D. B. St. John Roosa, and Henry D. Noyes, be appointed to consider just what the merits of the case may be, and to determine what action, if any, the society should take.

Vaccination and Marriage.—In Sweden and Norway a person cannot be legally married until after the production of a certificate attesting that the affianced parties bear genuine vaccine marks.

Dr. Adolphe von Bardeleben, the well-known surgeon and professor at the University of Berlin, died in that city on September 24th. He was born in Frankfort-on-Main, on March 1, 1819.

Diphtheria in St. Louis.—Health Commissioner Starkloff of St. Louis has made a report to the Board of Health to the effect that diphtheria is practically epidemic in that city, 170 cases having been reported since September 1st.

Professor Pasteur was reported by cable the other day to be dying. This report has since been denied, but it is stated that his health is very feeble.

The Summer School of Medicine, of Chicago, has been incorporated under the name of the Illinois Medical College. It held its first commencement on September 4th.

The Physicians' Alliance Monthly.—The *Physicians' Alliance Monthly* is the title of a journal devoted to the financial interests of the members of the Alliance. It contains among other things thirteen and a half pages and fifty-two columns of names of persons resident in New York, whom, we presume, belong to the class who do not pay their bills. We did not suppose that the world was so bad.

The First Railway Hospital in the United States was started in 1868, at Sacramento, Cal., by the Central Pacific Railroad. The first surgeon was Dr. S. B. Thorn, of Sacramento. The first hospital of the Missouri Pacific Railroad was established in 1879 by Dr. J. W. Jackson. Dr. A. W. Ridenour, of Massillon, O., was the projector of the National Association of Railway Surgeons. Dr. Frederick H. Caldwell was the first to practically equip and run a hospital car on his system of roads.—*Tri-State Medical Journal.*

A Medical Mission College has been organized in Chicago. It is to have, says the *Chicago Medical Recorder*, a dual faculty, one section of which is composed of clergymen and the other of members of the faculty of various homœopathic colleges.

Medical Education of Women.—The University of Durham has thrown open its portals to women, having obtained a supplementary charter, enabling it to grant to women any degrees except degrees in divinity. According to Polk's "Medical Register," in 1893 more than three thousand women were engaged in the practice of medicine in the United States, and a later census puts the number at a little more than five thousand. There are from thirty-five to forty co-educational medical colleges, besides a good many independent colleges which only receive women. *The Practitioner* discusses the question whether any of these five thousand women have reached distinction in the medical world, and the editor says that he confesses that he is not acquainted, by reputation, with any one of the number. This, he modestly admits, may only be due to the limitation of his own knowledge, and we are inclined to allow the admission. There can scarcely be any intelligent physician to whom the achievements of Dr. Putnam Jacobi, for example, and perhaps half a dozen others, are not known.

Obituary.

JOHN LAW CAMPBELL, M.D.,

NEW YORK.

JOHN LAW CAMPBELL, M.D., seventy-two years old, member of the County Medical Society and the Academy of Medicine, and for more than twenty-five years physician to the New York Orphan Asylum, died on September 22d at his residence in this city. He had not been well for several years, but his death was unexpected and was due to angina pectoris. Dr. Campbell was born at Duanesburg, N. Y., and was a graduate of Jefferson College, Philadelphia, and of the New York College of Physicians and Surgeons. He was a trustee of the Franklin Savings Bank, and for forty years a practising physician in New York City.

He was an elder in the West Presbyterian Church and was always prominent in religious and charitable work.

Society Reports.

MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

Twenty-first Annual Meeting, held in Detroit, Mich., September 3, 4, 5, and 6, 1895.

THE Association convened in the Strassburg Academy, and was called to order by DR. H. O. WALKER, of Detroit, Chairman of the Committee of Arrangements. Prayer was offered by the REV. MARCUS A. BROWNSON, of Detroit. DR. WALKER then introduced MAYOR PINGREE, who paid an eloquent tribute to the medical profession, and extended a cordial greeting to the Association. The Address of Welcome on behalf of Detroit physicians was made by DR. J. HENRY CARSTENS, of Detroit.

President's Address.—DR. WALKER presented the President of the Association, DR. WILLIAM N. WISHARD, of Indianapolis, who delivered the Presidential Address. He said the importance and advancement of Detroit was represented by the standing and intelligence of the local physicians. He referred to the beginning of the four years' course in medical colleges, and said the fear that the new rule would operate to the disadvantage of the smaller schools was unfounded. The President urged the advisability of publishing the records, papers, and discussions in some manner to make them accessible to all members. He recommended a permanent Executive Committee, and regretted that the large number of papers necessitated the holding of two meetings at the same time. He commended the preparations for the Convention, and pledged his earnest efforts to the promotion of the profit and pleasure of the Convention.

The reports of the Secretary and Treasurer were read and accepted.

The Gold Combinations as Alteratives.—DR. THOMAS HUNT STUCKY, of Louisville, read a paper with this title. At a meeting of the Medico-Chirurgical Society of Louisville, April 5, 1894, the author had the pleasure of exhibiting a series of cases who had been taking the preparations of gold and arsenic, known to the profession as *arsenauro* and *mercauro*. He was under the impression at that time that the good effect claimed was produced in three ways: 1, By stimulation of the secreting glands of the stomach; 2, by the probable alterative effect upon these secretions; and 3, that probably there was a local antiseptic influence exerted. The class of patients in which he had used the preparations were people afflicted mostly with consumption, Bright's disease in its various stages, chronic hepatic troubles, and convalescents. He made it a rule with all these cases to withdraw all medicine except the combinations of gold and arsenic. He had selected from a series of cases four or five, which he detailed.

CASE I.—Patient, a male, sixty years of age, with tuberculosis. History good. Eight drops of the mercuric bromide of gold and arsenic were given hypodermically every four hours, this treatment being continued for two months. No deleterious results were noticed. On the contrary, he is decidedly better; physical condition, color, appetite, and bodily strength improved.

He reported a few cases out of a large number to demonstrate in his judgment, conclusively, that by the combinations of gold and arsenic we have an agent acting as neither of the minerals do when administered separately; or, in other words, we have an entirely new agent in so far as therapeutical action is concerned.

The author then dwelt at considerable length upon the chemical differences between the chloride of gold and sodium and the bromide of gold and arsenic (arsenauro) with reference to their therapeutical action and subsequent elimination. He believes that in the action of the combination of bromide of gold and arsenic, it is entirely different from any therapeutic agent known. As compared with mercauro, iodine, or the combinations of iodides, the action of gold in the combinations named is greater and intensified; that these combinations enter into the circulation as gold and arsenic and spend their force and exert their influence in an alterative way upon the glandular system; that a marked alterative effect is exerted upon all sclerosis (non-malignant); that it is not only a blood-maker, but a blood builder; that it not only increases the quantity, but the quality of the corpuscles; that under its use hæmoglobin is markedly increased; that it is eliminated by the kidneys; that they produce no irritation either when given per orem or hypodermically.

Cases corroborating the beneficial and curative effects of the preparations mentioned by the essayist were reported by Drs. A. P. Buchman, I. N. Love, and William F. Barclay.

Legitimate Pharmacy.—This paper was read by DR. WILLIAM F. BARCLAY, of Pittsburgh. He defined legitimate pharmacy as that which meets the necessities and demands of the regular medical profession and the people. The medical profession is entirely separate and distinct from pharmacy. Medicines are divided into four classes—patented, proprietary, non-proprietary, and secret. There are a large number of cures, mixtures, and tonics bearing the name of their originators and deserving of consideration as proprietary preparations. Pharmacists and physicians are interdependent and should work together. Legitimate pharmacy has called into service educated and able men, but the incompetent and dishonest have got in too and cannot be too severely condemned. Pharmacists make errors, but physicians are careless, too, in writing prescriptions. Physicians should not favor any particular pharmacist and should not receive pay from them. On the other hand, it is unworthy and unprofessional for pharmacists to prescribe drugs or medicines. Legitimate pharmacy should protect the people from the nostrum makers. Physicians have a right to require the highest skill and competence upon the part of the pharmacist, both for his own interests and the good of his patients.

Cod-Liver Oil.—DR. F. E. STEWART, of Detroit, considered the powerful stimulant action of cod-liver oil on nutrition, also demonstrating with specimens the difference in the color of oil digested from fresh livers, and that prepared from putrid livers, the former being pale, golden, or light brown, according to the number of hours digested, and the latter dark brown. The darker oils contained more extractive matter. Dr. Stewart said the text-books contained many errors regarding the preparation of cod-liver oil.

DR. I. N. LOVE, in the discussion, conceded the merits of the paper, but expressed himself as rather sceptical as to the value of cod-liver oil. He declared that there was danger of our getting too professional, and said that that which brings relief to the patient is to be commended. He favored proprietary remedies which have come to the profession through pharmaceutical channels.

Uterine Fibroids—When to Operate.—DR. TOD D. GILLIAM, of Columbus, O., read the paper. The medical and electrical treatment of uterine fibroids is to-day in a very unsettled state. While it cannot be denied that amelioration or even recovery has followed such lines of treatment, there has not been that degree of uniformity in results calculated to inspire confidence. To the author's mind there is no better field for a competent observer than the study of the natural history of uterine fibroids. It will enable us to determine the true value of so-called curative agencies. It will insure a more certain prognosis. It will give the proper cue to surgical interference. If out of one hundred

cases, ninety suffering women can be restored to lives of usefulness and happiness, would it not be better to give them a chance? No surgeon is justified in doing hysterectomy or the more serious operations for uterine fibroids when the patient has not experienced sufficient trouble to make it a menace to her life.

Tubercular Peritonitis.—This paper was read by DR. L. H. DUNNING, of Indianapolis, Ind. In the domain of surgery there is no more attractive study than tubercular peritonitis. The mode of invasion, forms of the disease, diagnosis and treatment were considered in the paper, and finally a brief history of five cases was given.

Tubercular peritonitis with effusion is now universally considered a surgical disease. Even in the acute suppurative cases abdominal section yields a sufficient number of successes to render its employment imperative. Senn excludes all forms of the disease from surgical treatment except the exudative form. Manclaire gives as the chief contra-indications to surgical treatment the generalization of the lesion and the existence of profound systemic infection. Linder analyzes the results in two hundred and five operations with a mortality of 7.5 per cent. The deaths resulting in most of these cases were from collapse. In cases of involvement of the tubes and ovaries, they should be extirpated. His experience in two cases leads him to the belief that we should, if possible, avoid using silk ligatures in tying the pedicle when it is necessary to remove the uterine appendages.

CASE I.—Mrs. A. B——, aged fifty-six. Consulted the author concerning the extirpation of a fibroid tumor of the uterus. She had passed the menopause five years previously, but the tumor had gradually increased in size. At the time of examination it had reached the umbilicus. There was a small amount of fluid in the abdomen, and on opening it probably a quart of clear, straw-colored fluid ran out. The peritoneum and intestines were studded with innumerable small grayish deposits of the size of a millet seed. Similar deposits thickly studded the serous covering of the tumor. The intestines were agglutinated, but were not adherent to the tumor. After removal of the tumor by supravaginal hysterectomy and ventro-fixation of the stump the abdominal cavity was irrigated, and then leaving the drainage-tube just behind the stump, the abdominal incision was closed. Recovery.

CASE II.—A diagnosis of ovarian tumor had been made, and examination revealed an accumulation of fluid in the abdomen, which was encysted. The uterus fixed, and an immovable mass was outlined in the pelvis upon the right side, which the author believed to be a small ovarian tumor surrounded by inflammatory exudates. An exploratory incision was made, and three gallons of dark fluid evacuated from the abdominal cavity. A small tumor was felt in the pelvic cavity. The incision was enlarged, the tumor enucleated, and the pedicle tied off together with the Fallopian tube. The left tube and ovary were likewise extirpated. On exposing the abdominal and pelvic cavities to view, it was seen that the viscera were thickly studded with small grayish deposits. Microscopical examination demonstrated the presence of tubercle bacilli. Patient now, eleven months after operation, in good health. Two of the five cases reported by the author terminated fatally.

DR. GILLIAM, of Ohio, believes that where we have tuberculosis of the ovaries and tubes, it is better to remove the uterus too.

DR. J. FRANK, of Chicago, asked whether any of the members who had operated for tuberculosis of the peritoneum had noticed a recurrence, or how long the patient was immuned from further attack.

DR. HUMISTON, of Cleveland, O., reported two cases upon which he had operated successfully.

DR. R. S. SUTTON, of Pittsburgh, had seen a good many cases of tubercular peritonitis, upon several of which he had operated successfully. Until within a year he had been in the habit of washing out the cavity with hot water, but now he pays no attention to it, but simply opens the abdomen and cleans out everything. He is convinced that while hot water does no harm it does no good, in that it has no influence upon the disease. He believes in removing, as far as possible, all diseased organs.

DR. HENRY O. MARCY, of Boston, operated in 1887 for the first time on a case of tubercular peritonitis, the patient making an easy recovery. He had operated several times since then for this disease with excellent results.

DR. A. H. CORDIER, of Kansas City, Mo., called attention to the tact that Mr. Wells, as early as 1862, operated for tubercular peritonitis, simply incising the abdomen and draining, thus curing his cases. He thinks that drainage is the principal thing that brings about a cure in this disease, but how, is not definitely settled. He said the theory had been advanced by Dr. Morris, of New York, that it is due to the admission of saprophytes into the peritoneal cavity.

DR. BAYARD HOLMES, of Chicago, related an interesting case of adhesive peritonitis cured by operation.

The paper was further discussed by DRS. W. S. CALDWELL, of Freeport, Ill., ENTRIKEN, of Findlay, O., and B. M. RICKETTS, of Cincinnati, O.

DR. DUNNING, in closing, said that Linder's observations were the most complete of any, and he found very little tendency to recurrence of the disease where it was primary and of the adhesive form; but where the disease was secondary and of the adhesive form, there was a strong tendency to recurrence. His own experience had not been sufficiently extensive to furnish reliable data in this regard.

Hysterectomy for Puerperal Sepsis—When shall it be Performed?—With a Report of Four Cases.—The author of this contribution was DR. BAYARD HOLMES, of Chicago. The paper was divided into four parts. 1. A report of four cases of puerperal sepsis treated by four different methods. 2. The pathology of puerperal sepsis in various stages. 3. Curettement in the hands of its advocates. 4. Puerperal sepsis as a cause of death in Chicago, New York, Brooklyn, and in the Charity Hospital at Berlin, with an abstract of 79 deaths from puerperal sepsis in 6,635 cases.

CASE I.—A multipara, twenty-six years of age, of Irish extraction, having a history of tuberculosis of the lungs, confined under unfavorable circumstances, with retained placenta, post-partum hemorrhage, delivery without an anæsthetic with the hand of the physician, arrest of hemorrhage, gradual sepsis, failure of curettement, and death seven weeks after confinement.

CASE II.—A woman, thirty years of age, normal confinement, with sepsis appearing upon the fourth day, of a mild character, gradually increasing until six weeks after delivery. Temperature was high, pulse rapid, and symptoms of peritonitis with obstruction of the bowels. Laparotomy. Removal of the right broad ligament, tube, and ovary; drainage through the vagina; death after eight days, without peritonitis, from phlebitis and pulmonary embolism.

CASE III.—A multipara with gonorrhœal history, an abortion followed by pelvic inflammation, peritonitis and obstruction three weeks after delivery. Removal of both tubes and abdominal drainage; death after ten days, without peritonitis, through phlebitis and pulmonary embolism.

CASE IV.—A multipara, thirty-two years of age, delivered by a midwife, with a bad history of puerperal infection, rapid onset of a mild infection, no curettement. Obstruction of the bowels, vomiting six weeks after delivery with evidences of peritoneal effusion. Laparotomy; removal of the uterus and its adnexa, abdominal drainage, and recovery. This uterus and these appendages were carefully examined microscopically. There was evidence of necrotic endometritis, suppura-

tive endometritis, suppurative metritis, suppurative lymphangitis in both tubes with abscess of the ovarian ligament upon the right side and adjacent peritonitis. The blood-vessels throughout the broad ligaments were found indicating a progressive infective thrombosis. The uterine tissue was filled with pus cells, occupying the perivascular and lymph spaces with occasional obliteration of large blood-vessels. A great number of mastzellen were found throughout the infected tissues. The author held that the progress of puerperal infection was in this case through infective thrombosis and suppurative lymphangitis, and that the removal of both tubes and drainage would have been ineffectual. He then proceeded to recount the pathological findings in cases of non-infected puerperal women dying from accidental causes during the first, third, and sixth weeks after labor, and also cases dying at somewhat similar times after labor, stating the comparison of the normal and abnormal uterine and peri-uterine tissues.

In the city of Chicago during the years 1881 to 1894, inclusive, there were 2,127 deaths from pueperal fever. In New York during six years ending May 31, 1880, there were 250,000 deaths, of which number one-sixth were females, and 2,236 of these deaths were due to the puerperal state. Of these 1,250 were due to puerperal infection. In Brooklyn, with 112,000 deaths during the same period, 53,000 were females, and of these 867 died of the puerperal state, 462 dying of puerperal sepsis. These figures show the importance of the subject.

The question of treating puerperal infection by évidement or curetting was discussed by presenting the work of its own advocates, showing that out of 7,600 cases of labor in the hands of one of the advocates of curettement, 101 were treated by repeated curettement and irrigation. Of these 96 recovered and 5 died.

An abstract of the history of these five cases was presented, showing that there was every reason to believe that after curettement had failed hysterectomy would have proved efficient in saving the patients.

A series of 6,635 cases of confinement occurring in the Charity Hospital, in Berlin, under the care of Hensoldt, Schwarze, Huenermann, and Hochselter during four successive years, were then analyzed. Seventy-nine deaths from all cases occurred. Of these deaths, 33 resulted from puerperal sepsis, and in order to fully understand the possibility of these cases, a short epitome of the history of each was presented, showing that only 3 out of 633 cases were of such a character as to give rise to the suspicion that they might not have been saved by hysterectomy.

The author gave the following conclusions: 1. Puerperal sepsis has its origin in the endometrium and usually travels by the lymph-channels or by the thrombosed blood-vessels and the lymph-channels together. 2. It still causes almost one-half of the deaths which occur in the puerperal state. 3. Curetting is ineffectual in many cases of puerperal sepsis. 4. The removal of an infected broad ligament and the drainage of a pelvic abscess or peritonitis is often ineffectual. 5. Hysterectomy should be performed, therefore, in such cases of puerperal infection as do not yield to uterine curetting and irrigation. 6. Hysterectomy should be done whenever peritonitis is present in the course of puerperal fever. 7. Hysterectomy should be performed in cases of puerperal mania where there is a history of endometritis without uræmia. 8. Hysterectomy may not be helpful in the course of diphtheritic vaginitis and endometritis. 9. Hysterectomy may not be helpful in cases of rapid early infection. 10. It may not be useful in cases of septic phlebitis reaching outside the pelvis.

A Method of Preventing Thirst Following Celiotomy.—Dr. William H. Humiston read a paper with this title. He said no one who has had any experience in the after care of abdominal cases will deny the important place that thirst occupies. It is the one prominent, annoying, and distressing symptom, and I know it can be overcome. This is my method of procedure:

The patient should have the usual preparation for celiotomy, *i.e.*, diet, daily baths, cathartics, etc. For three days prior to operation order the patient to drink one pint of hot water an hour before each meal and on retiring, thus drinking two quarts of water each twenty-four hours, the last pint to be taken three hours before the time set for operating. Do not omit to give the water the day previous to the operation, while the patient is restricted to a limited amount of liquid nourishment and the bowels are being unloaded. We thus restore to the system the large loss of fluid occasioned by the free catharsis, and we have the great satisfaction of seeing our patient pass through the trying ordeal of the first thirty six hours after the operation in comparative comfort, with no thirst, a moist tongue, and an active renal function, represented by an excretion of from twenty-eight to fifty fluid ounces of urine during the first twenty-four hours, catheterization being seldom necessary. This is in keeping with the full character of the pulse noted.

The above detail I have recently carried out in twelve cases. To eleven chloroform was administered, to one, ether. The time required to complete the operation varied from ten to fifty-five minutes. Whether the case was one of sclerotic ovaries or a pus case with universal adhesion of all the pelvic structures, the result has been uniform and highly satisfactory, thirst being allayed and excretion stimulated.

I believe this method will prove to be efficient in the hands of abdominal surgeons generally, and I publish it early with all confidence that the twelve cases that I have had will soon be fortified by the reports of many hundreds, and that by it we may avoid a condition that is and has been distressing alike to the patient, surgeon, and nurse.

Celiotomy in General Suppurative Peritonitis, with the Report of a Case.—This paper was read by Dr. Miles F. Porter, of Fort Wayne, Ind. The author first quoted Grandin, who says regarding general puerperal peritonitis: "The women die, no matter what the form of treatment employed." Dr. Baldy says: "To my knowledge there has never been reported an undoubted case of general purulent peritonitis, from any cause whatever, in which an abdominal section or any other line of treatment has succeeded in saving the patient's life." That the mortality of general septic peritonitis is large, all will agree, but that it is always fatal is certainly not true. Dr. Porter then reported the case, and closed by saying that the object in writing the paper was to assist in arousing a sentiment against the too prevalent idea that in general septic peritonitis death is inevitable, and to encourage in these cases prompt operative interference.

Peritoneal Irrigation and Drainage was the title of a paper read by Dr. A. H. Cordier, of Kansas City, Mo., in which he said that the latest works on abdominal and pelvic surgery contain, like the older text-books, very short and misleading articles on the indications for peritoneal irrigation and drainage, and still less explicit are the directions how to use these agents for good, intelligently and correctly. This diversity of opinion among authors leaves the inexperienced beginner in a position of perplexity and doubt as to the special course he is to pursue in his early work. The same principles hold good in draining the peritoneal cavity that are applicable to other parts of the body. No surgeon with all the antiseptic precautions possible to be used in opening a diffuse abscess of the thigh or other part of the body would think of such a thing as at once closing a wound hermetically, leaving many broken-down shreds of diseased tissue dangling in the abscess cavity. He might have irrigated the cavity thoroughly with a 1 to 1,000 solution, yet he would not feel it safe to close the wound until after he had made counter-openings and introduced a drainage-tube, this

being as near ideal surgery as it is possible to obtain in these cases. Freshly boiled distilled or filtered water, cooled to 102° to 110° F., should be used in irrigating.

The author drew the following deductions: 1. Drainage is a life saving process when properly used. 2. To use it is not an admission on the part of the surgeon that his work during the operation is imperfect. 3. The use of the tube alone does not produce or leave any condition that favors the development of hernia. 4. The omentum or other structures do not become entangled in the openings in the tube. 5. A small-sized flint-glass tube, with small openings and open end, should always be selected for pelvic drainage. 6. The tube does not produce fecal fistula. 7. The tube should be used when in doubt as to the absence or presence of drainage indications. 8. To depend upon microscopic findings as to whether a given case should or should not be drained is seemingly scientific, but is neither necessary nor practicable. 9. Gauze drains should rarely be used and should always be supplemented by a glass drain. 10. There is no danger of infecting the patient through a tube if the attendant is properly instructed.

Three Cases of Hysterectomy following Celiotomy for Pus-Tubes.—Dr. J. Henry Carstens, of Detroit, summarized his remarks as follows: "1. It seems to me, in the light of my present experience in cases of bilateral pus-tubes, that a more perfect and complete operation can be performed by abdominal section, with less danger of injury to the bladder and intestines, and with smaller mortality and better ultimate results. 2. That in certain cases a better immediate result is obtained by vaginal hysterectomy and drainage, but these cases frequently require a second operation to remove the ovarian tissue and parts of the tube, which at first in many cases cannot be removed, before a perfect ultimate cure is established. 3. Where the sympathetic and other nerves are affected, the cause is not in the uterus, ovaries, or tubes alone, but part in each. We are unable to state which organ is at the bottom of the trouble. Sometimes it may be only one, sometimes the other, sometimes two or all three; hence, in such cases—I would say in many cases—with marked nervous symptoms, the best results are obtained only after the complete removal of every particle of the generative organs—that is, uterus, tubes, and ovaries, be this accomplished at one, two, or three operations, per vagina or by abdominal section."

Dr. R. S. Sutton, of Pittsburgh, favored abdominal section for pus-tubes. He maintained, first and foremost, that a uterus deprived of its appendages is of no use. Second, that it is an organ, if left, which is liable to tuberculosis, gonorrhœa, syphilis, nasty discharges, adhesions, etc. When it is decided to remove the appendages, the uterus also should be taken out.

Dr. Gilliam, of Columbus, O., argued against the removal of the uterus with the appendages in order to save life, the objection being that shortening of the vagina resulted.

Dr. B. M. Ricketts, of Cincinnati, believes total extirpation will be relegated. The dangers are cystocele, hernia, increased danger of prolonging the operation, and shortening of the vagina.

Dr. Henry O. Marcy, of Boston, favored retaining the cervix when it is healthy, and pointed out the reasons why it should not be removed. It helped materially in acting as a support to the vault of the vagina.

Dr. Holmes, of Chicago, in discussing Dr. Cordier's paper, said that drainage was a sort of vicarious redemption for poor surgery. Whenever it is impossible to make a wound clean we must drain, and sometimes we drain when the wound is clean, but we are unable to arrest the hemorrhage. He could conceive of no other indication for drainage, whether in the abdomen, the brain, or any other part of the body, than failure to meet the one great indication of wound treatment—to keep the wound clean.

Two Successful Operations for Traumatic Insanity.—Dr. George W. Cale, of St. Louis, read the paper. He said that insanity due to injuries of the head is of rather infrequent occurrence. In 2,200 cases of insanity treated by Kiernan, 45 were of traumatic origin; while Hays records 61 due to the same causes out of 2,500 cases. Schlager reports 500 cases of insanity due to concussion of the brain. The author then considered the causes and symptoms.

Case I.—A male, twenty-six years of age, carpenter by occupation. Family history good. No case of insanity or of serious nervous disease had ever been present. June, 1885, the patient received a blow from a club in the hands of a negro, the wound inflicted being midway between the fissure of Rolando and the external occipital protuberance, slightly to the left of the median line. It was treated as an ordinary scalp wound, as it suppurated for three months. Four years after the inception of the wound he complained of severe pain in the left parietal and occipital regions of the head. October, 1888, he was sent to an insane asylum, where he remained sixteen months. His condition improved, he returned home, but was again sent back to the asylum, where he was detained five months. Four months later he was brought to Dr. Cale, who diagnosed traumatic insanity, advised operation, which was consented to. Recovery.

Case II.—One of acute mania following trauma. Operation performed the same as in Case I. Recovery.

Dr. William Fuller, of Grand Rapids, Mich., had operated on two cases of insanity, due to traumatism, one in Montreal in 1870. The patient was discharged from an insane asylum as incurable. When the dura mater was opened there escaped some serum. A few days subsequent to the operation the patient was rational, but as soon as the wound closed up the hallucinations returned. He then punctured the brain in two or three different directions, but with no result except to establish drainage. The man died two months later, and a post-mortem examination revealed a tubercular abscess in the fissure of Sylvius, containing about two teaspoonfuls of pus. The other case was due to syphilis, and was relieved by the removal of the pressure from that disease.

Dr. J. Frank, of Chicago, reported an interesting case of insanity in which he trephined, removing a large piece of bone. A piece of the brain was also excised for examination and seemed to be healthy. The patient, after being in an insane asylum for five years, made a complete recovery, and took up the thread of life where she left it. She continued in this way for one year, then relapsed. What was the reason of her recovery? In opening the dura there was a gush of cerebral fluid. Dr. Frank firmly believes that it is not the depression of the skull which produces the bad results, but that at the time of the injury there is a chronic inflammation of the meninges, or a slow inflammatory process, which throws out cerebral fluid. This fluid may be in the ventricles between the dura and the brain, or in the tissues of the brain-filaments themselves, and the theory of concussion, held by the profession, he believes is erroneous. He had repeatedly made experiments on dogs by rapping them on the head and rendering them insensible, and immediately thereafter effusion was found.

Dr. F. Maas, of Detroit, thought we were in the dark as to the exact cause of the insanity in many cases, and that there was evidently some vaso motor disturbance. He read a paper, which was largely a statistical one, in which he pointed out the comparative value of the medical and surgical treatment of appendicitis.

The Use of Dry Heat of High Temperature in the Treatment of Joint Diseases.—This paper was read by Dr. William E. Wirt, of Cleveland, O. Shortly after reading a description of this treatment in the medical

journals, the essayist encountered a case of rheumatoid arthritis in which he resorted to this method. The treatment was followed by great improvement in the motion of the joint and in the comfort felt by the patient. He also reported a case of rheumatism of a year's standing in which there was more or less fixation. He broke up the adhesions, made use of the high application of heat, and raised the temperature to 290°, which was followed by decided improvement in the ease with which the patient could move the joint and the relief of pain.

Ulcers of the Leg; all can be Cured.—This paper was read by DR. CARTER S. COLE, of New York. The constitutional condition of pain that favors morbid states, or that retards a return to a healthy state, creates a diathesis which should receive its proper treatment, whether or not ulcers exist. For systematic purposes ulcers of the leg were designated by the author according to their appearance, as healthy, irritable, indolent, etc. In intractable cases, he is inclined to place foremost thorough washing with soap and water and good scrubbing with a stiff bristle hair-brush. If the ulcer be inflamed, irritable, or painful, anæsthesia may be required for this and subsequent steps. The next step is a thorough cleaning out of all soft granulations and the base of the ulcer with a sharp curette. The edges of the ulcer are freed from their attachment, and in many cases with a curved sharp bistoury he knicks the circumference at intervals of about one-quarter of an inch. If much hemorrhage follows, a pad of gauze wrung out of a two per cent. solution of carbolic acid is placed over the wound and a firm compression bandage from the toes to the knee applied, the wound having previously been thoroughly cleansed with the carbolic solution. The dressing, when used, is allowed to remain for twenty-four or forty-eight hours, after which he considers the ulcer to have become a simple one and amenable to treatment as follows: No further lotion is used. The wound is wiped off with dry cotton, and over and completely covering it he places strips of diachylon plaster to protect the ulcer. Over the surgeon's plaster he applies a pad of sterilized gauze, held in place by strips of rubber adhesive plaster, or often simply by a bandage. He then uses a firm muslin bandage from the toes to the knee, making equable compression. Bandaging should be carefully done. Sometimes he uses two bandages three inches wide and eight yards long. This bandage is not removed unless the discharge comes through, or the leg becomes painful, or the bandage gets loose. When he redresses the ulcer he again uses simply dry absorbent cotton to cleanse the wound and proceeds as before. Often after two to three dressings the bandage may remain five or seven days without being disturbed. In some cases a thin scum forms on the ulcer, which must be removed by going over the surface lightly with a curette. With this treatment, in ordinary cases about three weeks will suffice for an ulcer of even a dozen years' standing. In extraordinary cases, as much as six weeks may be necessary.

How to Diagnosticate Sexual Derangements in the Male, was the title of a paper by DR. EUGENE FULLER, of New York City. The author endeavors to impress on the profession the fact that in the majority of instances sexual derangements in the male are caused by pathological processes in or about the seminal vesicles, and further, that they accomplish their results by interfering with the mechanism of ejaculation. He calls attention also to the fact that this side of the question has almost wholly been neglected by preceding writers on sexual disorders, who have devoted themselves largely to psychological causes in this connection, the result being that the great majority of the profession associate sexual disturbances with some radical mental defect. Sexual derangements in the male should be diagnostically arranged in four classes: 1, Those dependent on seminal vesiculitis; 2, those dependent on neuroses; 3, those dependent upon primary mental disease or degeneration; 4, those dependent on general malnutrition and debility. The order of this classification corresponds to the frequency with which these different forms of diseases are encountered in practice. In explanation of the first class of causes the writer states that it is needless to go into detail, since he has recently reviewed that subject very fully in his book just published.

Where seminal vesiculitis exists there is generally a previous history of urethral or bladder inflammation, sexual abuse, and the like, all of which are agents tending to produce localized inflammation in the seminal vesicles. The second class of causes either inhibit or excite the sexual centre by means of reflex nervous action. The third class of causes includes the different forms of paranoia, in which the sexual sense exists in a perverted form. The fourth class of causes is a small one. It includes individuals, generally young or middle aged, who make complaint that they are capable of little sexual exertion and that feelings of prostration and exhaustion result whenever coitus is attempted.

Dr. Fuller then takes up the clinical examination. In conclusion the writer makes some special remarks on the different appearances that the varying grades of seminal vesiculitis present to the sense of touch, and calls attention to the fact that in cases of extensive perivesiculitis involving both sacs an inexperienced examiner is liable to err in diagnosis, mistaking the condition for hypertrophy or inflammation of the prostate. The author holds that to become perfected in the feel of the seminal vesicles the finger needs as much practice as does that of the gynecologist in feeling the ovaries and tubes. To obtain the necessary practice he advises the genito-urinary surgeon to make it customary to examine in this manner every male case coming into the clinic until all normal and pathological conditions can be fully appreciated.

Chronic Seminal Vesiculitis with Hemorrhage.—DR. S. P. COLLINGS, of Hot Springs, Ark., read a paper on this subject, in which he said there has apparently been little known of the pathological conditions of the seminal vesicles until within recent years. The usual cause of this trouble is the extension of gonorrhœal inflammation from the prostatic urethra through the ejaculatory duct into the vesicle itself; at least, there is usually a history of a former gonorrhœa with a chronic deep urethral trouble remaining. The vesicles are sometimes involved in very acute and severe gonorrhœal inflammation with or without the implication of the cord and epididymis. They may also be involved with a tubercular inflammation, although practically never primarily.

One observer reports a case in which the autopsy showed that the vesicle was primarily involved. The most important symptom is the disturbance of the sexual function. The character and appearance of the seminal fluid are more or less changed. Its consistency is so increased at times that it is gelatinous. The diagnosis of subacute or chronic seminal vesiculitis would be difficult to make were we to depend entirely upon symptoms in reaching a conclusion. They are vague and at times misleading, except the appearance of the blood in the semen, which, if thoroughly mixed with it, would determine a diseased condition of one or both vesicles at once. The author reported two cases, discussed the treatment as applied to them, as well as that generally used in the subacute and chronic forms.

In conclusion, he said that if inflammation of the vesicles occurs in one whose urethra is strictured, we must cure the stricture before we can hope for permanent results in vesical treatment.

Syphilis and its Treatment.—This paper was contributed by DR. C. T. DRENNEN, of Hot Springs, Ark. The author spoke more directly of the treatment of this disease in connection with the use and abuse of certain so-called antisyphilitic remedies. He said we are unable as yet to form definite conclusions as to the

usefulness of sero-therapy in the treatment of syphilis from the most recent researches. But the reports are quite encouraging, and there is hardly a doubt but that it possesses value in at least the tertiary lesions. Fournier believes the good effect to be due not to any specific, but to its rehabilitory effect upon the system. The author said, in closing, that the hot water at Hot Springs was well known to exert an influence peculiar in its effect for good, and in it we had a veritable Mecca for syphilis. That its action is eliminative, stimulative, and antiseptic, and that larger doses of mercury and the iodide of potassium can be given without harm is known to the writer based upon experience and observation; that its exact or specific action is unknown, and that its value is attested to by the multiplied thousands throughout the country, are propositions that are uncontrovertible.

Dr. William T. Belfield, of Chicago, described and presented an instrument for the purpose of securing asepsis in bladder and prostate operations.

The Element of Vascular Compresson in Fracture Treatment.—This paper was read by Dr. Thomas H. Manley, of New York City. The author considered at length the anatomical structure and vascular function as related to fracture. The extent of damage borne by the vessels in a given case of fracture will primarily depend upon the degree and quality of force applied and the line of treatment adopted. In a series of experiments made during the past year on the blood and blood-vessels, under a multiplicity of conditions in the lower animals under anæsthetics, one question which the author spared no pains to definitely determine was whether in fracture, as a general rule, the circulation to the distal part of the limb was retarded in cases of fracture. Without entering into detail on the great diversity of vascular phenomena observed in a frog's webbing under the microscope after single, multiple, and compound fractures were produced, it will suffice to say that with few exceptions, immediately and for a considerable period of time after the bone was broken, the circulation in the capillaries and the smaller arteries was completely arrested. In several it was found that for several days all the smaller vessels were motionless, and in a few they so remained until the fractured ends of the bones united. These experiments were extended to the mammalia—the shafts of the limbs of pups, kittens, and adult dogs, of different ages and of various sizes.

The Significance of Fissure Fractures of the Articular Ends of the Long Bones was the title of a paper read by Dr. H. O. Pantzer, of Indianapolis, Ind. He reported a case of fissure fracture involving the outer third of the head of the radius, having loose attachments to its body. An excessive callus had likewise developed in its site, without affecting union. This splinter and callus were removed, when reposition of the joint was easily attained. The crepitus felt at the first examination, and the failure to find it again, should have suggested fissure fraction in the opinion of the author. When the first dressing was removed, the limb seemed to present a perfect condition, and to promise full restoration. These prospects were changed as soon as passive and active mobilization was begun. The probability is that the attempts at mobilization for this kind of injury were made too soon, and that they were at least partially responsible for the subsequent unfavorable developments. The author concludes that when undue painfulness and subsequent swelling with no gain, or even a loss of mobility, attends the efforts of mobilization after kindred lesions, we should delay further efforts at mobilization. The possibility of a fissure fracture should be considered in determining the diagnosis and treatment of all cases of joint injury.

Imbrication or Lap-joint Method—A Plastic Operation for Hernia.—Dr. E. W. Andrews, of Chicago, contributed a paper on this subject. The principle of imbrication or overlapping the several aponeurotic layers of the abdominal wall may enter into other abdominal operations to advantage, as he had repeatedly shown. The present paper referred only to its use in inguinal hernia. Here he makes use of it to supplement and reinforce existing methods without losing sight of their good qualities. While based upon the best modern open method, and while confessedly an outgrowth experience with the Macewen, Bassini, Halsted, and similar operations, yet the carrying out of the imbrication idea so far changes the technique as to make it as different from them all as they are from each other, and perhaps entitle it to the term, "a new operation." It was impossible, said the author, to describe this operation without going into details concerning those which had preceded it, which he did.

The interlocking or overlapping principle of uniting the musculo-aponeurotic layers of the abdomen is in reality an outgrowth of the author's clinical experience rather than of theory. He adopted it at first as an expedient in cases where the Bassini operation seemed difficult and needed supplementing, but of late the value of the principle had seemed to him more and more evident, and he had used it in all his cases. The author concluded as follows: 1. Any successful method of radical cure must be a true plastic operation upon the musculo-aponeurotic layers of the abdominal wall. Cicatricial tissue and peritoneal exudates are of no permanent value. 2. A large strong flap, of any needed size, to fill the internal ring. 3. Triplicate layers of aponeuroses. 4. Interlocking of layers giving broad surfaces of union. 5. Shortening of anterior as well as posterior wall of canal, making them mutually supporting, and relieving tension on deep sutures. 6. Cord amply protected.

Further Observations on the Radical Cure of Rupture by the Intra-pelvic Method, with Illustrative Cases.—This paper was read by Dr. Charles A. L. Reed, of Cincinnati. In what essential particulars does this intra-pelvic method differ from the several methods of radical operation now in vogue? It differs, in the first instance, in the fact that it is intra-pelvic, while the others—Bassini's, Halsted's, McBurney's, Macewen's—are extra-pelvic.

The essential point of difference between Dr. Reed's operation and that of Bassini consists in: 1. Leaving undisturbed the extremely tense fascia composing the anterior wall of the ring. 2. In leaving the cord in the position which nature designed for it, and entirely protected by the normal fascia. 3. In closing the internal ring on the inside of the pelvis, and in protecting it by a strong peritoneal pad. 4. In avoiding the menace to virility arising from a transplantation of the cord, its possible constriction by an artificial ring of tense fascia, and its necessary investment by an inflammatory exudate. 5. In increasing the resistance of the parts by fortifying the fascia comprising the anterior wall of the ring, and by increasing and making permanent the obliquity of the cord within its normal canal.

The advantages of the operation consist in securing, by the unfolding of the redundant but attenuated median fascia, the formation of a column which, when consolidated by inflammatory adhesions, has a certain retentive and supportive power, the influence of which is of value in preventing recurrence. Tne anchorage of the recti in the median line destroys the retentive power of the wall.

Surgical Treatment of Hemorrhoids.—Dr. Henry O. Marcy, of Boston, followed with a paper which was in the nature of a reply to the strictures cast upon the Whitehead operation by Dr. Edmund Andrews, of Chicago, in a paper read before the last meeting of the Illinois State Medical Society. Dr. Marcy believes that if, in the statistics given by Dr. Andrews, the names of the operators were mentioned, most of the disastrous results would be found to have followed the

work of incompetent men. His results have been excellent in those cases in which he has done the Whitehead operation, slightly modified by himself.

Club-foot.—Dr. John Ridlon, of Chicago, read a paper on club-foot, which he defined as a distortion of the foot in its relation to the leg. The simple and compound varieties of club-foot were dealt with. Nearly all of the congenital cases present the compound variety—equino-varus; a few present equino valgus; rarely there is seen a simple calcaneus. Of simple equinus the author had met with but a single instance, and of simple varus and simple valgus he had seen none. Of the acquired variety, simple equinus is by far the more frequently found; next in frequency we find simple valgus; then equino-varus, calcaneo-valgus, equino-valgus, simple varus, and varus in one foot, and valgus in the other. The acquired deformity occurs more than three times as frequently as the congenital form. The etiology of the congenital forms was next dealt with, as well as of the acquired forms. Then followed the symptoms, diagnosis and prognosis.

The treatment of club-foot is mechanical or operative, or both mechanical and operative. Both these measures were dealt with at length.

Vaginal Castration.—This paper was read by Dr. E. E. Tull, of New York. The author claimed for this method a lower mortality, a shorter convalescence, and a wider adaptability, as it may be practised in cases too weak for abdominal section.

A New Phase of Celiotomy.—Dr. F. G. Groner, of Grand Rapids, Mich., related a suit for malpractice which had just been terminated in Grand Rapids. The suit was commenced against a doctor some time ago, and was for $50,000. The defendant died, but the court held that the cause of action survived, and that the suit could be brought against the estate. The jury returned a verdict for $10,000. The author claimed that he knew there was no malpractice, because he was interested in the case and knew just what was done in the operation. He found fault with the laws which permitted a suit against the doctor to survive his death and be a menace to the widow and children. The speaker thought that the next Legislature should remedy the law. He had the draft of a bill prepared which he thought would remedy the present law, and which he read.

The Results of Five Years' Experience with Intra-abdominal Shortening of the Round Ligaments.—This paper was contributed by Dr. J. Frank, of Chicago. Since his last publication, November, 1889, he had had the opportunity of performing this operation seventeen times, with only one failure, and without any deaths. All of the seventeen cases operated upon were for retroversion, prolapsus, and retroversion with prolapsus of the uterus.

Technique of the Operation.—The median incision is made a trifle lower than for ordinary celiotomy. The round ligament is caught up anteriorly with a sharp or blunt hook, and is then held taut by an assistant. A small, full-curved needle threaded with fine silk is then passed through the loop of the round ligament, and is brought back in the reverse manner through the other half of the loop. No portion of the broad ligament is included in any of the sutures. Too much stress cannot be placed upon this particular procedure of passing the needle through a part of the cord, and not around it, for in passing the needle around the cord there is danger of strangulation, as the blood and nerve supply would be entirely shut off by this faulty method of placing the sutures around the ligament.

About fifty per cent. of the cases have been under the observation of the author since the time of operation, which in some instances has been as long as two years, and in all of these the uterus retains its corrected position. This operation should be performed in preference to any other in all cases where the uterus is prolapsed, or immediately falls back upon replacing it with a uterine sound, and where pessaries and tampons afford no relief, clearly showing that there must be some force which does not permit the uterus to remain in its normal position.

Address on Surgery.—Dr. Theodore A. McGraw, of Detroit, selected for his subject "The Present State of Our Knowledge of Cancers and Tumors." He said that if we compare the ideas that prevailed relative to these diseases thirty years ago with those the profession hold to-day, we would find a change which marks rather by a clearer view of the nature of the problem than any actual gain in its solution. Before Virchow the subject of tumors and cancers was wrapped in the greatest confusion. Tumors were divided and classified in that era according to their clinical histories. They were divided into the innocent, which were looked upon as purely local, and the malignant, which were regarded as due to dyscrasiæ, the seat of which is in the blood. Under the influence of the new cellular pathology the faith in so-called dyscrasiæ was abandoned and supplanted by a new doctrine, which taught that tumors and cancers resulted ever and always from aberrations in cellular nutrition, development, and growth. It may be said that during this time the energies of the profession, as far as tumors are concerned, have been confined almost solely to this channel. The most successful attempt to account for the origin of tumors and cancers was that of Cohnheim.

The arguments offered in defence of the parasitic theory of cancer are, 1, the microscopic evidences; 2, the frequent occurrence of auto-inoculation, and the evidently infectious course of the disease in the organism; 3, the endemic occurrence of cancer in certain localities, and in rare instances in the same houses; 4, an occasional success in inoculating the disease in animals. The arguments against it are the many instances of hereditary tendency; the general failure of experiments of inoculation, and the fact that metastases occur, not through the transfer from one point to another of parasitic germs as is usual in parasitic diseases, but by the transmigration of cells bearing the same characters as the cells of the original tumor, and the subsequent proliferation of the migrating cells; the fact that not only cancers, but tumors of all kinds, have a more or less tendency to produce metastases; the tendency exhibited by embryonic remains and hystoid tumors to develop into malignant disease.

Dr. McGraw closed by saying that physicians should be better instructed in the means of diagnosis, and in the necessity of early operative treatment. And last, but not least, the laity could be induced to assist, not only by liberal contributions of means, but by that intelligent co-operation which would lessen our difficulty in collecting evidence and making post-mortems and keeping the sufferers out of the hands of the quacks.

The Paranoiac—A Menace to Society.—This paper was read by Dr. C. B. Burr, of Flint, Mich. He made brief and pointed reference to the numerous recent murders of prominent persons by so-called "cranks." What to do with these persons is one of the problems confronting our modern civilization, and is one demanding an answer from students of the subject. We have room enough in our asylums. The trouble is that harmless lunatics are kept in confinement, while dangerous paranoiacs are allowed their liberty. These murders disturb the public but a day and do not scare us into further provision for a safeguard. The public do not sincerely seek advice from professional sources in the matter. No one who has been threatened by a paranoiac would be willing to have his commitment settled by a jury without medical testimony as to the danger involved in granting freedom to such an individual. The paranoiac is a menace to society, and should be sequestrated. But doubtless the public will continue to view with indifference or approval, now and then, the execution of a criminally insane person as "sane

enough to hang," and vainly hope for a deterrent effect of this example upon other deluded minds.

DR. I. N. LOVE, of St. Louis, remarked that doubtless all of us would hesitate to offer criticism on so valuable and thorough a paper from such an authority as Dr. Burr. He then related a case in St. Louis, where a man had murdered his wife and child, having become a paranoiac through excesses and debauchery. The entire profession of St. Louis agreed that it was the deed of a paranoiac, yet a country jury declared he was sane enough to hang. He emphasized the fact that often these persons are stimulated to crime by the notoriety the newspapers give them, and consequently the papers should be encouraged to suppress any such items.

DR. HUGH T. PATRICK, of Chicago, called attention to the fact that the fixed illusions began as early in life as five or eight years, and then in such cases measures of restraint should be instituted. These illusions are not always discovered, even by the family physician.

Toxicity in Hysteria, Epilepsy, and Neurasthenia, was the title of a paper by DR. A. E. STERNE, of Indianapolis. This is one of the most frequent and important etiological factors in these diseases, and one which has received the least attention. The term toxicity should mean functional cellular perversion, causing or being caused by abnormal chemical reactions. The ordinary forms of hysteria are functional. There are, however, no pathologic alterations in the central nervous system itself. We have in many cases a condition of cellular intoxication. It is not necessary that there be any structural change. Many drugs produce a condition similar to hysteria ; shock or injury does the same thing. In almost every case there will be some form of cellular malnutrition, and by not seeking after this possibly the physician misses the cause and cure of his case. The female generative organs have, no doubt, been too often blamed as an etiological factor in hysteria. When actual disease exists in these organs it should be properly attended to, but the organs are not to be blamed any more frequently than other organs. Again, some of the worst cases of hysteria occur in males. Epilepsy, like hysteria, is a diathesis, but of a more profound nature, but in epilepsy we find true pathological changes which are usually of a vascular nature, in the walls of the vessels, produced by some toxic agent, acting at the same time on the ganglionic cells of the cortex. The attacks of epilepsy may resemble severe hysteria, but there is a fundamental difference. The attacks of the latter are never dangerous, while the former may frequently be so. Neurasthenia is not often complicated by either epilepsy or hysteria. There are three grades of neurasthenia—weakness, prostration, and exhaustion. Sexual neurasthenia is essentially a masculine affection, though not always or necessarily resulting from a vicious life. In the treatment of all these cases the toxic element should always be kept in mind. In certain cases surgical interference is demanded. Change of scene and environment are the best treatment for hysteria and neurasthenia. Divert the energies into other channels ; conserve the remaining vital forces, and add suggestive therapy as much as possible, but do not hypnotize. The wakeful state is much better for suggestion. Electricity and the "rest cure" play an important part in the treatment of all these conditions. But always conserve every atom of nerve-force in every case.

DR. BLECH, of Detroit, reported two cases in which he considered there was toxicity of cellular function.

DR. DOUGHERTY, of South Bend, Ind., said it should be remembered that these cases do not all come as reflexes of the generative organs. It has become almost a habit for surgeons and physicians to think so.

DR. C. B. PARKER, of Cleveland, said that more care in diagnosis and a deeper investigation into the etiology of these cases might materially assist us in the way of results in treatment.

DR. HUGH T. PATRICK, of Chicago, held that traumatic cases must be excluded from this consideration. They come under another class, such as adhesions, etc. He is quite sure that very many of these cases are due to a direct toxæmia. Indeed, all conditions which may cause any functional derangement are in a measure toxic.

DR. STERNE, in closing, said he was convinced that the knife was being used too much in these cases. If we can be sure of the lesion, then certainly operate, if it is advisable. Relative to the thyroid enlargement, he is satisfied that there are very many cases of it in hysteria, particularly if the patient be a young lady.

Some of the More Recent Methods of Staining Nerve-Tissue.—This paper was read by DR. HUGH T. PATRICK, of Chicago. It was elegantly illustrated with water-color drawings of each of the stains used in nerve-tissue, and a most thorough and practical *résumé* of the subject, with its application and technique, was given. He considered the method of Nissl to be the method *par excellence* for nerve-cells. With it minute changes in the cell-structure could be detected which would elude any other method. The method of Bevan Lewis, while marking an advance in technique, was thought to be less perfect than claimed for it by the originator. It is, however, excellent for hypertrophied neuroglia cells. The beautiful results obtained by the Golgi method, as modified by Ramon y Cajal, were illustrated, and the importance of the discoveries due to it were emphasized. Rosin's stain, which is practically the Ehrlich-Biondi blood-stain, gives in some cases almost ideal results. The method of Platner—chloride of iron and diniero-resorcin—was illustrated as applied to normal and degenerated nerve-fibres, and the doctor thought the method was to have an important future. The method of Marchi was said to excel any other for degeneration of from three weeks to three months duration. Allusion was also made to the developmental method of Flechsig, and to an unusual but valuable result of the Weigert-Pal stain and illustrated drawings shown.

DR. STERNE said that the carmine stain has a particular adaptability for double staining. In bringing out the anatomical details it is practically a necessity. The Nissl stain is the most exact, and for giving an idea of the ganglionic structure cannot be excelled. For all purposes the Marchi method is perhaps the most reliable.

DR. PATRICK said he had simply pointed out the advantages of each method. We want for each case that which will give us the best results.

Psychology in Medicine, by DR. A. P. BUCHMAN, of Fort Wayne, Ind. The author discussed the subjective and objective relations of mind and pathological conditions. The unit force acting properly is health ; abnormal action of this unit is disease. The structure of man is governed by a connected train of associated movements called ether, the existence of which we can have no anatomical proof ; but to which the growth of the body must bear definite relation. Fear, grief, anger, or joy modify the functions of the vital centres. The sympathetic nervous system is the centre of the emotions, and the cerebro-spinal system that of abstraction. Thus we come to psycho-physiology and bio-chemistry. Thence we step to the subject of hypnotism. The different methods used in producing hypnotism were minutely described ; then the possible uses and dangers of hypnotism in medicine were discussed, showing that, while good might be done, there was also much danger in its use.

DR. STERNE said it was giving to the hypnotizer a dangerous power. Anyone can hypnotize, as only a certain mental concentration is necessary. The interest in the subject is not so much a medical as scientific one. There is frequently, if not always, an element of fraud in hypnotism. There is a chance of murderers claiming they were hypnotized.

DR. PATRICK emphasized the fact that the hypnotizer has no hypnotic power. It seems almost a farce to discourage this idea, as it was exploded a century ago. It is purely a subjective influence.

DR. BURR remarked that the insane could not frequently be hypnotized. They could if the hypnotizer had any power in reality. It is possible in epilepsy to do much with it; also in hypochondriasis and melancholia it might be valuable.

DR. BUCHMAN claimed the French Academy had in the past ten years positively demonstrated the existence of hypnotic power.

DR. PATRICK said, in rebuttal, he did not claim that there was no such thing as hypnotism, but that the hypnotizer had no direct power in himself over the subject hypnotized.

The Nervous System as a Factor in Disease.—DR. C. J. HELM, of Peru, Ind., then presented a paper on this subject. It was an excellent *résumé* of a great subject, and to make a notice of the points made without free excerpts is impossible. Slight functional disturbances, if constant and continued, may produce actual organic lesions. Change is the great remedy for these troubles, not necessarily of surroundings, but of the waste places in the nervous system; give the forces some new direction. Study your patient in every phase. Get them out of the ruts they have gotten into, and you will have then cured your patients before you know it.

Some Considerations with Regard to the Senile Heart.—By ROBERT H. BABCOCK, of Chicago. The condition is not always due to or necessarily found in the aged. Importance should always be given to the myocardial changes. Dyspnœa is a most frequent symptom of senile heart, although it occurs in other conditions as well. It finally becomes the almost surely fatal symptom — Cheyne-Stokes respiration. Various remedies were advised, and among them the hypodermic use of morphia in a single dose.

DR. FÜTTERER, of Chicago, said we sometimes find in these cases a more or less intermittent pulse.

DR. J. B. HERRICK, of Chicago, added his testimony with regard to arythmia, which he considers a frequent and most important symptom.

DR. BABCOCK said that the intermittence is not necessarily a dangerous symptom, but at the same time any such senile heart is liable to stop during one of these diastolic irregularities coming on suddenly. In Cheyne-Stokes respiration morphia seemed to act best with small doses of atropine.

DR. FRANK BILLINGS, of Chicago, presented a paper on "Intercostal Neuralgia." The disease is always secondary and consequently, in reality, only a symptom. It may be due to toxic forms of functional nerve disturbance, or to pressure by tumors. The functional form is most common and usually due to a toxæmia, or to a defective excretion or malassimilation. Indigestion is a most frequent factor, whether due to the character of food ingested or to nervous conditions. Insufficient food and lack of outdoor exercise are frequent causes. Intercostal neuralgia occurs oftener in females, usually on the left side. Palpitation is usually present. Gas in the stomach with eructation is always present. In diagnosis we must search for the cause. It may be confounded with pleurisy or muscular cardiac rheumatism. In treatment remove the cause and give any simple restorative tonic.

DR. W. H. PORTER, of New York, read a very exhaustive paper entitled "New Light on the Rôle which Iron Plays in the Physiological Economy—How and where Does the Hæmoglobin Come from?" It is not the product of synthesis. It is difficult to formulate a nucleo-albumin. The iron is not excreted by the salivary, gastric, or sweat glands. The hair uses up some, the urine a slight amount. The bile uses most, but the total in both hair and bile is only one-tenth grain daily. Some writers say that the iron is stored up in the liver, but this is not practical. The intake and output both being very small, we must conclude that iron in the body is very stable. There is then a question, whether iron should be so frequently and indiscriminately used in anæmia.

DR. JOHN NORTH, of Toledo, had almost given up the administration of iron in cases of anæmia. In most cases we should correct the trouble in the alimentary canal, avoid the destruction of the nucleo albumins, and no iron will be needed.

The Abortive Treatment of Typhoid Fever.—The paper of DR. JOHN AULDE, of Philadelphia, was read by the Secretary of the Section. The author reviewed the advantages of guaiacol, carbolic acid, salol, betanaphthol, and others, and finally gave his own and others experience with arsenite of copper, stating that in his opinion the disease could be aborted at almost any stage by the use of copper arsenite along with appropriate constitutional remedies. As a rule $\frac{1}{100}$ grain should be given every four or six hours. The remedy may be given hypodermically if the disease be advanced to the second or third week.

Medicinal Treatment of Typhoid Fever.—This was a paper read by DR. GUSTAV BLECH, of Detroit. The author opened his paper with, "There is no Specific Treatment for Typhoid Fever." Hydrozone, 1 to 32, is a most valuable intestinal antiseptic. Irrigation of bowels with cold water is a necessary adjuvant in all cases.

The two preceding papers, along with that of DR. J. E. WOODBRIDGE, of Youngstown, O., on "Typhoid Fever and its Abortive Treatment," were read in succession and discussed jointly.

DR. LOVE said the treatment suggested by Dr. Woodbridge was not original; that all physicians had used the same for years. He protested against the use of the term abort, as he thought it could not be done. Rest is an important factor in the treatment. Typhoid fever is a matter of diagnosis. He questioned the diagnosis of typhoid in some of the cases reported by Dr. Woodbridge.

DR. NORTH would change the word abort to miscarriage. The germs do not enter the circulation. If we can discover something which will eliminate the germs, we can thus cut short the attack. The constant study of the one disease is the only way to progress. He does not think one can become too enthusiastic, but conclusions can be drawn too hastily.

DR. PORTER said "abort" is an unfortunate and misleading word. We can decrease the intensity and cut shorter the duration of an attack with such remedy.

It cannot be abortion in any germ disease.

DR. J. B. HERRICK said in an experience with over one thousand cases of typhoid fever, he is inclined to think that there is no specific for the condition. For the febrile condition he does not consider anything equal to the cold bath. Even Woodbridge's treatment is an expectant one.

DR. WOODBRIDGE, in closing, made reference to former discussions and papers by himself and others. Even if we could exclude the diagnosis of genuine typhoid in these cases, what better treatment can we find for the condition? When, however, the rose spots appear along with the usual symptoms, we must admit it is typhoid fever, and these cases can all be aborted in a few days.

Treatment of Pulmonary Consumption in Hospitals.—DR. E. L. SHURLY, of Detroit, presented the paper. For many reasons the treatment in general hospitals is not practicable. Other patients and dangers of contagion, whether real or imaginary, are important factors. Home sickness and poverty are also against it. Foreign hospitals for tuberculosis are successful, but the conditions are different in this country. The Harper Hospital of Detroit has been the nearest of success of any American institution. Americans are too restless and have not patience enough to test the

system. The hospital must not only be thoroughly equipped, but located in an equable climate.

The Direct Cause of Tuberculosis.—Dr. Gustav Fütterer, of Chicago, presented this paper. The history of the disease was given, along with some interesting remarks regarding Koch's work and demonstration of the tubercle-bacillus. The means and ways of infection were detailed, and the probability of danger to the healthy individual fully demonstrated inhalation, food, drink, direct injection of bacillus into wound, and heredity being the chief means of infection. What can be done to arrest its spread? 1, Early diagnosis; 2, disinfection by every possible means; 3, care by the patient; 4, care by friends and attendants; 5, personal cleanliness—bathing; 6, avoid kissing at all times; 7, teeth and mouth especially clean; 8, sleep alone; 9, should not attend public or private gatherings; 10, be careful of expectoration; 11, go to special hospitals for treatment.

Scrofulosis and chlorosis were considered in their relation to tuberculosis, and treatment and diet for each dwelt upon at length.

The curability of consumption depends greatly on whether the patient comes early for treatment. The author's treatment is the oil of cloves. 1. A No. 1 gelatine capsule is filled with pure oil of cloves and taken with a glass of milk every two hours from 8 A.M. to 10 P.M. 2. If the oil is tolerated, one capsule should be given every hour. 3. Oil of cloves and cold-pressed olive oil are mixed in equal parts and injected hypodermically, a syringeful once or twice daily. This is continued for four weeks, stopped for two weeks, and then resumed.

The Treatment of Acute Inflammations of the Middle Ear and Mastoid Process.—This paper was read by Dr. E. B. Dench, of New York. For convenience, the author anatomically divided the middle ear into two parts by a line drawn through the styloid process. Inflammations in the middle ear produce the ordinary results of the same process elsewhere within a cavity lined by a mucus-producing membrane, but because of transfusion the tissue necrosis is not so extensive; yet there is enough retained to cause an outward bulging of the tympanic membrane. If seen early, free blood-letting should be practised and a single dose of an opiate given. Do not give but one dose of the opiate under any circumstances. Also apply dry heat locally. Do not use wet heat. If not seen until later, free opening is the only thing to be advised. The technique of the operation was minutely and carefully described. The more acute and severe the case, the more prompt should be the measures for relief. An incision should be made often, even when it is known the cavity contains no fluid. The incision does not end the danger; the entire cavity must be thoroughly washed out and made antiseptic by irrigation.

Sequelæ of la Grippe.—This paper was read by Dr. F. C. Heath, of Indianapolis. Several cases of eye results were given, and the more common condition of ear complications noticed, with treatment considered.

In the discussion, Dr. Straight thought the stomach was the most frequently affected of all organs. Dr. North said quinine given for la grippe had done more damage than any other one thing. Dr. Wheelock saw two distinct kinds of reaction following in ear cases with periostitis or middle-ear abscess.

Artificial Ripening of Cataract.—Dr. J. M. Ball, of St. Louis, read a paper with this title. A complete history of the operations was given and the various methods were explained. Before doing any of them the surgeon should be sure the zonula is intact, the tension normal, and the pupil dilatable. Division of the anterior capsule in these cases is always more or less dangerous, and may be serious. Bettman's operation or direct massage or trituration is, of all, the most desirable. It is the least dangerous, most certain, and speedy. It has stood the vital test of experience and is worthy of confidence. If prolapse of the iris occurs, snip it off at once, contrary to most authority, but he had found it satisfactory and beyond expectations.

Complications in Cataract, Arising from Diabetes, Albuminuria, Etc., was a paper by Dr. J. O. Stillson, of Indianapolis. The diabetic cataract is as yet a puzzle. A serous retinitis is often a symptom of Bright's disease. Albuminuria is a frequent complement of cataract. It is not only desirable but necessary to treat these conditions if they exist before operating for the senile cataract.

Rheumatism and Gout in its Relation to the Eye was the title of a paper by Dr. K. K. Wheelock, of Fort Wayne, Ind. The paper was a thoroughly practical one and presented this somewhat old but nevertheless important subject in an interesting manner and elicited a warm discussion.

Bio-chemistry in its Relation to Nervous Diseases.—Dr. G. W. McCaskey, of Fort Wayne, Ind., followed with a contribution on this subject. In this paper the somewhat peculiar and certainly novel attempt was made to establish the general theory of the causation of nervous diseases by chemical poisons circulating in the blood and acting by a process of selective affinity upon different parts of the nervous system. The author referred to these poisons under the following groups, the classification being entirely tentative, and based upon their source of origin instead of their ultimate chemical analysis or physiological action: 1, Bacteriological products—ptomaines; 2, products of perverted tissue metabolism; 3, defective elimination of excretion; 4, perverted secretion of glandular organs; 5, products of imperfect digestion; 6, chemical compounds probably present in independent blood states and of unknown origin. Many conditions heretofore unknown as to their etiology will be found to be due to one of the above conditions existing in the system.

How shall we Rear our Babies?—One of the most practical papers of the section was that read by Dr. J. H. Taylor, of Indianapolis. The suggestions and directions were for both physician and mother, and put in so pointed a manner that the paper ought to have a wide circulation.

Diseases of the Mouth, Nose, and Throat as Etiological Factors in Chronic Glandular Gastritis, with Bacteriologic Studies of the Pharyngeal Vault.—This was the title of a paper by Dr. Fenton B. Turck, of Chicago. Bacteriologic study has developed the fact that upon the mucous membrane of the mouth, nose, and pharynx groups of micro-organisms may form, which may also be found growing on the mucous membrane of the stomach, and certain germs that are found in the inflamed mouth may also be found growing on the walls of the stomach in gastritis. Under normal conditions the mucous membrane of the stomach does not favor colonization upon its walls; but let some etiologic factor come into play and micro-organisms will develop. The mouth, nose, and throat, when in a diseased state, become incubators ready to infect when the conditions of the stomach permit the development of growing micro-organisms upon its walls. The author then referred to the bacteriologic studies of Miller, Wurtz, and Lindet. Micro-organisms of the mouth are carried by the food after mastication into the stomach; many of them are again recognized in the stomach, and in cases of gastritis are found in colonies growing upon the mucous walls. The author in his clinical and experimental work has presented similar groups of micro-organisms taken from the gums and cavities in the teeth, as well as from the material removed by the gyromele (revolving sound) from the walls of the stomach. In cultures upon the prepared mucous membrane of the pig he has been able to cultivate some of the micro-organisms and find the same developing in the stomach that are found in the mouth. But in the control animal he has not yet found micro-organisms growing in colonies in the stomach.

After reporting several cases, Dr. Turck concluded that clinical observation indicates a marked relation between diseases of the mouth and post-nasal cavity and chronic inflammation in the stomach and intestines; that the invasion of the stomach from the infected mouth and pharynx is supported by the fact that many of the non-pathogenic micro-organisms present the identical biological and physical forms in cases of gastritis the same as those found in diseases of the mouth and post-nasal cavities of the same patients.

Dr. Turck exhibited a chart showing the predominating micro-organisms found in eight cases that were studied bacteriologically.

In the discussion, DR. LARRABEE, of Louisville, said that the germ theory had been superseded by germ facts as presented.

DR. FRANK BILLINGS, of Chicago, complimented Dr. Turck on his excellent clinical and experimental work, saying that the doctor stands at the head of his profession in the work he has accomplished. He had shown that when there is a lowered vitality of the mucous membrane of the stomach by errors of diet that a soil is produced favorable for the development of micro-organisms.

Experiences with Paquin's Antitubercle Serum in the Treatment of Laryngeal Tuberculosis.—DR. H. W. LOEB, of St. Louis, read a paper in which he gave the history of nine cases of this disease, seven of which had been treated with the serum. The patients all improved greatly. One case particularly lost all dysphagia, pain in the larynx, cough, and night sweats. Other patients showed a much greater improvement than under any other plan of treatment yet tried. The doctor quoted the confirmatory evidence of Maregliano, of Genoa, Cole, Semon, Wiggins, and Paquin. He will continue his investigations and present further conclusions at a later date.

In the discussion, DR. PAUL PAQUIN, of St. Louis explained in detail the treatment which he has produced. He said it was just in its beginning. It will have to be improved as we go along, and it will take years to do so. The best results have been obtained in the acute forms of the disease, and not in the chronic. The law underlying serum therapy is a natural one. It is trying to fight bacteria by using nature's remedy. He had had failures with serum, but he could mention forty or more cases of recovery. He thought that in some cases it would require other treatment except serum. He had not had good results inside of two or three months, and it frequently required five or six months, or even longer. He had made over ten thousand injections with serum in tubercular cases, but did not recall one which was attended with fatal results. He counselled study of the climate, as well as the patient, before sending a patient away. Tuberculous patients could not live in Colorado or New Mexico. They will die quicker there than anywhere.

Yeast Nuclein and its Therapeutic Uses.—DR. VICTOR C. VAUGHAN, of Ann Arbor, Mich., presented this paper. Physiologically nucleins form the chief chemical constituents of the living parts of cells: that constituent of the cell, by virtue of which this histologic unit grows, develops and reproduces. The nuclein of various cells differs, and is limited only by the variety of cells. Chemically the nucleins contain a large amount of phosphorus. Some are combined with albumin, forming the so-called nucleo-albumin. The nuclein molecule has a remarkable power of recuperation after partial decomposition. Some nucleins have germicidal properties. Experiments were made with animals apparently proving that previous treatment by the nuclein gave immunity to the pneumococcus. Some thirty experiments were detailed and results given which seemed quite promising.

Diagnosis of Hysteria was the title of a paper by DR. HUGH T. PATRICK, of Chicago. The writer dwelt particularly upon the peculiarities of hysterical anæsthesia, hyperæsthesia, and paralysis. The principal peculiarities of the first are its distribution in the form of a glove, sleeve, or stocking, with sharply cut border, and in disseminated and irregular patches. Dr. Patrick called attention to a distinguishing trait not yet described, namely, almost instantaneous shifting of the line of demarcation between the anæsthetic and normal areas. This peculiar feature applies equally well to hyperæsthesia. Among the hyperæsthesias was described hysterical joint disease, and hysterical angina pectoris, with the differential points of diagnosis between these affections and organic disease. The peculiarities of the hysterical gait were described at some length, and their relation shown to the affection described by Blocq, and called by him astasia abasia. The writer protested against this affection being considered a nosological entity, as it is simply an exaggeration of a common feature in hysterical paralysis. The peculiarities which distinguish a hysterical from an organic paralysis of the upper extremity were also described, and hysterical affections of the special senses were briefly alluded to.

Hæmorrhoids—Prolapse Rectum—A New Operation.—DR. B. M. RICKETTS, of Cincinnati, read the paper. The object of this paper was to present means more simple than had heretofore been offered for the radical cure of a prolapsed rectum and the obliteration of hæmorrhoids. After widely dilating the sphincter with the fingers under surgical anæsthesia, a large semicircular needle is passed subcutaneously from the muco-cutaneous line to the upper border of the pile-bearing area, and then returned to make its exit at the point of entrance. The needle is then removed, and the silk ligature made tight about the venus plexus, and the ends left hanging out. These ligatures may be from one-half to an inch apart as the case may require. It is not necessary to tie all the varices in this way, as the atrophic changes will necessarily obliterate the remaining ones. No tissue is sacrificed; the mucous membrane remains intact; there is no hemorrhage, no infection, no pain of consequence, and the loss of time is practically *nil*. The sutures are allowed to come away of their own accord. The operations made in this way for this condition have resulted in an absolute cure, and the patients have experienced but little pain during the life of the ligature.

Prolapsed rectum is treated in the same manner, except a great number of ligatures are required. If they are properly and evenly adjusted, the atrophy of the tissues is symmetrical, and the pathological condition is relieved without stenosis.

Daniel Drake, or Then and Now.—DR. WILLIAM PEPPER, of Philadelphia, by request, delivered the address on medicine. He selected for his subject "Daniel Drake, or Then and Now." Daniel Drake died in Cincinnati in 1852. He was universally recognized as the leading medical man of the West. He graduated at the University of Pennsylvania in 1816, the exceptional honor of a special commencement held for this purpose being granted to him. He had already practised medicine for twelve years without a diploma, and had won a high reputation by his scientific and literary work. Dr. Drake received no fewer than thirteen separate calls to medical professorships, and actually held at different times nine chairs in five separate institutions, in Cincinnati, Lexington, Louisville, and the Jefferson Medical College in Philadelphia. Dr. Gross, who was a colleague in two institutions, pronounced him the most forceful and eloquent teacher he had ever known.

The Deflected Septum and its Repair.—This paper was read by DR. J. HOMER COULTER, of Chicago. The author first dwelt upon the etiology of the condition. In stenosis of any degree there is created, in each inspiration, within the cavity, a more or less complete vacuum. Thus the atmospheric pressure is to that degree increased and is a constant force of no inconsiderable gravity. He holds further that such a force would be more efficient in producing structural

changes in the cartilaginous septum than would a more violent force suddenly applied, because the natural cartilaginous resiliency would more easily recover and throw off the effect of the latter.

The author then gave the points in the operation, because in the observance of those lies the success of the operator. Where the deviation is well anterior, or involving merely the alæ, it is very much simplified because of convenience in operating and after-treatment as well. Until recent years but little attention was paid to the preservation of the mucous membrane when operating on a deflected septum. A new form of punch was suggested for removing the cartilage and leaving the membrane intact.

A Case of Comminuted Fracture of the Ilium with Specimen and Photographs, by DR. W. F. BREAKEY, of Ann Arbor, Mich. No reports show such an extensive fracture of the ilium as this case. It was literally shattered into pieces. The patient fell ten feet on a pile of stones, producing this fracture and also a Colles's fracture with dislocation of ulna. The patient never rallied from the shock of the accident.

The Treatment of Cancer, by DR. HAL C. WYMAN, of Detroit. The cure of cancer is rare, and unless the treatment is begun early, the disease terminates in death. In the treatment of cancer there is still an open field. The cure by early removal, while the disease is local, is urged and practised by all who have opportunity. But the opportunity will not occur with sufficient frequency to stamp out the disease until the people are educated as to the facts.

Laryngitis from a Rhinological Stand-point.—DR. LEWIS C. CLINE, of Indianapolis, read a paper on this subject. The author adheres to Bosworth's classification of laryngitis, and applies the word *itis* only to inflammations of a purely catarrhal character, which excludes at once, syphilis, tuberculosis, and other constitutional diseases, as they are more properly called syphilis or tuberculosis of the larynx. The cases that are least amenable to treatment are the atrophic, but much can be done to comfort and palliate these cases by attention to dress, stimulant and lubricant applications. For stimulating and astringing he finds nothing equal to nitrate of silver, from 10 to 40 grains to the ounce, according to indications. For overwork cases the first law is rest, with occasional mild, stimulating applications with an atomizer. The great majority of cases that had come under his observation had had atrophic or hypertrophic rhinitis to a greater or less degree. Spurs and deflected septum are often associated with these conditions. The lesions most frequently observed are hypertrophies of the posterior ends of the inferior turbinate body, and a thickened, lumpy condition of the posterior end of the septum. The drill, saw, snare, and galvano-cautery are aids in removing these conditions in the more aggravated forms, while the applications of silver and various astringents with sprays had served the author in the mild form.

The Therapeutics of Oleo-creosote and Creosote Carbonate.—DR. J. A. WESSINGER, of Ann Arbor, Mich., contributed a paper on this subject. He summed up his experience with these remedies in the following conclusions: 1. The dosage is practically unlimited as far as toxicity is concerned, but it is preferable to begin with a small dosage, two to three drops after eating, and increase until the desired result is obtained. 2. To be of value in tuberculosis a clinical diagnosis must be made early. 3. While these agents are distinctly germicidal, they also serve as tissue-builders. 4. Creosote carbonate and oleate have the power of increasing the number of red blood-corpuscles, and they also increase the percentage of hæmoglobin in the blood.

The Bicycle from a Medical Stand-point.—DR. I. N. LOVE, of St. Louis, read a paper with this title. Bicyclists should understand the importance of going reasonably slow. The wheel brings into play all the muscles, and the maintaining of equipoise has beneficial results. The matter of position is important. The rider should maintain an erect posture and not assume an unsightly stoop in imitation of the hoop-snake, which takes its tail in its mouth and sails through the country. A study of the question of the wheel for women had resulted in an opinion favorable to its moderate use in cases of acute diseases. Specialists had agreed to this. Numerous cases of long-standing pelvic diseases had been benefited by a judicious use of the bicycle. Women maintain a better position than men. An hour's wheeling three times a day is ample. The costume is important from the stand-points of health and art. He objected most emphatically to bloomers, which lessened the respect of mankind for womanhood and blemished the landscape. Leggins and accordion-plaited skirts were about the thing. Corsets should be put aside. Skirt and shirt waist were favored, and even the sweater was approved.

The discussion was opened by Dr. C. B. Parker, of Cleveland, and continued by Dr. W. M. Wishard, of Indianapolis; Dr. Sterne, of Indianapolis; and Dr. Walker, of Evansville, Indiana. They all advocated and advised a moderate use of the wheel for both men and women.

A paper was read by DR. T. O. SUMMERS, of St. Louis, entitled "The Physiological Aspects of Leucocytosis," and one by DR. A. GOLDSPOHN, of Chicago, on "The Proper Indications for Repair of Pathological Lacerations of the Cervix Uteri, and for the Relief of Pathological Ante-flexions and the Proper Operations to Meet them."

Election of Officers.—The Nominating Committee reported as follows: *President*, Dr. H. O. Walker, of Detroit; *First Vice-President*, Dr. B. M. Ricketts, of Cincinnati; *Second Vice-President*, Dr. F. C. Woodburn, of Indianapolis; *Secretary*, Dr. H. W. Loeb, of St. Louis; *Treasurer*, Dr. H. N. Moyer, of Chicago; *Judicial Council*, Drs. W. N. Wishard, T. E. Holland, and A. P. Buchman. The report of the committee was adopted and the nominees declared elected.

The Nominating Committee also submitted the following resolutions:

Resolved, That it is the sense of this Committee that the best interests of the Association will be subserved by the appointment of a permanent Executive Committee, composed of the titulary officers of the Association and the ex-Presidents, and that this Committee shall conduct all the business of the Association; be it further

Resolved, That we recommend the creation of the office of Assistant Secretary, to be appointed by the Chairman of the Committee of Arrangements, from the place in which the meeting is held.

On motion, the Association adjourned, to meet in St. Paul, Minn., on the third Tuesday of October, 1896. Dr. C. A. Wheaton, of St. Paul, was selected Chairman of the Committee of Arrangements.

A Woman Coroner. — The Omaha *World-Herald* says that the city physician and coroner of Pender, Neb., is a woman, who was elected unanimously last autumn after she had been but six months practising in the town.

Inherited Age.—Dr. B. W. Richardson gives a series of observations on the duration of life of the offspring as compared with that of the parents. He considers that if the ages of the two parents and of the four grandparents be added together and divided by six, the age of the case in point will be told, with an average variation of not more than two. If the ages of the parents are high the offspring tends to improve on them; if low (say an average of forty or lower), the life of the offspring will probably be still shorter.—*Dublin Journal of Medical Science.*

Clinical Department.

MATERNAL IMPRESSION.

By F. W. MALONEY, M.D.,

ROCHESTER, N. Y.

A Mrs. F—— came to my office in the early part of November, 1894, complaining of a whitlow about her left thumb-nail. She was about six months pregnant. The pain was severe, and I made a small incision to let out the pus and applied antiseptic dressings.

On the 25th of last month I was called to attend her in confinement, and delivered her of a male child. While examining the infant, as it was being washed by the nurse, I found that the left thumb was bifid, that is, there was a supernumerary thumb fully formed with nail, apparently grown out of the primary articulation of the first phalanx. The double thumb gives a V-shaped appearance. The mother is of an extremely nervous character, and I have no doubt that this is a clear case of maternal impression.

A CASE OF PILONIDAL FISTULA.

By HARLAN M. PAGE, M.D.,

HIRAM, O.

PROFESSOR OF MEDICAL SCIENCE AND BIOLOGY IN HIRAM COLLEGE.

Mr. H. V——, aged twenty-three, stalwart and strong, with negative family history, sought relief at my hands for a discharge from the anal region, which he had first noticed as staining his linen some four weeks prior to this consultation, which was February 10, 1894. On inspection I found two small apertures—the lower one at about the sacro-coccygial articulation, and the other about an inch above. On pressure I was able to bring to light some considerable pus from both openings, which especially attracted my attention in that it was devoid of odor. I next demonstrated the existing channel between the two openings by the injection of peroxide of hydrogen, which procedure is to my mind much more satisfactory than the use of the probe, which so often is made to demonstrate fistulæ and sinuses which exist only in the mind of the operator. Failure to pass either peroxide or probe into rectum committed me to the diagnosis of incomplete external fistula. As the patient had never suffered from constipation and was unable to recall the receipt of any injuries in this region, I finally concluded that much riding upon a hard and often damp seat of a meat wagon must stand responsible, at least tentatively. The patient fearing the knife, I began the use of nitrate of silver applications, following thorough cleansing by peroxide of hydrogen; and after pursuing this course for some ten days, I was slightly surprised to find at one of the openings, in the débris which the peroxide of hydrogen had brought out, a dozen or fifteen hairs about three-fourths of an inch in length and arranged in the form of a little curl. I continued my treatment for another ten days, with no improvement; however, the daily appearance of two or three hairs was slowly stimulating my mind to a new diagnosis. I finally recalled an obscure sentence in Ashhurst's surgery, which I quote: "It must be remembered that every sinus in the neighborhood of the anus is not necessarily a fistula in ano; it may, for instance, be connected with caries or necrosis of the tuber ischii; may depend upon the pressure of a tuft of hair, as in curious cases observed by J. M. Warren and other surgeons, including Lamadrid Gaston, Wyeth, and myself; or may communicate with an abscess arising within the pelvis or proceeding from the hip-joint." Having verified this memory, I looked in vain through my library and journals for another hint on this subject. At the next visit I made a free incision connecting the two openings, and was rewarded by bringing to the surface a tuft of perhaps a hundred hairs. Curettement and the application of pure carbolic acid secured an early termination to this rather unusual case, which I suppose must be explained as resulting from the invagination of epithelial cells during the embryonic development of the individual. How much the irritation of the hard, damp wagon-seat had to do with bringing the trouble to light we can only conjecture.

DERMOID CYSTS AND PREGNANCY.

By JOHN A. PRINCE, M.D.,

SPRINGFIELD, ILL.

Mrs. H. D. E——, aged twenty-six. About four months ago she first noticed a growth in the right side of the abdomen, quite low down, which has been steadily enlarging and occasioning considerable pain. Menstruation ceased about a month before she noticed the tumor. She says her mother told her that when she was a child there was a tumor present, which as she grew older disappeared. An examination revealed the uterus, about five months pregnant, high up, with the os close up against the pubic bone, and the fundus to the right. This composed the tumor noticed by patient. Occupying the pelvis was a cystic tumor about the size of a cocoa-nut.

An early operation was advised, and done a few days later, April 6, 1894. Considerable difficulty was experienced in removing the growth, necessitating the removal from the abdomen of the fundus uteri, in replacing which a good deal of manipulation was necessary. This was finally accomplished by passing a tube down alongside of the uterus into the pelvis, permitting the air to escape; then the uterus slipped in easily.

The tumor contained an oily fluid of the consistence of melted butter, and a large mass of hair. On April 12th, six days later, there were strong signs of labor, but they subsided under appropriate treatment. There was a normal labor at term, and mother and child did well.

SUCCESSFUL USE OF ANTITOXIN FOR DIPHTHERIA IN COUNTRY PRACTICE.

By DANIEL B. SPRECHER, M.D.,

SYKESVILLE, MD.

On April 29th the grandmother of a family, in which there were five children ranging in age from twenty-three months to eleven years, died, was placed on ice in an ice-box, which was found to have a broken or cracked zinc lining running two-thirds the length of one side, the wood under the fissure being in a soggy state. With the melting of the ice there began dripping from this side a stringy, slimy, mucus-looking substance, together with an odor so horrible and sickening as to require the removal of the box and the adoption of other methods of preservation of the body. Upon the return of the funeral party the granddaughter, eleven years of age, was directed to wash and wipe up the stains on the floor made by drippings from the ice-box. This she did thoroughly, and on Saturday, four days later, complained of sore throat, fever, and general malaise. The next morning it was ascertained she was suffering from diphtheria. Membranous deposits over tonsils, pharyngitis, lymphatic tumefaction, with characteristic nasal conditions, appearing in a few days.

Notwithstanding isolation was prompt and apparently thoroughly maintained, the youngest child fell a victim to the disease ten days later. On the third day of its illness croup complicated the case, but under

treatment apparent relief was obtained, till the following evening, when it (croup) reappeared in such a serious form that I called Dr. L——, a fellow practitioner. He advised tracheotomy. To this the parents objected. I then called attention to antitoxin and obtained consent to its use. The next morning 10 c.c. of Berling's antitoxin was injected in the region of the left hip. Two hours later the struggling for breath, which was painful to witness during the night, together with cyanosis, coldness of extremities and anxious restless movements of child, grew calm, easy, and sleep followed, as did also glowing surface and slightly accelerated temperature, rising from a subnormal of 98$\frac{4}{10}$ to 99° F. The sleep continued for four hours, disturbed more or less from coughing, after which the child awakened refreshed, asked for beer, and drank heartily. Five cubic centimetres were injected the next day in opposite hip. On inspection of membranous patches as far as could be seen in the throat they seemed to dissolve away to thinness. The 15 c.c., together with a spray of peroxide of hydrogen, twenty-two per cent., and lime-water inhalations secured constant improvement, ending in recovery within a few days.

Interesting facts: 1. Inspection of the premises failed to reveal any cause for diphtheria; absolute absence of diphtheria in neighborhood; no history of diphtheria in any person or family attending funeral. Suggest cause to have been a contaminated defective ice-box. 2. The prompt and wonderfully efficient action of antitoxin, even after the disease has invaded the laryngeal passages.

MORPHINE POISONING.

By A. C. McDONALD, M.D.,

WARSAW, IND.

At 6.30 A.M., August 22d, I was called to a young man, aged eighteen, who had taken twenty grains of morphine with suicidal intent. He was in a condition of profound stupor, almost comatose, with respirations four a minute; pulse 110, and fairly strong; pupils like pinholes. It was thought that he had taken the drug at bedtime, and consequently did not resort to the stomach-pump at once.

Atropia, $\frac{1}{100}$ grain was injected hypodermically, and permanganate of potassium, 10 grains, was given both internally and hypodermically. In the course of an hour, at 7.30, his condition was apparently not improved. I now injected strich., sulp. $\frac{1}{10}$ grain, and half an hour later his respiration reached five or six a minute. At this time he aroused himself sufficiently to tell that he had taken the poison at five o'clock. Considering the quantity was large I sent for Dr. White to help me use the stomach-pump. We thoroughly washed out the stomach. He still continued in a deep stupor, from which we could not arouse him save with electricity; when aroused his respirations generally increased about one a minute.

His respiration from this on was sustained by strych. sulp., $\frac{1}{10}$ grain every hour or two, according to condition of respiration. Of this he had taken about ¾ of a grain in all in the twenty-four hours without any symptoms of strychnine poisoning. At 6.30 P.M. patient seemed sufficiently improved that I thought it safe to leave him with nurse and his father, who was a physician. They walked him about considerable after I left. I was soon called back in haste, and found him completely comatose, with pulse 160, scarcely perceptible; respiration two a minute. I now injected spirit of ammon. arom. and tincture of digitalis every fifteen minutes. Condition appeared almost hopeless at this time. Ammon. and digitalis were repeated every fifteen minutes, with occasional trial of artificial respiration and strychnine. Patient soon improved, with respiration ten or twelve. Pulse, 150.

Patient was now allowed to sleep while respiration kept up, and heart sustained with ammon. and strychnine during the night. At 6 next morning patient was conscious and recovery soon followed.

The above case seems of interest from three points of view. In the first place, the apparent inefficiency of the potassium permanganate in spite of the reported success by many physicians, particularly Dr. Moor. Secondly, the greater efficiency of strychnine as a respiratory stimulant compared with atropia. I believe the former should be used more in these cases and in larger quantities. I am sure I could have used more with perfect safety. Thirdly, the great harm that can be done by exercising an exhausted patient. I could scarcely persuade his father that exercise simply helped, in the absence of other sources, to keep patient awake that he might voluntarily help in maintaining an exhausted respiratory centre.

The severe exercise baffled an exhausted circulation, and a patient which was apparently doing well might easily have been lost by rash and injudicious treatment.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE BATTLE OF THE CLUBS AT CORK—THE JUDICIAL PERSECUTION OF DR. ANDERSON—THE LUNACY REPORT—HEALTH OF LONDON.

LONDON, September 7, 1895.

THE question of club attendance at Cork is not yet settled. A conference was lately held, at the instance of the Mayor, between representatives of the clubs and the profession. The rules agreed to by the doctors were carefully considered seriatim, and some modifications were accepted to meet the views of the clubs. But these concessions did not satisfy the delegates, who wanted the doctors to take into association and meet in consultation the three practitioners who had been imported to carry on the contest. This proposal was repudiated by the representative doctors, who declared that under no circumstances could they hold professional intercourse with these persons. As the delegates from the clubs stood firm on this point, the conference proved a failure. The three young men who went to Cork to supersede those who were fighting the battle of the profession, knew very well what they were doing, and can hardly have expected that they would be received as professional brethren after they had behaved in this way. It is to men of this stamp that the profession owes many of its troubles, and they must take the consequences of their disloyalty. If they have no regard to professional honor, they would do well to follow some calling in which the conduct and feelings of a gentleman are not expected. It is, alas, true that in the higher walks of the profession similar conduct has been known—witness the Throat Hospital case in London—but that is no excuse, and the profession in London ought not to show itself less alive to its honor than in Cork. It would be well if the example of Cork should be widely imitated.

The case of Mr. R. B. Anderson excites considerable interest and deserves all sympathy. He is undoubtedly the victim of a monstrous injustice. His wrongs were so manifest in Tobago that he was sent by public subscription to England to appeal to English courts against the partiality and malice of the local judges. In the Queen's Bench the facts proved could not but excite astonishment. A Royal Commission was issued to inquire into the administration of justice in Tobago. The result was that one of the judges was removed from office, the other was interdicted pending the trial of the charges against him, but he has in the meantime died. The jury found a verdict amounting to malice in the

exercise of their functions by the judges, and awarded damages. But the judge entered judgment in their favor on the ground that no action lies against a judge for an act done in his judicial capacity, and this ruling has been confirmed by the Court of Appeal. It is therefore clear that Dr. Anderson is the victim of a persecution which disgraces the judicial bench, and for which the law provides no redress. The boast of lawyers that "every wrong has a remedy at law," is therefore shown to be a fiction, and the immaculate purity of English judges must be held with reserve until the Bench find some method of upholding the right, punishing any offending member, and compensating the victim of such persecution. Dr. Anderson has maintained his honor against all the difficulties thrown in his way by judicial persecutions, but at what a cost! practically ruin. The prosecuting judicial criminals ought to be made to compensate him and to retire for a season to the seclusion of one of her Majesty's prisons. Such an example would do much to restore confidence in British justice and the impartiality of the English Bench. If no way can be found of making such an example, Parliament should interfere. No doubt the ministry would be willing to promote an act of simple justice if the Bench would unanimously recommend some such method of upholding its honor.

The Forty-fifth Report of the Commissioners in Lunacy shows an increase in the number of patients on January 1, 1895, over that of 1894. There has in fact been a continual increase for many years, but it does not follow that lunacy is absolutely increasing in the country; more persons are now received in the asylums on account of the mental decay of old age. Then there is the constant accumulation of chronic cases and the diminution in the death-rate. Taking these and other circumstances into account, it is probable that the nation does not contain a larger number of lunatics of late years, but the subject has certainly received more attention than formerly.

The Registrar-General's returns for the week show a slight decrease in the deaths from small-pox and scarlet fever, but there is an increase in the mortality of whooping-cough and diphtheria. Still the deaths from all causes were ninety-eight less than the decennial average. Our annual death-rate per 1,000 has fallen from 17 to 15.9, and for a month past the average has only been 17.3, which is 1.1 below the mean rate of the last ten years, so that London cannot be called unhealthy.

INTERNATIONAL LANGUAGE.

To the Editor of the Medical Record.

Sir: It is impossible to answer in the form of a short letter the remarks of Dr. Ferd. C. Valentine on the question of an international language, which appeared in the Medical Record issue for August 24, 1895. While I intend at some future time to enter quite thoroughly on the choice of Dr. Valentine to have the Spanish in preference of the Greek language, and to give full credit to some of his observations which are quite correct, I wish to call attention to-day to a word in favor of Greek, said in the year 1824, that is before Greece had become a nation again, by one of the noblest Philhellenes, the great philologist, Claude Charles Fauriel:

"The modern Greek is a language remarkable in every respect. Having a foundation as homogeneous as but even richer than the German, being as clear as the French, smoother than the Italian, and more harmonious than the Spanish, there is nothing wanting to consider it from this time on as the most beautiful language of Europe. She is without the shadow of a doubt the most perfect. If she can be compared with any idiom, it is with the one from which she originates, and of which she is a new phase. Granted there were some inferiority, it will be only temporary. Let the Greeks become a nation; let this nation have great writers who understand well that the glory and the prosperity of their country are things of the future, not only of the past; that these things are before them, not only behind them; that they are to come in the ordinary run, and not by the vain attempt of a return to the past; and the modern Greek will soon be a language which, without resembling more the ancient as it does now, will have no cause to envy it."

A. Rose, M.D.

336 East Fifteenth Street.

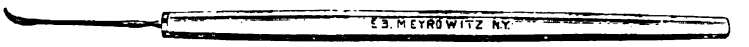
New Instruments.

A KNIFE-NEEDLE FOR DIS-CISSION OF THE CAPSULE AFTER CATARACT EXTRACTION.

By JOHN E. WEEKS, M.D.,

NEW YORK.

The instrument described here was devised for the purpose of discission of the lens capsule (not thickened by inflammatory reaction), which remains after the extraction of cataract, with the least possible traction on that membrane. The endeavor has been made to produce a knife in the use of which the cutting edge may be made to present at right angles to the plane of the capsule at all times during its passage through the membrane. For this purpose a curved knife-needle has been devised so made that the incision through the



cornea is perfectly filled by the shank after the blade has entered the anterior chamber, preventing loss of the aqueous tumor. In order to have knives suitable for all cases they are made in sets of three, each set containing a knife have a cutting edge of 3.5 mm., 4 mm., and 5 mm. The blade is about two-thirds of a millimetre wide in its widest part. The curve of the blade, which begins near its heel, is such that the extreme point of the blade is found to be about two millimetres distant from a line projecting along the axis of the shaft. The concave edge, the point, and also the convex edge to a distance of 1 mm. up from the point, are made as sharp as possible.

The passage of the knife through the cornea is not so easily effected as with the straight knife-needle, since the curve of the needle must be followed in order to avoid making an incision too large to be filled by the shank. The needle is entered on the flat, penetrating the cornea at a point on the horizontal meridian midway between the centre and the temporal margin of the cornea. The cutting edge is turned toward the capsule after the blade has passed fully into the anterior chamber; the knife is withdrawn in the reverse order.

The curved knife-needle appears to possess the following advantages over the straight knife-needle: 1. The incision through the capsule can be made with more ease and certainty. 2. The traction on the ciliary processes, through the medium of the capsule, is less. 3. It can be manipulated more easily when the blade is in the anterior chamber. 4. The point of the knife need not enter so deeply into the vitreous humor.

The knife is made by E. B. Meyrowitz, New York.

American Students in France are admitted to the higher courses of instruction in the medical and other faculties of the universities, but cannot obtain degrees unless they have already a French bachelor's degree. A movement is under way to admit to the higher degrees graduates of American universities of good standing.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending September 21, 1895.

	Cases.	Deaths.
Tuberculosis	80	120
Typhoid fever	48	17
Scarlet fever	19	1
Cerebro-spinal meningitis	3	3
Measles	38	5
Diphtheria	101	12

Pseudo-meningitis. — Dr. Krannhals reports seven cases in which the symptoms were almost exclusively nervous, and in which the diagnosis of meningitis was made, although some of the more characteristic symptoms were wanting. One case ended in recovery; the termination of another could not be determined; five died. The findings at the post-mortem examination did not confirm the diagnoses, there being no exudate, no inflammatory turbidity, nothing but hyperæmia and œdema of the pia, and a varying number of hemorrhages in the same membrane. The microscopical examination of two cases confirmed the pre-eminent hemorrhagic character of the affection, and the absence of any real inflammatory changes, if one does not regard as such the œdema of the pia, which in reality had the character of an œdema due to congestion rather than inflammation. The brain itself showed no inflammatory changes; on the contrary, here and there, in the superficial layers of the cortex, there was a retrograde metamorphosis, a beginning necrosis due to a disturbance of the circulation brought about by the numerous hemorrhages in the pia. Bacteriological examination of the meningeal serum of three cases proved negative. Krannhals seeks to explain an intimate relationship between influenza and these cases of "pseudo-meningitis," occurring as they did during the spring of 1890, following the influenza epidemic. He believes that the symptoms of the cases of "pseudo-meningitis," due to some infectious process, and of acute meningitis in general, depend especially upon the action upon the central nervous system of certain toxines, and secondarily upon the anatomical lesions present.—*University Medical Magazine.*

Texas Fever.—It has long since been observed that this disease is of an entirely infectious character; that it is not communicated from cattle to cattle by direct contact, but that cattle bearing the infection, when allowed to graze on uncontaminated grounds, will sow the infection, being all the time in apparent health themselves, in which condition they will remain. When susceptible cattle are allowed to graze with such cattle, or have been allowed to occupy pastures that have been occupied by such cattle, they will contract the disease and die. This curious fact that cattle can spread fatal infection on susceptible grounds while they are in apparent health and remain so, is explained by numerous observers. The cattle that are raised from birth on the range lands acquire an immunity against the disease, by gradual inoculation as it were, and if they are ever affected, it occurs during their early life, assumes a light form, from which they recover. At an early date in the investigation of this disease and its manner of communication, it was observed that the cattle-tick, that abounds on all the range lands of the infected area, was nearly always present in large numbers where outbreaks occurred, and was in some way connected with the communication of the disease. Experiments made by Dr. Theobald Smith, Pathologist for the Bureau of Animal Industry, revealed the connection the cattle-ticks have with the communication of the poison that produces the disease. When fully matured the ticks drop from the cattle to the ground, lay their eggs and perish, thus ending their life history. The young ticks are hatched in from fifteen to thirty days, and at once get on the cattle, from which time their growth is rapid, and it is during this time that they inoculate the susceptible cattle and cause the disease.—*Tennessee State Board of Health Bulletin.*

The Duties of Medical Societies.—In the account of the meeting of the British Gynecological Society which was published in *The Lancet* of July 6th, it is stated that the first business of the society was to witness three specimens: 1, that from a case of suppurating ovarian tumor with purulent peritonitis and adhesions; 2, fibroma of the uterus removed by enucleation; and 3, total extirpation of the uterus and ovaries for prolapse. With regard to the third case a few remarks are, we think, called for. The surgeon who narrated the case explained that for the prolapse he tried the use of pessaries, and not succeeding therewith he decided to remove the uterus and appendages, the patient being a woman aged thirty. We do not pretend to write as gynecologists; but we do not for that reason feel it at all less binding on us to say that in our opinion the reasons for this procedure require to be more fully set out than appears to have been done at the society. We note that the president (Dr. Godson), Dr. Routh, and Mr. Taylor, of Birmingham, criticised the procedure in a tone of disapprobation. Ordinary surgery has become more conservative with its increased powers. The removal of a leg is felt to be an unsatisfactory and opprobrious proceeding, except as a last measure of relief. *A fortiori*, any operation involving a much more serious mutilation must be so regarded, and we are of opinion that a society before which such cases are recorded does not discharge its duty without investigating the case by a committee appointed for the purpose, and placing its deliberate judgment on the facts on record. The amount of suffering and disability experienced by the woman, the precautions taken by the surgeon before operating, and the degree to which he shared his responsibility by consultation and by full statements of the facts to the patient, are obvious matters for inquiry. We gather that the operator acted with perfect satisfaction to himself in what he did, and doubtless when the full facts are known we shall find with perfect propriety. But for the sake of the reputation of surgery, and especially of gynecology, we maintain that the facts should be fully investigated and published by the society, which has in a degree incurred responsibility in connection with the case.—*The Lancet.*

A Hospital on Wheels.—One of the most novel of the recent achievements of modern philanthropy is the invention of a hospital on wheels. This evolution of the travelling van is due to the genius of a Scotchman, Dr. Wylie, of Pathhead. The advantages of the plan are many and obvious. An infectious patient can be called for and carried off bodily into the midst of beautiful scenery, where he can be nursed back into health and strength under the care of the local doctor. Under such circumstances it would be of course easy to provide for the most perfect isolation. In the middle of a moor, for instance, isolation is, so to speak, automatic and inherent. The risk of conveying infection would arise mainly during the passage of the caravan from starting-point to destination. In fine summer weather the plan is simply fascinating. A larger hospital can be made by knocking out the ends of two wagons and joining them together. The attractiveness of Dr. Wylie's *al fresco* hospital, however, would most likely be considerably lessened or altogether banished by bad weather or by the advent of winter.—*The Medical Press.*

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Original Articles.

THE CLINICAL ASPECT OF DYSPEPSIA.[1]

BY SIMON BARUCH, M.D.,

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As a disease dyspepsia fortunately disappeared from our text-books, and, perhaps, less fortunately, it is rarely chosen as a subject for society discussion. As a pathological entity dyspepsia no longer exists, but as a curse to mankind in every station of life, its existence is a sad reality, as every practical physician has ample opportunity to observe. My choice of so homely a subject for a paper before the society may evoke some criticism, which I do not hesitate to encounter. A discussion of dyspepsia may not be invested with the glamour and prestige of the grand surgical achievements with which visiting colleagues from the great medical centres are wont to regale you; the mental and physical suffering, the loss of time and money which are involved in it, and the enormous number of people afflicted by it, lend a dignity to the subject which no surgical achievements of this great surgical era may exceed. In the humblest, as in the most palatial, homes this arch fiend makes human beings miserable and sends them sooner or later to the physician. Can we dismiss these sufferers by telling them that dyspepsia is not a disease? They come to us for treatment. How can we relieve them, *tuto, cito et jucunde!* This is the pressing question for us.

It is a happy circumstance, for both physician and patient, that dyspepsia has ceased to be recognized as a disease against which our materia medica must spend the force of most of its agents. The realization that dyspepsia (δυς—difficulty; πεπτω—to digest) is a symptom or manifestation of various diseased conditions of the stomach, and not infrequently also of no *stomach* disease at all, is the most important step to its more successful management. The symptoms which may be grouped under this term are general and local. The general symptoms, *i.e.*, those affecting the entire system, are, as you well know, innumerable; there is not a disease whose "livery may not be worn" by dyspepsia. They range from the most serious psychoses (which the ancients have not inaptly termed hypochondriasis) to all those minor disturbances which are but too often erroneously grouped by superficial observers under the appellation of neurasthenia.

Moodiness leading to introspection, sluggish mental action, loss of memory, enfeebled muscular power, giving rise to exhaustion after the ordinary duties of the day, which in health were performed without effort; vertigo, insomnia, cardiac, pulmonary, and lumbar aches and pains which render the patient miserable by referring them to brain, heart, lung, and kidney diseases; headaches of various types, dyspnœa from the mildest form to the most labored respiration; intermittent pulse, tachycardia—these are some of the manifestations that may be traced to difficult digestion. These general manifestations are the chief source of discomfort and unhappiness. Which of us has not been consulted by some anxious dyspeptic, who brings a tale of woe centring around a pain in the heart, with palpitations, etc., which literally "vanishes into the thin air" when an alkaline carminative is administered? How many weary dyspeptics bring in a bottle of urine, containing a thick sediment of phosphates or urates which they interpret into kidney disease. Such cases of so-called liver disease formerly came to me almost daily when I practised in Camden, where they doubtless come to you in great numbers. Such cases crowd the consulting-rooms of the metropolitan doctor, taxing his utmost resources of tact and therapeutic skill. When they are carefully questioned and each organ is successively interrogated, the stomach often stands out as the sole culprit. A cloud is lifted from physician and patient alike by a thorough analysis of all the symptoms. As in all other diseases, a painstaking examination is the most important element in the management of dyspepsia. I shall presently show that time spent for this purpose is well spent in the interest of both patient and physician. Without asking leading questions, we may often obtain a history of abnormal sensations and taste in the mouth and fauces; loss of appetite, nausea and vomiting, a sense of fulness, oppression, distention, distress, or pain in the region of the stomach, which is absent before breakfast but more or less persistent throughout the day. We may learn of eructations of gas, acid, or water, following more or less rapidly after each meal. There may be pyrosis, nausea, vomiting, etc.

The interpretation of these symptoms of difficult digestion has passed through many phases. As it furnishes us often a clue to their management it may not be without interest to summarize briefly their conception at the present time.

1. *Loss of appetite* may be due to a sense of satiety arising from overdistention of the stomach by gases or particles of undigested food, which are retained by reason of enfeebled motor power of the stomach. In the form of repugnance to food it may be traced to that often groundless apprehension of impending gastric disturbances ascribed to almost every kind of food, which is a common observation among nervous dyspeptics. It may be well to bear in mind that in organic disturbances of the stomach the appetite is usually fair, sometimes good.

2. *Sense of fulness and pressure in the epigastrium*, which the patient usually designates as "a weight in the stomach." This symptom is readily accounted for by dilatation of the stomach and by its retention of fermenting and fermented particles of food, and gases arising from them. That gases form in the stomach in certain types of difficult digestion is evidenced, not only by these eructations, but actual demonstration of their presence has been made by reliable chemists. Formerly the idea obtained that decomposition of food and consequent fermentation giving rise to gases, only occurred in the absence of a sufficient quantity of hydrochloric acid. This error has been disposed of by Hoppe-Seiler, who demonstrated that hydrogen arising from butyric acid fermentation may be developed in the presence of two per cent. of hydrochloric acid in the stomach; but when free hydrochloric acid is entirely absent, a large quantity of CO^2 was found. The intensity and extent of the fermentation depends upon

[1] Read before the South Carolina Medical Association, April 23, 1895.

the quality of the food and upon defective motor power of the stomach, which delays the passage of digested and undigested food particles into the upper bowel, and thus renders the usual quantity of HCl in the stomach insufficient to prevent alcoholic, lactic, and butyric acid fermentation. Even decomposition, evidenced by evolution of sulphuretted hydrogen, may occur, and may be clearly recognized in the eructations. Thus may the stomach be distended and, pressing upon the diaphragm, produce a sense of oppression which renders the patient miserable and despondent, and casts a gloom over his whole life. It should be borne in mind, however, that in certain nervous dyspepsias these symptoms are present without manifest organic changes, and in a perfectly empty state of the stomach the eructations sometimes even consisting of swallowed air.

3. *Absolute gastric distress or pain* may arise from various causes. In gastric catarrh fermentation of the contents may cause so much distention of the stomach that pain is experienced which does not yield to anodynes. Pain is not, however, so frequent in this condition as in gastric ulcer or in nervous dyspepsia. The term "gastralgia," usually applied to these pains, is misleading, because its treatment is apt to be symptomatic, viz., by anodynes. A correct differential diagnosis of acute gastric pains may be obtained only by a correct understanding of its causation.

In gastric ulcer the pain is chiefly due to irritation by the secreted hydrochloric acid of the delicate nerve endings which the ulcerative process has exposed. Hence we have a distinctly localized pain of a burning, agonizing character, radiating to, and often felt in, the region of the dorsal spine; it is increased by pressure, if the latter happens to be made near the locality of the ulcer; it is aggravated by any kind of food, but more especially by imperfectly chewed solid food. Fortunately, *we have an almost certain diagnostic sign* in the efficacy of alkalies for the subdual of this kind of pain. Even when large doses of morphine have failed I have seen pain from ulcer of the stomach disappear as if by magic after a dose of magnesia. I have in mind a haggard, sallow-faced lady from San Francisco, who had come to New York to consult a noted specialist with regard to a severe gastric pain, which recurred at intervals and was sometimes accompanied by jaundice. This gentleman had examined her carefully, and concluded that there was no disturbance which required treatment at his hands. In pursuance of this opinion she had decided to return home on the following morning. This plan was, however, frustrated by the sudden illness of her child, which I was called to attend. Suffering severely one evening, she gave me a history of her case and asked my advice. I declined a positive opinion until morning, and stated that if her pains should be relieved by the powder which I prescribed for her (bismuth subnitrate and magnesia, ust. āā gr. x. every three hours), I should decide upon the diagnosis of ulcer of the stomach, and advise her to remain six weeks for treatment. If, upon the other hand, the gastric pains remained unrelieved in twelve hours, I should agree with her previous medical adviser and consent to her returning home. On the following day she was entirely free from pain, and by reason of the positive opinion expressed, she consented to remain under my care. The treatment adopted successfully in this case will be referred to later. I desire here only to emphasize the diagnostic value of alkalies. In gastric pains due to *nervous dyspepsia* alkalies would afford some relief, but not entire removal. The pain in these cases is not so distinctly localized, but more diffused; it is not acute and boring, but rather spasmodic, somewhat relieved by eructation and uninfluenced by food. It is at times so severe that a condition of collapse may ensue, evidenced by cold extremities, pallor, and feeble pulse. Such cases may be differentially diagnosed sometimes by the co-existence of a systemic neurosis and by hyperæsthesia of the abdominal parietes, which not infrequently yield to deep pressure. Such attacks often resemble angina pectoris. I have seen two cases mistaken for the latter by two prominent diagnosticians in this city, and one of my own cases afforded a similar observation.

At this point a form of gastric pain may be referred to, whose early recognition is of great diagnostic importance, viz., the gastric crisis of Charcot. Its peculiarity is a periodical character, its great intensity, spasmodic type, and tendency to radiate downward and backward. The vomiting which almost invariably accompanies without relieving it, renders it characteristic of *locomotor ataxia*. At any rate, it is always safe to examine the tendon and pupillary reflexes of patients suffering from periodic severe gastric pains and vomiting. Much bootless medication and groping in the dark, which discredits the physician, would be spared by such a course.

Pyrosis or heart-burn is one of the prominent symptoms of difficult digestion. This is no longer regarded as due to regurgitation of acid fluids from the stomach to the œsophagus, for it has often been found to exist when the stomach-tube failed to discover any fluid at all. It is now regarded as a neurosis affecting the motor apparatus of the stomach.

Nausea and vomiting are not infrequent manifestations of difficult digestion. In long-persistent gastric catarrh, when large quantities of tenacious mucus line the mucous membrane, nausea is not rare; it is often the result of overdistention of the stomach by fermenting materials, being more of a gulping up of the latter than a real expulsive act. Frequent vomiting of food is a serious symptom (except in hysteria), always indicating organic changes in the stomach, the most grave of which is cancer. In the latter a long period usually elapses between ingestion and vomiting of food. Its expulsion, unchanged or decomposed, affords a clew which may be verified by other symptoms, as cachexia, malnutrition, the presence of a tumor, and the presence of lactic acid in the test-meal. Having now briefly passed in review the local manifestations of difficult digestion, and the manner in which they may aid in our diagnostic search, which is, after all, the great prerequisite to successful treatment, I desire to refer to a rapid and practical method of securing confirmation or rejection of the diagnosis obtained from the subjective signs of dyspepsia.

The number of chemical tests which have been proposed for the purpose of obtaining a reliable measure of the digestive capacity of the stomach is bewildering to the general practitioner. One by one I have abandoned them, except in obscure cases. There is a simple method which I would commend to your attention, and by which we may ascertain without much delay, and with sufficient accuracy for all practical purposes, not only the type of dyspepsia we have to deal with, but to a certain extent also the dietetic and other treatment most appropriate for the case. I refer to the stomach-tube, which is doubtless familiar to most of you. Ordinary cases of dyspepsia do not require its application; they usually yield to a properly directed treatment without much difficulty. In cases of chronic, obstinate, and long-persisting dyspepsia, however, I advise the patient to eat a good meal of mixed food, especially enjoining upon him to consume those articles which he has long avoided as indigestible. He is requested to appear at my office five hours later for examination of the stomach contents. A strong elastic tube of one-eighth to one-half inch in diameter, which is sold for that purpose, is introduced into the stomach, six ounces of warm water are poured into it from time to time, and siphoned out into a basin. In gastric catarrh the latter will contain large quantities of thick gelatinous mucus, floating upon the surface of the water, débris of food, sometimes unchanged and partly digested, which sinks to the bottom, and much foam from gases of fermentation. If after five hours much

food remains in the stomach, second and third examinations are made, prolonging the interval between eating and examination an hour each time, until eight hours have been reached. It has been definitely ascertained by Kretsch, who examined patients suffering from gastric fistulæ with the stomach-tube, that a moderate breakfast of rolls and coffee is digested in four and a half hours, a good dinner of mixed food in seven hours, and that during sleep seven to eight hours are required for the disposal of an ordinary supper by the healthy stomach.

If the patient be unable to eat a large test-meal, a smaller one, consisting of bread and tea, is ordered, and he is examined two or three hours later by lavage, in order to test the motor capacity of the stomach. If we have a case of nervous dyspepsia to deal with, *i.e.*, a dyspepsia without organic changes in the mucous lining, neither mucus nor food will be found, or these will appear in very small quantity.

This is a very simple method of diagnosis, and seems, in contrast with the elaborate chemical tests practised by our friends the gastrologists, almost insignificant. Far be it from me to underrate the value of the test-meals of Ewald and others, one of which consists of a roll and a glass of water, which are siphoned, or rather drawn out, an hour or two later, filtered and examined for hydrochloric acid, ferments, and other elements involved in the digestive act. These tests, let me urge, are troublesome and by no means accurate, or well established. Each prominent gastrologist has a method which he regards as superior to the fallacious method of his confrère. For instance, there is not, according to Ewald, at the present time a single unobjectionable or exact procedure for the estimation of the exact quantity of hydrochloric acid contained in the stomach. Again, for a long time the mere absence of hydrochloric acid from the contents of the stomach, an hour after a test-breakfast of rolls and water, was regarded as pathognomonic of cancer. Now this is proven fallacious, it having been shown that only in open ulcerative cancer of the stomach is this the case, because the secretions from such surfaces neutralize the acid. I may say, in parentheses, that at the present time the presence of a considerable quantity of lactic acid after a test-meal is regarded as a positive sign of gastric cancer. These tests may serve a useful purpose, nevertheless, in very doubtful cases, in which clinical signs are insufficient or difficult of interpretation. They may be resorted to in cities where chemists and specialists abound. But I desire to impress upon you the fact that for all practical purposes, in the majority of cases the practitioner is competent to make a diagnosis, without these tests, with sufficient accuracy to treat the patient, if he exercise care and judgment. It must be conceded that if we find, upon examining the contents of the stomach five or six hours after a hearty meal, that every particle of the latter has been disposed of, we have good reason to believe that the patient's acids and digestive ferments, as well as the motor or propulsive capacity of his stomach, are normal. This is the outcome of personal observation during a period of thirty years, before and since the modern tests and methods, all of which I have faithfully practised, came into vogue. I well remember two cases of cancer of the stomach in which the chemical signs were plain, in one of which a morning irrigation of the stomach brought out putrid detritus of a meal taken twelve hours previously. In both cases a noted specialist in stomach disease, whose good work in this branch induced me to consult him, declined to say positively, from his analysis, that the patients suffered from malignant disease. Both patients died, one after an operation. On the other hand, I have recently been consulted by a gentleman who gave a history of having been treated for several years by gastrologists. Boas had pronounced his case nervous dyspepsia; a New York specialist called it gastric catarrh and made him "swallow electrodes and undergo all kinds of torture," as he expressed it, without result. Another specialist gave him a test-meal and pronounced his case nervous dyspepsia, with poor digestive power. When he applied for water treatment, which had benefited him a year ago more than stomach treatment, I found him greatly discouraged by the disagreement of the specialists and their failure to remove his dyspepsia, to which he insisted upon being a martyr. A full dinner was ordered for him, with the injunction to eat such articles as he had avoided as indigestible, including chocolate éclairs, whose mention even horrified him, and to report five hours later. When he witnessed the irrigation of his stomach and saw no return of undigested food, the water returning perfectly clear, he exclaimed: "Now I am convinced that my digestion is normal, and I shall no longer worry myself about dyspepsia!" Such positive demonstration is more valuable than chemical tests, especially for its moral effect in those cases of nervous dyspepsia which are the bane of the doctor's life.

Treatment.—A differential diagnosis having been clearly established between gastric catarrh, nervous dyspepsia, and gastric ulcer—the three most prolific sources of difficult digestion—each disease demands a specific, distinct mode of management.

Gastric catarrh is, according to my personal observation, the most frequent cause of dyspepsia in rural districts and in the smaller towns; nervous dyspepsia bearing an equal share of prevalence with it in the larger mercantile and manufacturing centres. In discussing catarrh of the stomach, it is important to disabuse ourselves of the idea, which is but too freely adopted, that it is like other catarrhs, for instance, catarrh of the pharynx. The latter is chiefly a hypersecretion arising from inflammation of the epithelial stratum of the mucous membrane. Inasmuch as the lining membrane of the stomach differs materially from that of the pharynx in structure and function, its inflammations assume quite a different aspect. The cylindrical epithelium of the gastric mucous membrane is continuous into the gastric glands, with which it is almost imperceptibly incorporated. Hence the same epithelium practically covers every part of the gastric lining, including all its structures and glands. Gastric catarrh, therefore, always involves the latter, if it is not limited to the little elevations between the edges of the glands, which is rarely the case. A gastric catarrh is, therefore, more like a chronic nephritis in its essential characteristics than like a simple catarrhal inflammation. Bearing these crude pathological facts in mind, the salient indications for treatment should be limited to the restoration of the *functions* of the stomach to a normal standard, especially of that portion which produces the excessive secretions whose interference with the act of digestion is the chief source of trouble. The stomach, be it remembered, is no longer considered an organ of absorption, but rather is it now regarded as a receptacle for food coming into it after preparation by mastication and insalivation, which it elaborates chemically and mechanically for propulsion into the upper intestinal tract, when absorption and the first step of utilization of the food is accomplished. Not even water is absorbed by the mucous membrane of the stomach. Indeed, it is held by physiologists of repute that if well-masticated food could reach the duodenum without passing through the stomach, it would be utilized almost wholly, but that such food may irritate and eventually cripple the most important portion of the digestive and assimilative organs. The first thing to be done in treating gastric catarrh is to remove the causes which have conspired to produce it. The second indication is to assist the muscular or motor apparatus of the stomach in its work of churning, mingling, and propelling of ingesta into the absorbing chambers, by introducing only such food as may not embarrass by distending it. The third object

is the removal of the accumulated tenaceous mucus, which embarrasses the stomach glands at every point.

These being the prime indications for treatment, how are they to be fulfilled? Among the causes of gastric catarrh, the most prominent are improper food, insufficient mastication, and depreciation of the general health. The removal of these causes would, in a large proportion of cases, remove the disease entirely, but the enormous difficulty which confronts us in the attempt soon becomes apparent and discouraging.

1. Imperfect food. The subject of food and its preparation is too extensive for discussion in the limited time at my disposal. Reference to a few salient points must suffice. Saccharine and fatty food should, of course, be avoided, freshly baked breads or cakes being especially damaging. Among farinaceous foods, most of which are objectionable, rice cooked in the true South Carolina fashion, viz., by steaming so that each grain be separate and dry and not pultaceous, is the least harmful. Being exceedingly nutritious, as is evidenced by the enormous amount of physical labor endured by the Japanese and others under an almost exclusive rice diet, its constant use at one of the daily meals should be insisted upon. Excess of fluids at meals should be avoided, also all alcoholic and fermented beverages at all times. Frying is a pernicious mode of cooking, especially when fat is used to increase palatability. Boiled and broiled meats and fish, eggs, with rice and stale bread, form an ideal diet, and *hot* (not lukewarm) milk an ideal drink for meals. So much for the diet for the *prevention* of gastric catarrh in predisposed persons.

In the treatment of the established disease I limit my patients to a few articles of diet. Meat, especially beef from the round, well-chopped in an Enterprise chopper and freed from all fibre and fat, called Salisbury steak in our restaurants (after the physician who claims to cure all chronic diseases from dyspepsia to phthisis by hot water and beef); this preparation of beef is the ideal food in the treatment of gastric catarrh, because it furnishes but little *débris* and gives rise to no fermentations, hence no distentions, and is easily propelled into the duodenum. The next best food is hot milk. It should be so hot that it cannot be consumed except with a spoon, and very slowly. My usual dietary prescription in moderately severe cases is a pint or more of very hot milk for breakfast, as much Salisbury steak as the patient desires for luncheon and dinner, with perhaps a little black coffee and some Italian bread (long dry sticks) to lessen the monotony to the palate. In more severe cases I order one pint of very hot water sipped one hour before each meal, *a shorter interval renders its use futile* and interferes with digestion, the meals to consist entirely of chopped meat, without bread. Before broiling this meat Delmonico's *chef* pours the white of an egg over it, causing cohesion without packing. I have imitated this excellent device with profit. Patients will complain of the monotony of the diet, but in these cases it is the only means of feeding at our disposal and should be insisted on, gradually if necessary, but always peremptorily.

2. Imperfect mastication must be remedied. It is futile to instruct the patient in the avoidance of this prolific source of gastric catarrh, because the fault most frequently arises from thoughtlessness and habit. It is my practice to advise the patient to request those persons who are his habitual table companions, to check him whenever he is eating rapidly. Business men should be advised to eat a very light luncheon at their restaurants, because this meal interrupts their work, to which their thoughts constantly revert while eating, and thus only by the greatest self-control may proper attention be given to thorough mastication. It goes without saying that the teeth, especially in elderly persons, should be put into good condition or replaced by artificial ones. The mouth and teeth should be mechanically cleansed and disinfected several times a day by preparations like bovine or a moderately strong solution of chlorate of potash, because decomposition of ingested food may be started by the commingling of bacteria and partly decomposed food coming from the mouth.

3. Our means of removing mucus from the stomach and restoring the functions of the latter are mechanical and medicinal. Among the former may be counted the anteprandial potations of hot water referred to. I usually prescribe five grains of resorcin an hour before each meal as an antifermentative, and if hot water is not well borne or is impracticable, as in the case of business men, a powder of ten grains each of bismuth and magnesia, half an hour before meals, serves a good purpose. The most potent measure, however, for the removal of mucus and stimulation of the motor function is stomach-washing or lavage. The technique of this little operation is not difficult, but without attention to certain details failure is prone to attend it. Hence a few words on the subject may not be out of place. In the first place the tube should be made of firm, yet elastic soft rubber (hard rubber tubes are dangerous), five feet long, from one-quarter to three-eighths of an inch in diameter, with open end, one inch from which should be located a narrow fenestrum, three-quarters of an inch long. The largest size tube affording a more rapid entrance and exit of water, shortens the duration of the sometimes unpleasant, though not painful, procedure. A medium-sized or small tube with firm, thick walls, sometimes passes more readily. The patient should be protected with a rubber apron or other covering, seated upon a chair and a basin placed upon another chair, one of whose corners is wedged between the knees. The procedure should be explained; he should be instructed to breathe through the nose and open mouth, and he may be assured not to apprehend choking when the tube enters the throat, by the fact that the diameter of the tube is much smaller than particles of meat which he has often swallowed. A quart pitcher of tepid water, to which a teaspoonful of salt has been added, a funnel, and several towels having been placed in readiness, the mouth is examined and artificial teeth are removed. Bending the head slightly forward, the patient is requested to protrude his tongue, which should never be pressed out of the way. The lower end of the tube having been dipped into the water for lubrication (oil damages the rubber), it is grasped about four inches from its extremity, like a pen; the somewhat rigid portion is now gently passed into the pharynx, avoiding the tongue as much as possible. When it touches the pharynx, the patient is asked to swallow. At this moment the tube is pushed gently downward. In patients having lavage done for the first time, or who are nervous and fretful, rasping and choking will ensue. The tube should be withdrawn if this continues, and a second and third effort should be made while the patient's morale is sustained by gentle reassurance, and not by scolding. "Put yourself in his place" should be remembered by the physician, when the patient seems alarmed by this simple and absolutely harmless procedure.

In persons of calm temperament and in those who are accustomed to the tube, it will slip down easily upon gentle yet firm pressure being made, and by sliding it through the thumb and forefinger whenever the latter reaches the teeth, until the black ring mark, which is from twelve to eighteen inches from the lower end, reaches the lips. The patient, if quiet, otherwise an assistant, now holds the tube between thumb and forefinger of the left hand close to the teeth, which must not be closed. Adjusting the funnel to the upper end of the tube, four to six ounces of the salt water are poured into it, the funnel is raised to insure its outflow by gravity. If undigested food be present the water may not flow out readily, because the lower openings are clogged. In this event, raising the funnel higher may

force the obstruction out, otherwise the tube must be removed and reintroduced after clearing the fenestrum. About half a pint of water having entered the stomach, the funnel should be lowered while water is still contained in it, in order to produce siphonage into the funnel, which is now turned to allow the water to flow into the basin. This act is repeated until the water flows out clear. Some patients—about fifty per cent.—gag and vomit during lavage. These must be cautioned to hold the teeth apart and simply bend over the basin and let the vomitus flow into it, while they or an assistant firmly hold the tube near the teeth. Otherwise it will be washed out with the rushing stream. Perseverance and calmness on the part of the physician will insure against failure. Among hundreds of cases I have failed but twice, one being a nervous woman and the other a nervous physician, neither one of whom would permit a second introduction. Most patients become accustomed to the tube after two or three introductions. I remember well an old lady from Charleston, who consulted me about eight years ago for a most obstinate gastric catarrh which caused vomiting after meals, and impaired her nutrition badly. When she saw the tube she declined to have that "snake-like thing" near her. In two weeks she introduced it herself, and thus did more to complete the cure than I could have done. Indeed, there is no method of treating this disease comparable to lavage. It should be done before the chief meal once a day, in order to obtain the full benefit of this meal. If mucus accumulates rapidly and the quantity does not diminish each day after several irrigations, lavage may be done before breakfast also. Mucus is removed, the glands are freed from obstructions, the muscular power is increased by the daily filling and emptying of the stomach and removal of fermenting material, and the introduction of the foreign body increases secretion from the gastric glands.

Another valuable effect of lavage is the discovery of those articles of diet which are best adapted to each case, and in some cases also of certain defects, as in the following instance. A lady from Georgetown, S. C., consulted me several years ago for severe colics, for which she had been treated in vain by her intelligent physician at home: Close examination led me to charge her with too rapid eating and careless mastication. She indignantly repudiated the charge, saying that she was the slowest eater in her family. A test-meal of rice, beef, tomatoes, and accessories, showed particles of unmasticated meat and even some of the rice-grains were unscathed and had swollen to thrice their size. This ocular proof convinced the patient of the necessity of more thorough mastication and she recovered entirely from gastric catarrh, which was the cause of her colic, under the treatment here outlined.

The irrigations should be continued daily or less frequently, according to the reaccumulation of mucus, until the stomach remains clear for a week or two, and the symptoms subside. Contra-indication to the use of the stomach-tube are aneurism of the aorta, innominate or carotid arteries, angina pectoris and uncompensated valvular lesions, fatty heart, pregnancy, cerebral congestion, asthma, and very great debility. In ulcer of the stomach, with or without hemorrhage, lavage should be used only with the greatest caution, if at all.

I have perhaps entered into tedious detail on this subject, but my desire to offer you personal experience obtained from failures and successes, must be my warrant therefor. Among medicinal agents, benefit may be derived from twenty to thirty drop doses of dilute hydrochloric acid in four ounces of water, taken immediately before eating each solid meal. The words *immediately before eating* should be emphasized, and it must be insisted on, that the plate be served and the patient ready for the fork or spoon when the acid is taken. This I learned thirty years ago, from Dr. Thomas King Chambers, London's great clinician, and his advice has served me well. There is no other medicinal agent that is of any value in this condition, except resorcin and bismuth, already mentioned; I have gone through them all and discarded them. Pepsin I have not used at all in the last ten years, although I formerly used it freely, and found it worthless unless combined with muriatic acid. How do we know that it acts in the stomach as it is claimed to act in the test-tube. If taken before meals it is probably absorbed or expelled, before the stage of digestion for which it is intended is reached. Nor can we expect to compensate for deficiency of the natural hydrochloric acid by pouring the small quantity above mentioned into the stomach. It is more its agency as a coagulant of mucus, and as a disinfecting agent, that its good effect may be ascribed.

It is here in order to say a word about the various commercial combinations of pepsin, lactopeptine, wine of pepsin, mixed with medicinal agents, etc. It would seem that the slightest reflection would condemn the use of any and all of these. The apparent beneficial effect sometimes reported is due to the otherwise judicious management of the diet, exercise, etc., in the case. Lactopeptine, for instance, claims to be composed of several elements some of which we know would be destroyed by acid, others rendered inert in an alkaline medium. And yet many send this highly lauded conglomeration on its mission through the saliva, gastric juice, without reflecting upon the physiological incongruity involved. The more simply a case of gastric catarrh (and for that matter any disease) is treated the more successful will be its management.

The fourth therapeutic indication in gastric catarrh —*the improvement of the general health*—will be referred to at length when considering the next subject.

Treatment of Nervous Dyspepsia.—The indications in the phase of difficult digestion are entirely different from that of gastric catarrh. Instead of the embarrassment of the glandular action present in the latter, we have a hypersecretion usually, hydrochloric acid having even been found in the empty stomach of some of these patients. A detailed description of nervous dyspepsia is not required before this audience. You are all familiar with it, although it is not as common here as it is in New York and other large cities.

A diagnosis having been clearly made by the stomach-tube and lavage, the local distress demands immediate attention. For this purpose bismuth and magnesia in ten-grain doses are extremely helpful if given half an hour before meals. The postprandial pains, heartburn, and other manifold distresses, often yield to the tablets of animal charcoal, magnesia, and ginger, as made by Wyeth and others, one chewed dry every half hour. Sometimes larger doses of bicarbonate of soda and magnesia may be required. Lavage is rarely needed, chiefly when there is an accumulation of gases. A hypersensitiveness of the digestive organism exists here, which may be in a comparatively dormant state for a time, and at other times be exasperated by some special indiscretion in diet or, more frequently, of conduct. We find no organic defect, but, on the contrary, an over-active function. The aim of treatment should be to reach the cause, which is usually psychical. Close confinement to indoor work, especially in the counting-room and library, must be abandoned; the patient should be placed in closer communion with nature. Very active exercise is to be deprecated, but change of air and scene are of inestimable value, indeed, of greater value than any other treatment. When the patient cannot leave home, or is not benefited by change of air and scene, or the physician desires to insure the permanence of the effect of the latter, a course of hydrotherapy offers the best chance for him. By improving the general tone, the functional activity of the stomach and other organs is enhanced, the nutrition is improved, and in a brief

time the entire aspect of the case is changed. This is illustrated by the history of the following cases :

Mrs. O——, aged twenty-eight, resident of Florida, consulted me, May 5, 1892, for "catarrh of the stomach," because of agonizing pains after meals. She has been living on mush and milk, and has had medical treatment for several years, with diminution but not disappearance of the pains. She is emaciated ; her voice is feeble ; she is depressed and hopeless. Her wan face and prematurely old appearance bear evidence of a life of constant physical suffering. There is not a particle of the hysteric element in this case. Ordered at 12.30 P.M. a full test-meal at Delmonico's, which she reluctantly accepted, because of dreaded increase of pain. The stomach was washed out without difficulty five hours later. To her great surprise, my prediction that her dinner would be digested was verified, a little tomato peel being the only remnant visible. The diagnosis of a gastric neurosis being thus confirmed, she was ordered a mixed diet, chiefly consisting of hot milk and stale bread and hominy for breakfast, adding eggs (soft boiled) later. Same with chops or oysters for luncheon, and steamed rice and roast beef for dinner. Desserts and salads were forbidden. The *general invigoration of the entire system* being the chief element in this case, she was placed upon daily hydriatic measures, adapted to her case by gradually accustoming her to lower temperatures and stronger pressure. Under these she steadily improved.

June 20th.—Pain returning, the constant current, 12 milliampères, was applied by a large, flat, sponge electrode over epigastric, and a small one over lumbar, region.

June 27th. — Temperature of baths having been higher, was now reduced, patient being again depressed. The jet douche was given at 50° F. for thirty seconds ; reaction good.

July 9th.—Electricity having been unavailing, and fermenting material being found in the stomach, the Scotch douche was applied to epigastric region for thirty seconds after the rain bath, 70° to 45° F. daily, and followed by jet douche at 50° F. for thirty seconds. Patient now feels sufficiently restored to go to Buffalo to her parents.

Under date of November 26, 1892, she writes that she has gained fifteen pounds in weight and is much stronger ; has continued the diet prescribed, because, like most of these neurotics, she "feared her stomach was not equal to much of a change." Most of the time she is entirely free from pain ; she has slight distress every now and then, but expresses the warmest gratitude for the help given.

Miss W——, daughter of an Ohio physician, aged twenty-three, was sent to me by Dr. Francke Bosworth, the well-known rhinologist, on May 15, 1889, pale, emaciated, despondent, the picture of woe and despair. She was brought into my office by her sister. She had been ill three years, suffering first from fainting-fits at the menstrual period, afterward from violent pains in the right hand, traversing the body and concentrating in the epigastrium. For these her father and brother had been compelled to administer morphia for a month. Her stomach became irritable, and has continued so up to the present time. She vomited or spat up nearly all her food, mostly the solids. Seabaths did not improve her. She studied hard and grew worse. In the fall of 1888 she lived on milk and farinaceous mush, and her stomach was regularly irrigated, without improvement. She grew worse, became emaciated ; took peptonized mild for a month, but vomited it ; meat produced the same effect. Last fall she lived on grapes, which agreed with her. Now, she had tonics, and pepsin, and all possible medications which her father and brother could muster. She was sent to Dr. Bosworth, who is a friend of her brother. After being in the city for three weeks without improvement, the doctor sent her to me. She now vomits every day. She traces her ailment to painting-lessons, but I drew from her the history of a potent psychical factor as a cause—the sudden, violent insanity of the favored nurse of her childhood. My diagnosis was nervous dyspepsia. The stomach was washed out twice a week to remove mucus and fermenting material. She had general faradization daily. Every morning she received the dripping sheet at 60° F., while standing in warm water, and other hydriatric measures as she progressed. Under this systematic management she improved slowly ; vomiting ceased entirely. She went to the seaside ; improved in July. On her homeward journey she called to tell me that she had grown stout and felt perfectly well. A year later I received a letter from her, informing me that despite family troubles, which necessitated her adopting teaching as a means of livelihood, her health had been perfect. "You would not know me," she wrote, "as the same girl you treated."

Dr. H—— asked me on March 4, 1890, to give him lavage. He looked haggard ; suffered from migraine ; had worked hard in country practice on Long Island for years ; vomited often, with headaches ; had tried everything, including rest for eight months ; dieted very carefully, and recently, under one of our most eminent consultants, who regarded him as suffering from gastric catarrh, confining himself to hot water and chopped beef without avail. He had section of the external rectus done on both eyes by an enthusiast on that subject ; thought he was astigmatic, which Dr. Carl Koller did not concur in. My diagnosis of nervous dyspepsia was confirmed by lavage, which showed perfect digestion of a full and varied meal taken five hours previously. A mixed diet was ordered; which, together with judicious water treatment, relieved him greatly. I have recently seen the patient in consultation at his home, and found him much improved in flesh ; his general health is good and is maintained by continuing the daily hydrotherapy which I had prescribed for him, and by visiting his patients on a bicycle in the summer. He thinks he would have died if he had continued his former professor's advice to live on meat and hot water.

One of the chief difficulties in these cases of nervous dyspepsia is the dread of infringement upon what they have been led to regard as dietetic rules. The moral effect of lavage is marvellous in these cases, inasmuch as it enables us to build up the nutrition and thus improve the general health upon which the local disease seems to depend in most cases. Owing to the lack of time, too much of which I have already occupied, I will not here detail the methods of hydrotherapy indicated, save to say that daily ablutions with water at 85° F., reduced one degree every day, the patient standing in a little warm water, is a good domestic measure, and may be followed by daily cold effusions with advantage, and afterward by institution treatment where the temperature, pressure, and duration may be applied with precision.

In obstinate cases of dyspepsia, be they "catarrhal" or nervous, referred to me by colleagues after trial of all known remedies, as illustrated by the case of Dr. H——, a judicious water-treatment rarely fails.

The most rare source of dyspepsia is gastric ulcer. As in other gastric affections, a clear diagnosis, based on the presence of great pain, hemorrhage, and difficult digestion, should precede treatment. In these cases the stomach-tube is inapplicable, even when symptoms of fermentation seem to demand it. Kussmaul has devised a valuable method of treatment, which is but the outcome of common sense, because the great desideratum of all traumatic conditions, rest, is best secured by it. In very severe cases, in which vomiting and great gastric tenderness are present, the stomach should be kept undisturbed even by water. Pain may be subdued by lime-water or bismuth in large doses. Fleiner and others give, with benefit, as much as 75 to

100 grains as a dose suspended in water. I use 30 to 40 grain doses with or without magnesia. Rectal enemata of Leube's beef solution, liquid or solid peptenoids (Arlington Co.'s), and two eggs with fifteen grains of salt in two ounces of warm water, always given after rectum has been washed out, will sustain the patient during the first days. But the cardinal remedy for gastric ulcer is milk and lime-water, equal parts, given warm every two hours, beginning with two ounces and increasing gradually until a pint or more is taken, at each meal, slowly sipped with a spoon. I have seen six quarts consumed in one day. A nurse should always guard the patient against intruders; members of the family should be kept away; perfect, absolute rest is essential. The patient should not move out of bed for any purpose. All entreaties for other food must be resisted. This is the simple, efficient treatment for the first two or three weeks. Gradually farinaceous gruel, then broth, may be given, always followed by several ounces of lime-water. Carlsbad salts may be used advantageously as a purgative every other day.

The general condition should be carefully looked after. Most of these patients are anæmic. Judicious ablutions with gradually reduced cold water, gentle friction of the extremities, exposure of the patient's face, the body being well protected in a well-ventilated apartment all day, will do more to remove the faulty hæmatoses than iron, which cannot be tolerated. The quantity of milk which these patients may take with lime-water, despite their protests in the beginning of the treatment, is marvellous, if it be administered systematically. The little woman from San Francisco referred to in the early part of this paper, reached six quarts daily, despite her claim that "it always made her bilious." Sipping it slowly with a spoon, she occupied from five to fifteen minutes on each pint. A good nurse is essential. The disease is serious and the treatment demands attention accordingly. After recovery, a general tonic regimen, in which hydrotherapy always plays the most important *rôle*, is of great value, as it is in all chronic dyspepsias in which the nutrition has been depreciated.

Conclusions.—In the presentation of these views it has been my aim to remain strictly practical, and to offer the most available methods of treatment only. I trust that the following has been demonstrated:

1. Dyspepsia, though not a disease *per se*, demands the utmost interest of the physician.

2. A clear diagnosis of the source of the various manifestations of difficult digestion offers the only guide to successful treatment.

3. Few cases of dyspepsia will be encountered which resist a judicious management based upon correct diagnosis and simple treatment of the local and general conditions, especially of the latter.

51 West Seventieth Street.

Hospital Advertisements.—The London *Times* of July 23, 1895, contains the following:

"Anybody in London having spare time on Monday, 22d, or Tuesday, 23d, July, is invited to visit the Poplar Hospital for Accidents between 2 and 7 o'clock.

"Newly built. Newly fitted. No debt. No horrors. No infection.

"Best Way.—Drive or bicycle, 45 minutes from West End.

"Another Way.—Blackwall Omnibus from Piccadilly Circus, 75 minutes.

"Another Way.—Train to Aldgate, thence by yellow tram."

A Helmholtz Tablet.—A memorial tablet in honor of Professor Helmholtz has been affixed to the house, No. 8 Haditzstrasse, at Potsdam, where he was born in 1821.

TRAUMATIC SEPARATION (COMPOUND) OF THE LOWER EPIPHYSIS OF THE FEMUR.[1]

By A. H. MEISENBACH, M.D.,

ST. LOUIS, MO.

PROFESSOR OF SURGERY IN THE MARION SIMS COLLEGE OF MEDICINE.

The separation of the lower epiphysis of the femur is so rare an occurrence when compared with other lesions of the thigh bones, fractures of the shaft, extremities, and dislocations, that every additional authentic case deserves to be reported. I say authentic, because there is room for error of diagnosis in these cases, especially in cases that are not compound. In simple cases (without rupture of soft parts and protrusion of the bone) this injury may be confounded with supra-condyloid fracture of the femur, or, possibly, a dislocation of the femur (knee) backward. In compound injuries mistakes in diagnosis cannot easily occur, on account of the form and character of the protruding bone. Surgical text-books afford a very meagre description of this injury. The report of a case that came under my observation recently, and the specimen I herewith present, is of interest.

On March 28, 1895, W. P——, aged eleven, had his left leg caught in the wheel of a vehicle. The boy distributed an evening newspaper by means of a horse and cart. He had a habit of putting his foot on the spoke of the wheel and then starting the horse, letting the wheel elevate him to a level with the body of the cart and then jumping into the vehicle. On this occasion he must have slipped; missing his hold with his foot on the spoke, his leg was pushed between the spokes of the wheel and the body of the cart so as to give it a severe wrench. He was brought to the office of my friend, Dr. Benno Bribach, who, on removing the boy's trousers and recognizing the severity of the injury, called in Dr. Voelker, and they together, with great difficulty, reduced the dislocated epiphysis, having first placed the boy under the influence of chloroform. The femur protruded about four inches through a wound on the outer side of the popliteal space. The arteries were intact. The wound was treated antiseptically, partly stitched, a drainage-tube introduced, and the limb placed on a temporary posterior splint. I was called in consultation, and the next morning at eight o'clock I saw the case with Drs. Bribach and Voelker. During the night a few small doses of morphine had been given, and the boy had rested pretty comfortably in consequence. The temperature was good, 99.5° F.; pulse, 103, full and strong. The anterior and posterior tibial pulse was also full and strong; the dislocation had been perfectly reduced.

I had been called especially to discuss the advisability of an amputation. Up to this time the boy had shown no evidence of shock. Taking into consideration the fact that the separated epiphysis had been perfectly reduced and that there was no evidence of injury to the vessels, also the patient's general good condition, I did not favor amputation under such circumstances, but that the limb be placed in a permanent dressing and that we then await developments. This was agreed to, and at three o'clock we met again to put the limb in a plaster dressing.

On my second visit I found a change. Shock had begun to make its appearance, the pulse was increased in frequency and of weaker character, but still perceptible in both tibial arteries. The plaster dressing was applied, but the condition of the patient became worse in spite of stimulants and the hypodermic use of strychnine. He did not rally from the shock and died within forty-eight hours after receiving the injury.

Autopsy.—A post-mortem examination was allowed, but not as satisfactory a one as I should have liked, *i.e.*, a complete dissection of the parts. I found the sepa-

[1] Read before the Missouri State Medical Association, Hannibal, Mo., May 21, 22, 23, 1895.

rated epiphysis completely reduced and had considerable difficulty to evulse the femur so as to separate it. The femur was stripped of its periosteum for about four inches. The soft parts of the popliteal space were much lacerated. The knee-joint was not involved, the capsule was intact, which was shown by an absence of effusion of blood in the joint. The separation from the shaft was perfectly smooth, no splinters being attached to the epiphysis, as has been found in some cases.

A feature that is of interest in these cases of traumatic separation of the lower epiphysis of the femur is the direction of diaphysis. In the majority of cases, either simple or compound, the diaphysis is dislocated backward and impinges on the vessels and soft parts of the popliteal space if simple, and if compound perforates the soft parts, as in this case. In pathological separation the opposite frequently obtains, *i.e.*, the diaphysis is dislocated forward, as is shown in a case reported by myself.[1]

In traumatic cases the factors that favor dislocation of the diaphysis into the popliteal space are, 1, the character of the force applied; 2, the resistance of the parts as determined by anatomical structures.

The character of the force is usually rotatory or twisting, with a long leverage exerted by the limb, either the proximal or distal extremity of the limb as a fixed point. The anatomical structures on the anterior aspect of the thigh are more resisting, the quadriceps, tendon, and patella offering greater resistance than the loose tissues of the popliteal space, especially so during the reception of the injury, when there is a probability that the muscles on the anterior surface of the thigh are in a state of contraction in the effort, possibly, on the part of the patient to avert the coming injury. Then, also, the position of the patient is a factor, as in many cases of traumatic separation the patient is in an upright or semi-upright position, which, along with the direction of the force and the resistance on the part of the tissues of the anterior part of the thigh, will tend to push the separated diaphysis into the popliteal space.

In pathological cases, as I have shown in the case referred to, the processes that favor separation are gradual and the forces exerted different. The explanation of the manner in which it takes place is, to my mind, the following: The shaft of the femur, at the epiphyseal line, is the seat of an osteomyelitis. The surrounding structures, especially the joint, may be either specifically or non-specifically involved. We know that flexion of the joint, especially of the knee, takes place whenever there is inflammation in or about it for any length of time, if not prevented by apparatus, such as splints, methods of extension, etc. This takes place, and as the case runs on ankylosis (temporary at first) occurs, with the knee in a flexed position. By the time separation occurs the knee is pretty firmly ankylosed. Granting, now, we have separation of the epiphysis, the leg cannot be elevated by the will of the patient, the thigh being only partially under the control of the will. The leg is not supported except imperfectly by pillows, the occasion to move the patient perhaps frequent. Now, whenever the leg is raised the condyles, being fixed to the tibia, move with it. Owing to the angle that the tibia occupies to the condyles whenever the leg is elevated, the epiphyseal line of the condyles is depressed into the popliteal space and favors the slipping of the end of the femur upon the trochlear surface of the condyles. The action of the thigh muscles, which are attached to the head of the tibia, draws the head upward with the condyles so that the femur overrides the same. The action of the muscles attached to the neck and trochanters of the thigh bone also elevates the end of the femur and favors its overriding the trochlear surface of the condyles.

[1] Annals of Surgery, February, 1895. Report of a Case of Pathological Separation of the Lower Epiphysis of the Femur. By A. H. Meisenbach, St. Louis.

A peculiar feature in the case I have reported is the late appearance of the shock. In surgical cases, ordinarily, the shock is present at once or very shortly after the injury; in this case it made its appearance about fourteen hours after the injury. This is termed "delayed shock" by some authors. The explanation of this form of shock is still very unsatisfactory to my mind. Some say it is due to "reactionary mental exhaustion,"[1] others ascribe it to "commotio cerebri,"[2] or "delirium traumaticum or nervorum."

Packard[3] has collected over sixty cases of this injury, including a case of his own. In looking over the literature at my command, I have not found any additional cases reported since then (November, 1890). In an analysis of the cases reported, Packard has found that in an average of forty-five cases the average age was a little over seven years. The youngest was eighteen months, and the oldest eighteen years. The fact that it has occurred as late as the eighteenth year becomes patent when we remember that the lower epiphysis does not join the shaft (ossification) until the twentieth year.

As to sex, he found nine to have occurred in girls, three of which were caught in wagon wheels. As to causes, he shows that in the majority of cases the injury was produced as in the case I have cited, by entanglement of the limb in a moving wheel. In two instances the leg was caught in a moving cable. In five cases the injury was produced by surgical procedure, as for correction of ankylosis and deformities. One case is reported where the injury was produced by traction on the leg of a child during birth. Another case where the injury was produced by a fall in a patient of sixteen, who had ankylosis of the knee. From the above cases we see that it usually takes a great force, and this force exerted in a particular direction, to produce this injury. Either the lower leg or body is a fixed point and the exertion of a long leverage of the movable portion of the limb at the same time, the force at right angles to the limb and of a rotatory or twisting character.

In the case I have reported there was also a stripping off of the periosteum from the diaphysis, as was observed in many of the other cases by Packard and others. In my case, also, the vessels were uninjured, otherwise the tibial arteries would not have performed their function up to the time of death, but would have shown evidences of injury soon after the injury was received.

How shall these cases be treated? This is an interesting and important point. In the cases reported, we find the following procedure to have been employed: Primary resection of the diaphysis; primary amputation; reduction successfully accomplished; secondary amputations. In Packard's report we find that amputation was performed twenty-eight times; twelve primary, nine secondary, seven times not stated.

Resection of the shaft was performed in four with complete success, one doubtful result, the others not stated. Resection of the knee-joint was done in two cases, afterward followed by amputation. In the cases where amputation was done primarily, the limb was destroyed or the blood-vessels injured. Secondary amputation was done for gangrene, and abscess reduction was accomplished in fourteen cases, one of whom died on the fifteenth day of sepsis.

From the methods of treatment in the cases reported, I believe we can find the course to be pursued in the treatment of these cases. In each case the condition of the blood-vessels should be determined. This, in conjunction with the condition of the soft parts, and the practicability of reduction, must be the guidance for our procedure. Where the blood-vessels are destroyed amputation, of course, is the only resource. If

[1] Roberts. [2] Tillman.

[3] J. H. Packard, Philadelphia: Annals of Gynecology and Pediatrics, November, 1890.

the blood-vessels are intact and reduction can be accomplished, this should be done. The blood-vessels and soft parts being in good condition and reduction under anæsthesia still difficult, resection of the end of the shaft should be done, cutting away only so much as to favor reduction. Resection of the knee-joint is indicated only where the blood-vessels are twisted and the joint involved to such an extent that complications in the after-treatment may arise.

It goes without saying that all of these procedures are accomplished under the most rigid antiseptic precautions. Immobilization, by means of a posterior splint or plaster-of-Paris, should be employed.

Pulmonary Anthracosis.—Dr. Tripier, of Lyons, combats the idea that anthracosis of the lung is in any sense a specific disease peculiar to miners, and advances arguments to prove that this condition is simply pulmonary tuberculosis modified by the special circumstances of the case. (*The Lancet.*) His view is as follows: "The phthisis of miners is simply of a tuberculous nature, but predominantly fibrous, in which the carbonaceous infiltration of the pulmonary tissue, especially as regards pathological products, may be so abundant as to cause the lungs to assume such a peculiar aspect as sometimes to render difficult of recognition the tuberculous lesions thus more or less concealed by the accumulation of the carbon." He believes that when animals are made experimentally to breathe air full of particles of carbon the lungs are simply found surcharged with these particles, but without the inflammatory lesions and scleroses characteristic of pulmonary anthracosis, and that when miners succumb to accidents their lungs are found in a similar state, but without evidence of tubercle. In spite of these facts which Dr. Tripier regards as well known, he states that there is a tendency to describe pneumokoniosis (pulmonary antracosis) as an independent malady produced by the inhalation of particles of coal, silica, or oxide of iron. The object of his communication was to bring forward some pathological evidence in support of his own view. In one of his cases the patient had succumbed to "la phthisie charbonneuse," and on post-mortem examination the lungs were found to be full of particles of carbon, and much sclerosed, but further examination demonstrated the existence of a cavity at one apex and the presence of caseated tubercle. It is possible, of course, to argue that the tubercle was a secondary result of the infiltration of the lungs with particles of carbon. Dr. Tripier combats this view. In the case in point the patient had worked for fifteen years in mines without developing any pulmonary lesion, and had ceased from this occupation for six years before showing signs of commencing disease of the lungs. In a second case brought forward by Dr. Tripier, the patient had breathed a carbonaceous atmosphere for thirty-one years without any pulmonary trouble, and finally succumbed to cancer of the stomach. On post-mortem examination the lungs were found to contain particles of carbon widely disseminated, and specially numerous in the lymphatics, but without any sign of tubercle. The writer further argued that the amount of carbonaceous infiltration of the lungs bears no relation to the probability of finding tubercle. The latter may be found in miners with little or much carbon in their lungs, and in those who have spent few or many years in occupations involving the constant respiration of carbonaceous particles. Cases such as those brought forward by Dr. Tripier are, of course, inconclusive, but they must be allowed reasonable weight. They certainly tend to corroborate the view that pneumokoniosis or pulmonary anthracosis is not an independent affection with a definite cause and definite natural history, but simply one of the many varieties of pulmonary phthisis.

SIMPLE MELANCHOLIA.

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SIMPLE melancholia may be defined as that disordered condition of the mind in which there is a predominance of subjectively arising painful emotions accompanied by more or less weakening of the inhibitions and lowering of the moral tone of the individual, but in which the perversion of the understanding and narrowing of the range of intellectual action do not obtain in sufficient degree to constitute actual delirium or stupor. I am aware of imperfections in this definition, but it will serve the purpose of this paper.

Painful emotions are not necessarily pathological. The normal mind is capable of suffering, and the most intense and prolonged mental anguish may be in itself entirely physiological. Indeed there are many sensitive and impressionable people whose nervous structures always react violently to stimuli of a disagreeable and irritating nature. These unfortunate individuals readily surrender their minds to the control of painful emotions and their inhibitions readily give way. For example, the neurotic mother is thrown into a most painful mental condition by the death of her child; she can neither eat nor sleep; she is practically oblivious to her surroundings; she gives herself up to useless lamentations and is wholly unreasonable. But this is not melancholia, and indeed bears no necessary relation to it. The emotional states described arose objectively and out of adequate and immediate causes, and though excessive were still physiological. And it is only when such states are sufficiently severe or prolonged or oft repeated to cause the brain to take on that disordered action which is the essential underlying condition of all mental alienation that they even stand in causative relation to melancholia.

Normally stimuli of an unpleasant nature passing into the emotional cerebral planes there excite those corresponding cerebral states which are necessary to the production of mental pain, and which after the withdrawal of said stimuli soon disappear, leaving behind only their more or less distinct registration in memory. But some brains are so vulnerable, so plastic, so to speak, and possess such low reactive power that these states tend to persist pathologically after the stimuli are withdrawn, not only to continue to present the old painful sensations, but also, by extension into other areas, to develop new ones subjectively and independently. And at the same time the representative power of the brain is interfered with, fresh incoming stimuli are interrupted or distorted, they are misrepresented to the mind, and hence convey the idea of an altered environment.

Corresponding to this over-activity in the emotional cerebral plains is a condition of depression in the intellectual. The intellectual side of the brain is overwhelmed and overshadowed by the emotional and held in abeyance. The attention is weakened and incoming stimuli either fail of recognition or tend to pass over the intellectual spheres and into the emotional; and the cells of ideation being deprived of their accustomed and necessary stimulus to activity lie stagnant; and their energy, thus confined, like constrained positions of the muscles, gives the idea of an all-pervading resistance or opposition. The so-called muscular element of thought is weakened, and the mind, in measuring the resistance of the environment, over-estimates it.

For this reason melancholiacs complain that they can no longer concentrate their thoughts; that when they attempt to think or act some power seems to restrict or clog their efforts. In conversation they stop in the middle of their sentences as though the cells of ideation acted with too much friction, or as though the stimulus to their action was suddenly withdrawn, or the cells themselves overtaken with sudden weakness.

They complain that their brain is tired or congealed or worn out; they sigh and manifest many symptoms similar to muscular weariness.

This intellectual torpor, coupled with the feeling that the environment is altered as already described, disqualifies the individual to comprehend his surroundings. Nothing appeals to him except such matters as contribute to his sense of wretchedness, and he thus acquires suspicions and fears and ideas of persecution out of an environment which he sees only through the shadows of his emotions and therefore no longer clearly understands.

Corresponding to, and arising out of, this emotional domination of the mind is a weakening of its inhibitions. Of the stimuli which crowd in upon it from all directions the healthy mind is able to select a certain few to be registered in the brain-cells, and to reject the others. Indeed the education and refinement of the faculties depend not more upon the accumulation of desired cerebral impressions than upon the exclusion of the undesirable by the inhibitions. Conduct and character, too, depend not more upon the activity of those faculties and propensities which are manifest than upon the inhibition or holding in abeyance of others which do not appear. We may not be aware of the inhibitory effort, but it exists though sunk into unconsciousness.

In conditions of mental alienation, however, the seemingly changed color and altered behavior of the environment already described, and the fears and suspicions which consequently arise are so startling and obtrusive that they force themselves upon the attention, and the mind is no longer able to exclude them. It is operating under new conditions, new and strange elements are entering into the intellectual life which do not readily submit to control. Propensities and peculiarities hitherto held in abeyance burst through the weakened inhibitory barriers and more or less altered and intensified run riot; and thus a new and anomalous personality is developed very unlike the original in outward appearance possibly, but astonishingly similar to it in intrinsic qualities. There is mental derangement in the strictest sense of the term, and out of the resulting disorder certain propensities and characteristics hitherto existing come to the front and predominate. Thus one woman loses her child and falls into melancholia, another loses hers and develops acute mania, the mania determining conditions preexisting wholly in the individual.

Further the inhibitory strength in a great measure determines the degree of mental reduction possible. Extremely sensitive emotions may coexist with strong inhibitory and intellectual power. The emotional cerebral planes may be very impressionable and vulnerable while the intellectual side and the inhibitions are correspondingly potent. In such brains there is great capability of suffering, but also strong resisting and reactive power. Painful emotions, with their attendant throng of gloomy fears, suspicions, and fancies assail the individual; he loses much of his interest in life, he becomes erratic in his demeanor, he meditates upon, plans out, and often executes schemes of suicide as ways of escape from his torture, but his judgment for the most part retains its integrity. Cellular activity in the intellectual planes may be labored or interrupted, but the product is essentially genuine. Such an individual, under proper exciting causes, falls into simple melancholia because his cerebral make-up predisposed him to this form, and is such as to render him extremely unlikely, and probably incapable, of taking on any other form.

Pathology.—Investigations into the pathology of simple melancholia have so far not been attended with very satisfactory results, for the reason that post mortem material is not very abundant, and because there is no certainty that the slight pathological conditions obtaining in life, especially in recent cases, retain their characteristics after death. That changes in the nutrition in the brain-cells will cause anomalies in the manner of their functioning seems plausible, and hence abnormal action of the vaso-motor nerves in the muscular coats of the cerebral vessels, by producing irregularity in the blood-supply to the various areas of the brain, and in this way interfering with the uniform nutrition of these parts, probably best explains the symptoms in life and the scanty post-mortem findings in these cases. Certain it is that the brains of persons who have suffered from this malady for a number of years, and who have fallen into terminal dementia reveal evidences of prolonged congestion in certain areas, and also certain other areas where the gray matter is thinned either from lack of proper nutrition or disease.

Cause.—The conditions predisposing to simple melancholia are eminently hereditary. By this we mean not so much that the parentage was insane, but that the brain of the individual in question possesses some innate vulnerability, some inborn tendency to inharmonious action of its parts, which renders it prone to take on disordered or pathological action. Drunken or vicious or phthisical parentage, but in which no insanity appears, may beget offspring with a decided predisposition to melancholia, and, in fact, to all forms of mental alienation. Again, the parents may merge a common peculiarity or weakness which appears in an exaggerated form in the offspring. Careful study of the family history of persons suffering from simple melancholia will rarely fail to find in it a weak spot somewhere, and it is always to be remembered that the denials of the patient and his friends regarding insane parentage are no sure proofs of its non-existence.

Again, the bringing up of an individual may be a strong predisposing as well as an exciting cause of this malady. Many a mother constantly drums into the ears of her children that they are delicate and nervous, and objects of commiseration, some day to discover that her doctrines have been imbibed to a degree of fidelity which more than fulfils her intentions. Her children feed on her morbid sympathy until it disgusts, but still seems essential to their existence. I call to mind one case of melancholia in which a careful study of the possible causes left little doubt but that the patient's bringing up was almost, if not entirely, responsible for her condition. This patient took special delight in biting her arms and otherwise wounding herself when in her mother's presence, for the sole sake of the horror it caused and the deluge of morbid sympathy which she knew was sure to follow.

Of the exciting causes the first and chief are disordered conditions of the general health. Whatever tends to lessen or vitiate the blood-supply to the brain weakens its resisting and reacting power and tends to depress it. Many persons indeed are so sensitive that slight physical weariness or hunger produces a marked falling off in their buoyancy. Uterine troubles in women and prostatic troubles in men are very fruitful causes of melancholia. These maladies so harass the sensitive patient that they absorb his attention, they undermine his health, and thus increase the vulnerability of the nervous system, and, in short, assail the predisposed brain in every possible way, and rarely fail to induce in it disordered action. In the consideration of this subject there is no point of so great importance as a full appreciation of this relation, which in such a vast majority of cases exists between morbid mental states and disordered conditions of the general health. If other exciting causes are to be named, domestic infelicity in women, and business worries in men, take first rank.

Course and Symptoms.—The onset of this trouble is usually very gradual and insidious. It often exists for a year or more without being noticed by intimate friends or relatives, or even the family physician. An attempt at suicide, successful or otherwise, is a rude,

but often the first, awakening of the friends to the real condition, and at the same time affords an explanation of many peculiarities in the patient's manner and conversation, which are recalled upon a retrospect of the case.

An indefinite sense of ill-being, a constant feeling of weariness, which rest and sleep do not relieve, a disposition to frequent sighing and gaping, flagging interest in life and business, unwonted irritability of temper, growing incapacity for, and disinclination to, prolonged exertion of any kind, especially mental, are among the first symptoms complained of. Sleep soon becomes uncertain and unrefreshing, and patients say that they always awaken with a sense of impending danger. In these waking moments their sluggishly acting minds do not quickly grasp and understand the environment, and hence fear it. Appetite and digestion partially fail, and the pátient becomes anæmic and thin, and his expression haggard and anxious. His pupils are often widely dilated, his tongue is large and flabby and indented by the teeth, and his bowels are usually obstinately constipated.

Soon the ever-present and harassing mental pain so absorbs his attention that the patient forgets his refinements and becomes rude and uncouth in manner. The actions of his friends, seen through the shadow of his emotions, seem to him to contribute to his distress, and hence he treats those friends gruffly, or avoids them entirely. His suspicions lead him to watch the actions of others very narrowly, however, and he is often a veritable spy, and his knowledge of that part of his surroundings which is none of his business is frequently surprisingly complete. If he has any physical disease he goes over his symptoms again and again, and curses the fate that has afflicted him. As his malady becomes more chronic he usually becomes very profane; beginning with expressions of disgust, as his inhibitions weaken, he soon indulges in fits of the most impious cursing. These chronic cases soon acquire the habit of making odd grimaces and queer motions. One patient of mine delights with wetting her fingers with spittle and rubbing them over everything handy. This same patient will speak to you pleasantly and pretty intelligently, but the instant your back is turned she will make wry faces and give you a tongue-thrashing in an audible undertone and abundantly spiced with profanity.

Notwithstanding their peculiarities and constant depression these patients are often great readers, and keep fairly well posted on the news of the day, and sometimes even attend to their business in a fairly intelligent manner throughout the whole course of their disease. Although they frequently maintain that their friends have turned against them, yet when cornered they admit the foolishness of their assertions, and, in short, their judgment seems too sound to permit them to harbor delusions. Hallucinations of the various senses I have not seen in these cases. Another peculiarity of these patients is their tendency to form the drug habits. They are usually inveterate medicine-takers, and, sooner or later, they experience the pleasing sensations produced by such drugs as opium and chloral, to fall a ready prey to their seductive influence. Some take to whiskey or cologne, or, in short, anything that stimulates.

As to termination, simple melancholia usually ends in one of four ways. First, in recovery, a large proportion so ending if treated early and properly. Second, in death by suicide. And here I must assert that there are very few persons suffering from this disorder who do not early in its course contemplate or attempt suicide. Their lowered *morale* and weakened inhibitions in a great measure remove their scruples against such an action, and lessen their ability to keep in the background the constantly arising idea that death would end their misery. And their reason remaining practically intact, they plan out the most elaborate schemes for the accomplishment of their purpose, and give the most convincing arguments for its justification. Very recently a patient suffering from this malady handed me a loaded self-cocking revolver, which she had obtained, and had in her possession for some time, notwithstanding the vigilance of her friends. She remarked that she had placed it to her temple many a time, but that it was one thing to contemplate suicide but quite another thing to do the act. Cowardice prevents more suicides than all other agencies combined. Third, this disorder may terminate in the more profound forms of insanity, but this is exceptional unless drug or vicious habits are formed. And, fourth, in the chronic condition, which may, or may not, end in terminal dementia.

Illustrating this last method of termination allow me to cite the case of Mr. L——. Family history good. Following an attack of measles, at the age of twenty-two years, this man became depressed; he early developed morbid fears and suspicions and a tendency to suicide. He was a bright and intelligent man, and spoke freely of his condition. He said that all his mental actions were carried on with effort, a constant weight of misery rested upon him, and he saw nothing in life to live for. He was a great medicine-taker, and at one time attempted suicide with "Perry Davis's Pain-killer," after which he cursed himself by the hour for being such a fool as to try to kill himself by swallowing hell-fire. Outwardly, he was a very religious man and a prominent member of his church, and a pretty good and useful citizen. He frequently made arrangements to take his life by hanging, but always ended with a fit of cursing at that cowardice which prevented him from putting an end to his misery. This condition of depression, according to the reliable testimony of his brother, and my own observation for the last fifteen years of his life, lasted for forty years, during which time he made a living for himself and family, and died at the age of sixty-five of consumption, without showing any marked signs of dementia beyond the acquisition of many queer habits, such as grimacing, licking his finger-tips, and giving vent to grunts of disgust and an occasional oath.

To illustrate how slight is the tendency for simple melancholia patients to fall into the more profound forms of mental alienation, even under strong exciting causes, I will cite the case of Mrs. B——. A delicate woman, with strong hereditary tendencies to insanity, in fact, her insane mother was living in the same house with her, intelligent and refined, fell into simple melancholia a few months after the birth of her second child. She was mildly depressed, and held very dismal views of life, but never evinced any real delusions or hallucinations. She took very little interest in her children, was petulant and irritable, and resented the well-meant attentions of her sister, who took care of her. She suffered somewhat from indigestion, constipation, and insomnia. She early showed a tendency to suicide, and planned out several schemes for its accomplishment, of which one was unique. Getting up in the night she roused her mother, who was so depressed and stupid that she rarely spoke and had to be dressed like a child, and the two slipped out of the house, and securing a step-ladder from the basement, walked half a mile to a reservoir, climbed over the fence surrounding it by means of the step-ladder, discussed suicide by drowning, and decided that it was too horrible and returned home. A few nights afterward they repeated their journey, and again their courage failed. The third time they made the experiment with better success, for when they reached the water's edge they jumped in together. The helpless old lady sank without a struggle, while the shock of the cold bath brought Mrs. B—— to her wits, and she was glad to be able to scramble out and hurry home to inform her sister what she had done.

Notwithstanding this terrible shock and the full con-

viction that she was mainly instrumental in causing her mother's death, sufficient one would think to overthrow the strongest reason, she remained without delirium, and within a year was reported to be entirely recovered. Shortly after the above-described occurrence she ceased to be my patient, but I have the statement of her sister that at no time since the catastrophe did she manifest a tendency to delusions materially different from that which she showed before it. This case also well illustrates the purely subjective nature of the emotional pain of melancholia.

As an example of simple melancholia running into terminal dementia may be cited the following case of Miss C——, whose alienation has now lasted seven years, and which ran the ordinary course. At the present time Miss C—— is silent and unsociable, preferring the solitude of her room, where, if allowed, she would sit by the hour, examining some article of dress, or biting at her finger-nails, occasionally uttering exclamations of disgust freely interlarded with profanity. She makes many odd motions and gestures, such as tossing her head, twitching her shoulder, or stamping with her foot. At the table she delights in handling the articles of food, and seems to be at a loss to know what to select. When eating she makes the most horrible faces, and watches every mouthful of food taken by the other patients, at times uttering grunts of disapproval. She is a great spy, and when she sees persons in close conversation she sneaks around and usually manages to catch more or less of what they are saying. In this way she manages to keep pretty well posted on what is going on about her. She is untidy in her dress and habits, and prefers to use the *pot de chambre* in her room rather than go to the closet, which is but a few steps away. She likes to wear her wrappers threadbare, and curses roundly when she is compelled to put on a new one. Her physical condition, always poor, improves somewhat, and her functions become more nearly normal as she falls deeper and deeper into dementia.

Treatment.—If physicians will keep in mind the pretty constant relation which exists between simple melancholia and disorders of the general health, they will have a very trustworthy guide to therapeutics. The correction of uterine displacements or the repair of a lacerated cervix, cure of a prostatorrhœa, or the dilatation of a stricture, is often attended with the most gratifying effect on the patient's sense of wellbeing. Again, someone has said that the sources of human felicity lie chiefly in the healthy stomach, and certain it is that the relief of chronic dyspepsia often lifts a patient out of despondency and gives him a new interest in life. Clouston says that fat and melancholia are natural enemies. In short, the physician will resort to every means which will increase the patient's strength and improve his physical condition, and to this end he will turn his attention first to the gastro-intestinal tract. Early treatment will be the most effective, alleviation becoming rapidly more and more difficult of accomplishment after the malady has existed for a year. Patients prone to this trouble should be informed and warned that any falling off in their bodily health is pretty certain to result in painful mental depression.

And there is the matter of suicide, the responsibility for which the friends of the victim usually try to lay at the physician's door. Here there is only one rule. As already stated, all persons suffering from simple melancholia, in the early stages of their disease, at least, should be regarded as suicidal; and the physician is false to his trust if he does not warn and instruct the friends accordingly.

And I do not feel justified in closing this paper without emphasizing the following facts: First, simple melancholia is a very common condition. Second, if treated early and properly it is a very curable one. Thirdly, it is out of this unfortunate class that suicide claims probably a majority of its victims.

THE ASSOCIATION OF TABES AND PARALYTIC DEMENTIA.[1]

Report of Five Cases.

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Nearly all observers are now agreed that syphilis is the most important etiological factor in the production of both tabes and paralytic dementia. To say that syphilitic history is present in four-fifths of all cases of tabes and in two-thirds of all cases of paralytic dementia, would probably be a conservative statement.

It has been observed that tabetic symptoms develop in the course of paralytic dementia. On the other hand, general paresis may develop in the course of locomotor ataxia. Just how frequent the association of tabes and paresis is, cannot, with our present information, be determined. Mickle[2] takes exception to the statement of Sachs[3] that the development of general paresis after tabes is "frequent," holding (and to my mind, very properly) that we must distinguish sharply between true tabes and the mere ataxic or tabetiform symptoms which are common enough in general paralysis.[4]

These considerations and the fact that some of the cortical changes characteristic of paresis have, by Nageotte[5] and others, been found in those dying of tabes, have moved Fournier, Strumpell, and Jendrassik[6] to regard tabes and paralytic dementia as two different clinical manifestations of the same morbid process, whose seat in one case is in the cord and in the other in the brain. Then, according to this thought, it would be very natural to suppose for *a priori* reasons that in some instances the pathologic process which involves, first, the cord, would subsequently involve the brain, and *vice versa*. Whether or not this view be accepted, the conviction is growing that the association between these two affections is very close indeed. We need yet further light to show that they are only different manifestations of the same diseased process.

It would seem that a complication or association as important as this should receive mention in works on nervous diseases. Unfortunately this is not the case. Gowers, however, with his usual grasp of all aspects, complications, and association of nervous diseases, points out[7] that a "very important and frequent complication of tabes is general paralysis of the insane." He goes on to remark that tabes or paresis may complicate each other, and that the symptoms of one or the other affection may preponderate, and states his belief that the "correct expression of the facts is the coexistence of the two affections, and the dominance of the symptoms of the one or the other."

As a contribution to the study of this important question the clinical records of the following five cases are submitted:

Case I.—F. H——, policeman, aged fifty-eight, admitted to St. Francis Hospital, February 2, 1895. He was a very large, heavy man. Upon admission he was very noisy and excited, and slept poorly. In his conversation, which was rambling and rather incoherent, he expressed ideas of wealth and great power. Articulation, very slurring. There was a tremulousness of face muscles and a tremor of tongue and hands. Control over sphincters partially lost. His gait was very ataxic; knee-jerks absent. Pupils responded to neither

[1] Paper read by title at meeting of American Neurological Association, held in Boston, June 8, 1895. Account of Case V. has been added to the paper as originally prepared.

[2] Brain, Spring Number, 1895, p. 111.

[3] New York Medical Journal, January 4, 1894.

[4] See four cases reported by Zenner, Cincinnati Lancet-Clinic, May 13, 1893.

[5] Soc. de Biol., January 28, 1893 (quoted by Mickle).

[6] Quoted by Mickle.

[7] Diseases of the Nervous System, vol. i., p. 417.

light nor accommodation. He died from exhaustion about a month later. No autopsy was allowed.

Case II.—J. M——, druggist, aged forty-three, admitted to St. Francis Hospital, September 30, 1894. At that time he presented the following symptoms: marked static and locomotor ataxia; entire absence of knee-jerks; Argyle-Robertson pupils. Mentally he was quiet, somewhat depressed, and disinclined to talk. He soon changed from this state and became very noisy, blusteringly talkative. He spoke of electricity a great deal, saying that he had devised a new method of generating it profitably, and expected to supply the entire city of Pittsburg with it. He declared that he was possessed of great wealth, owned many fine teams of horses, and that he was a man of very extraordinary and peculiar dignity. During this excited period he had much difficulty in articulation, his words being slurred and often indistinct. Tremor in tongue, face, and hands was noted.

Twice the patient improved a great deal as to his mental symptoms. At present (May, 1895) he entertains no delusion, is quiet, rational, although somewhat despondent, and some element of dementia is apparent.

The ataxia and other tabetic symptoms remain unchanged.

Case III.—J. J——, salesman, aged forty-four, widower, admitted to St. Francis Hospital, August, 1893, with the history that he had become rather suddenly insane four weeks previously, and that he had since grown constantly worse. Upon admission he was noisy, garrulous, and at times very loud and excited. He declared that he was possessed of enormous wealth, and frequently offered immense sums to attendants for trivial favors. His gait was extremely ataxic, so that he could with the greatest difficulty walk a short distance alone. Both knee-jerks absent. Pupils somewhat dilated, responsive to neither light nor accommodation. At times he complained of severe pains in his abdomen and thighs. Slurring articulation; face and hand tremor. It was thought that he might injure himself in his efforts to get about, so he was put in bed and kept there during the few months he was in the hospital. He grew feebler and much emaciated, and became careless and filthy in his habits. At times he was quiet, but not for long periods. The expansive delusions never left him. After four or five months he was removed to the City Farm, where he died a couple of months later.

Case IV.—H. E——, tailor, aged forty-two (seen in consultation with Dr. J. M. Douthett, March, 1893). In 1870 he contracted syphilis, for which he was treated and believed himself cured. Symptoms broke out in 1871 and again in 1881. For many years has been addicted to excessive use of liquor. He states that for sixteen years past he has been troubled at times with shooting pains in the lower limbs from the waist downward; has consulted a great many physicians for this, and they all said the pains were rheumatic. Before seen by me, Dr. Douthett had noted the symptoms of ataxia, Argyle-Robertson pupils, and loss of knee-jerks, and diagnosed the case as one of locomotor ataxia. For some months past his business habits had been loose and he had become careless in dress. He had a number of optimistic enterprises on hand. Following a debauch, he became loud and excited in manner and exhibited some delusions of grandeur. When I saw him the tabetic symptoms, as noted, were present. He was exceedingly talkative and revealed to me a number of business projects, which to him seemed to promise rich returns. He stated that he had every reason to be contented and hopeful, whereas his personal, domestic, and business conditions were such that an exactly contrary state of mind would have been most natural. A tremor of tongue and hands was noted. He was sent to an asylum.

Case V.—William L——, bookkeeper, aged fifty, admitted to St. Francis Hospital, June 4, 1895. Has been married eight years; no children. Six years ago contracted syphilis; had secondary eruption and mucous patches. A year and a half ago he showed some difficulty in walking, and this has been slowly increasing. Six months later mental symptoms were noted. He became dull, careless; showed defects of memory; speech became thick, slurring. All these symptoms were on the increase when he was admitted to the hospital.

Examination, July 6, 1895.—Gait ataxic; walks with feet wide apart; cannot stand with feet together when eyes are closed. The gait, however, is not a typical tabetic one, in that the high step and quick, jerky movements are absent. Pupils small; react very slightly to accommodation and not at all to light.

Mentally there is a marked degree of dementia. There is a fatuous sense of *bien-être*. Speech is thick, slurring. There is, especially at times when he becomes emotional, a tremulous condition of the facial muscles. No delusions of grandeur. His history before coming to the hospital is imperfect, and it is not known that he ever possessed any delusions of grandeur.

In all five of these cases the diagnosis of tabes seems quite clear, unless, perhaps, Case V. be excepted, and even here the diagnosis appears very probable.[1] They are not cases of paralytic dementia presenting tabetiform symptoms. For the symptoms of tabes in all cases except Case I. (in which this point cannot be determined, because of the meagre history) preceded the paretic symptoms. In Cases II. and III. the history does not state this point definitely, but it may fairly be inferred from the fact that the tabetic symptoms were so marked when treatment for mental symptoms was sought.

The two most important of the cardinal symptoms of tabes, viz., ataxia and loss of knee-jerks, were present in all five of these cases, except that (as previously noted) ataxia was not characteristic in Case V. The lightning pains were known to have been present in only two cases (III. and IV.). In one case (IV.) they were present for many years. This symptom may have been present in the other three cases, but the history does not record the fact, and the mental condition of these patients was such that they could not remember them.

The pupillary symptoms are noteworthy. In Cases I. and III. the pupils responded to neither light nor accommodation, and in the latter case they were dilated. In the remaining three cases they presented the Argyle-Robertson type of phenomena.

As to the symptoms of paresis, dementia, delusions of grandeur, tremor, and defective articulation they were present in all patients, excepting Case IV. (where speech was not defective), and Case V. (where delusions of grandeur were not noted). In view of the presence of these symptoms the diagnosis seems plain in all these cases.

In two cases (IV. and V.) there is a clear history of syphilis. It is not known whether or not any of the other three cases were syphilitic.

Westinghouse Building.

Travail and Travel.—A Boston daily is the authority for the statement that one of the companies that run lines of steamers on the great lakes announced that it would give a prize of $250 in gold for every baby born on one of its vessels this season; $500 for twins, and $1,000 for triplets. This was certainly encouraging, the prize for triplets being notably appreciative. They are worth the price, the writer said, and the money would start the parents off very handsomely under what would otherwise be unfavorable conditions. We have not heard that the birth-rate on the great lakes was higher than usual this summer.

[1] Since this was written the diagnosis of associated tabes and paresis seems plain.

INFLAMMATION OF THE UTERINE APPENDAGES (SALPINGITIS).[1]

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Every practitioner is aware of the fact that the present century is full of changes in the theories and practice of medicine. Perhaps in no branch of our science has more been done for the alleviation of human suffering than in that pertaining to diseases of women, and to the consideration of one of these I, for a moment, invite your attention.

As we are informed by Pozzi: "In the attempt to understand the connections between the uterus and the Fallopian tubes, it must be borne in mind that they have a common embryonal origin.

"At the end of the second month of intra-uterine life, Miller's ducts fuse inferiorly to form the uterus and the vagina, while they remain distinct above and constitute the tubes. The latter are, in reality, only the slender prolongation of the uterine cornua. There is an immediate continuity between their different coats, from which arises the possibility of an ascending salpingitis consecutive to an inveterate cystitis. The ovary connected to the tube by the tubo-ovarian ligament is in almost immediate contact with its pavilion, and may be infected by contiguity. These organs are also united by important vascular and lymphatic connections. I need scarcely remind you of anastomoses of the utero-ovarian arteries and veins with those of the uterus; still more important are the lymphatics. There is a remarkable lymphatic group occupying the space between the tube and the ligament of the ovary. Important relations, completing the already close anatomical connections, are thus established between the ovary and the tube. Thus there is, so to speak, no ovaritis without salpingitis, and no salpingitis without ovaritis; the inflammations of the appendages are then properly combined in the same description. Almost always the inflammation passes from the tube to the ovary directly by contact and by adhesion. But sometimes there is also observed a suppuration of the ovary without continuity with the inflammation of the tube. This fact can then be explained by the lymphatic relations. The vessels which come from the pavilion follow the external lateral ligament and empty into the large lymphatic plexus called the subovarian plexus. There is then no difficulty in comprehending that an abscess of the ovary may be observed. With relatively small lesions of the oviduct, the adhesions, which are rich in lymphatics, may serve to carry the inflammation. The lymphatic net-work which covers the surface of the ovary also communicates extensively with that of the peritoneum. If, then, the peritonitis, consecutive to inflammation of these organs, usually remains circumscribed, it is, without doubt, because an early stage of the process consists in a plastic obliteration, a sort of adhesive lymphatic thrombosis.

"Finally, the subperitoneal cellular tissue that exists in the wings of the tube and of the ovary, is in connection with that of the broad ligaments, which is itself continuous below on the pelvic floor, and on the sides with the lamellar tissue, folding in with the peritoneum and offering a special laxity in front of the bladder in the pseudo-cavity of Retzius. The knowledge of these peculiarities is indispensable for the explanation of the deep and the superficial propagation of the inflammation."

The importance of the subject and the frequency of the disease may be inferred from the fact that Winckel, out of five hundred autopsies made on women, found three hundred of them to have had salpingitis of a greater or less degree. There have been many classifications of salpingitis described. The one to which reference will be made in this paper is that formulated by Dr. H. J. Garrigues and given in his text-book on "Diseases of Women."

Different Forms.—It may be acute catarrhal or acute purulent, both of which are seated in the mucous membrane, and are therefore called endosalpingitis; or it may be chronic interstitial, which is also called pachysalpingitis, mural salpingitis, or parenchymatous salpingitis, and is located in the muscular coat. Salpingitis may be cystic, and, according to the character of the fluid contained in the dilated tube, it is called pyosalpinx, which is filled with pus; hydrosalpinx, which contains a watery fluid, and hæmatosalpinx, the contents of which are bloody. Perisalpingitis is the inflammation of the peritoneal covering of the tube, a condition which only occurs as part of a more extended pelvic peritonitis.

Profluent salpingitis is a variety characterized by the discharge of a watery fluid, pus, or blood from the tube through the uterus and vagina. When the fluid is watery the disease is also called hydrops tubæ profluens, or intermittent hydrocele of the ovary.

Under the name of salpingitis, isthmica nodosa has been described, a form of chronic salpingitis in which nodules can be felt at the corners of the uterus. In their interior is found the tubal canal, hyperplasia, and hypertrophy of the muscular elements of the wall, and sometimes cysts.

Pyosalpinx saccata is a variety of pyosalpinx in which the lumen of the tube is partitioned off into a series of pus-filled sacs, which partitions may subsequently become absorbed so as to form one cavity. Taking the etiology as base for a classification, salpingitis may be divided into infectious and non-infectious. The non-infectious is always catarrhal; the infectious is nearly always purulent, but may, in the beginning, or toward the end of the disease, be catarrhal.

The causes of salpingitis in many cases cover a multitude of sins and imprudences, either produced by the woman herself or someone else. Gonorrhœa and septic infection cause the greater number of cases. Abortions, which are complete or incomplete, causing many cases also, which sometimes do not manifest themselves for several years; endometritis, metritis, too frequent coition, exposure to cold just prior to, and during, menstruation, exanthematous diseases, syphilis, tuberculosis, and frequent douche of cold water. Last, but not least, any manipulations of the cervix or uterus without surgically clean hands or instruments. The symptoms are many and varied. When seen in its first stages the patient may only complain of a peculiar discomfort of the external genitals, urethra, and uterus, on one or both sides. Pain may be slight or severe; referred to the sacral and lumbar regions or down the thighs, also in the iliac fossa and epigastrium, exaggerated by undue exercise. Sometimes they have pain caused by the tumor pressing on the nerves in the pelvis. Pain more or less severe during defecation, which does not occur daily with these patients, who usually suffer from chronic constipation as an adjunct to their other troubles. Some only complain of pain during coition. Menstruation may be profuse and irregular, the pain becoming more severe at that period. Some of these symptoms may be, and are, frequently overlooked, and the patient treated for hysteria and dosed for months; the knowledge of the real trouble escaping the attention of the attending physician. Should a few drops of pus from the fimbriated end of the tube escape into the abdomen, thereby setting up a pelvic peritonitis, the cause of which might still escape the attention of the medical attendant, a vaginal examination ought not to be neglected.

As regards treatment, it is well for us to remember, in this connection, that every case of metritis in every instance, whether specific, septic, or non-septic, will,

[1] Read at a meeting of the Colorado State Medical Society, held June 20, 1895

sooner or later, extend to the tubes, causing salpingitis. Therefore, the most important treatment is prevention. If all cases were recognized before the tubes are involved, and properly treated, we would have very few cases of salpingitis. When a salpingitis is acute, the usual palliative measures of cold applications to the abdomen, with hot vaginal injections, absolute rest in bed, a fluid diet, and opium are employed. But it is the subacute and chronic cases which cause us the greatest anxiety and make confirmed invalids of our patients, which we wish to consider. It has become quite a fad to remove all diseased tubes, but a great many tubes can be saved by a palliative treatment, if properly carried out. Numerous cases may be seen, which were due to endometritis, cured by curetting the uterus and then treating the diseased tubes locally; and also where an eroded and enlarged cervix is found with salpingitis, a great advantage may be gained by treating with applications of a five-per-cent. solution of aluminum acetate. The best local treatment, perhaps, is to use ten per cent. ichthyol glycerine tampons in the vagina twice a week, at the same time employ hot vaginal injections twice a day. In chronic cases have them use a Priesnitz at night and remove it in the morning; also frequently paint the posterior vault of the vagina with iodine. Sometimes a better result will be obtained by confining the patient to her bed for a week or two, giving her hot vaginal injections three times a day, and introducing the ichthyol tampons every night. Electricity has been recommended, but it may be doubted if the value has been proven; also massage. If massage is to be used, it should only be in chronic cases, for the reason that if used where there is any inflammation it will aggravate it. If none of these measures cure or relieve the patient, then the question of removing the tubes may be considered. Laparotomy has always been the extreme measure employed. But recently the operation of vaginal hysterectomy has been advocated and substituted by Drs. Polk and Boldt, of New York, in cases where both appendages must be sacrificed, as ascertained by the history and examination.

The following report of two cases are selected from a number of similar ones, treated agreeably to the course laid down in this paper:

On August 7, 1894, Mrs. Emma S——, thirty years of age, applied to me for treatment; family history good; commenced menstruating at the age of thirteen years; always regular and free from trouble at those periods; pregnant three times, carrying her children to full term. In the month of May, 1892, she was delivered of a healthy child at full term. Her trouble dated from that time. Complained of pain, at period of menstruation, on left side and back; nausea at irregular intervals, accompanied with diarrhœa; constant feeling of lassitude, all of which incapacitated her from performing her household duties. On bimanual examination I found the left tube and ovary painful to touch, and enlarged to the size of a goose-egg; temperature of vagina elevated, with inflammation of entire pelvis. Discharged from treatment, October 8, 1894. Treatment consisted of the introduction of ichthyol tampons twice weekly, with a general tonic. Patient reports herself, May, 1895, entirely free from her former trouble, from date of discharge.

On February 27, 1895, Mrs. Kate T——, aged thirty-four years, came under my treatment. Menstruated at thirteen years of age; married when twenty-one; has three living children. In July, 1894, aborted at six weeks, from which date she has suffered from the following symptoms: Pain referred to left side; menstruated profusely at irregular periods; on bimanual examination found an enlarged left tube; speculum revealed an enlarged and eroded cervix. Treatment: Application of aluminum acetate to cervix, followed by introduction of ichthyol glycerine tampons. Patient discharged from further treatment April 30th, since which time she has been free from pain and irregular menstruation.

19–21 Union Block.

A METHOD OF EXPRESSING THE DEGREE OF ACIDITY OR ALKALINITY OF ORGANIC AND OTHER FLUIDS.

By J. B. NICHOLS, M.D.,

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In laboratory work the necessity frequently arises of estimating the degree of acidity or alkalinity of organic and other fluids, as in the examination of stomach contents. Various methods are in use for expressing the acidity or alkalinity, as in the case of urine by the terms of an equivalent solution of oxalic acid, and in that of stomach contents by the number of cubic centimetres of a decinormal alkaline solution required to neutralize 100 c.c. These methods are more or less arbitrary and empirical. It would seem desirable that a uniform and rational system should be adopted applicable to all fluids to express the results of volumetric acidimetry and alkalimetry. It is the purpose of this note to present a scheme which I use in my own work with urine and gastric fluid, and which seems admirably suitable for its purpose.

The natural standard is the normal solution. This is the standard adopted in the system here presented, with its acidity or alkalinity, as the case may be, fixed at the number 1. All other degrees of acidity and alkalinity are expressed by the numbers (decimals or integers) indicating their strengths, relative to the normal solution as 1. This standard may, if deemed advisable, be expressed by the letter N. Thus, an acidity expressed as .022 (or .022 N) would mean that the acidity of the fluid is twenty-two thousandths that of a normal acid solution; .001 N would represent a strength of one-thousandth of a normal solution; a fluid of which 10 c.c. would be neutralized by 4.5 c.c. of decinormal acid would have an alkalinity of .045 N; 2 N would represent a strength double normal; decinormal and seminormal solutions would be represented by .1 N and .5 N respectively. The latter are frequently expressed in fractional form, $\frac{N}{10}$, $\frac{N}{2}$. The system here suggested contemplates an extension of this method of notation to acid and alkaline fluids of all strengths, only the decimal form is more generally convenient than the fractional.

It might at times be also found convenient, as in tabular matter, to denote acidity and alkalinity by the signs + and — respectively. This method of notation appears to me to be the best for its purpose. It is of universal applicability to all acid and alkaline fluids, and expresses results in a uniform manner. As all normal solutions are of equivalent strength, this method affords a means of direct comparison not only between fluids of the same reaction, but also between acids and alkalies. It is simple, rational, and natural, the normal method as it were, and completely corresponds with the system of normal solutions.

The acidity or alkalinity so expressed is directly proportional to the percentages by weight of acid or alkaline substances present, which may be readily computed by means of normal factors. Thus, a strength of .001 N corresponds to .003637 per cent. by weight of hydrochloric acid, .004489 of absolute oxalic acid, .003996 of sodium hydrate, .00219 of carbonic oxide, etc., from which the weight percentages can be readily determined.

In any titration, where two fluids are mixed to exact neutralization, the number of cubic centimetres of the one fluid used, multiplied by its acidity, is equal to the number of cubic centimetres of the other fluid multiplied by its alkalinity. The number expressing the acidity or alkalinity can therefore be easily calculated,

in any titration, by the following rule: Multiply the number of cubic centimetres of the test solution used in titration by its alkalinity or acidity and divide the product by the number of cubic centimetres of the fluid being tested which is employed; the quotient expresses the acidity or alkalinity of the latter. Thus, if it requires 6.8 cc. of decinormal sodium hydrate solution to neutralize 8 cc. of stomach contents, the acidity of the latter equals $6.8 \times .1 \div 8 = .085$.

PALLIATIVE TREATMENT OF HAY FEVER.

By FREDERICK G. SMITH, M.D.,

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THE prevalence of hay fever, especially at certain times in the year, is of such frequent occurrence, and symptoms so characteristic, that its recognition is not difficult even by the laity. So periodically regular is its appearance that the practitioner is almost sure to meet it during the months of August and September. Indeed, many patients can foretell its onset with precision even to an hour.

In endeavoring to treat a disease on a rational basis, the regular physician always strives to remove the cause, and it is a well-known fact that diseases in which the cause is imperfectly understood are the most unsatisfactory to treat. It is not intended here to discuss the etiology of hay fever, but while this curious disease has been very closely studied for many years and brilliant theories and ideas advanced relative to its cause, there are none that are at present universally accepted. Confronted, therefore, by these facts, the hope of obtaining a specific for its cure must necessarily be shaded until further investigation has been made. Where the cautery can be used, it undoubtedly produces the best results if thoroughly applied. This is a disagreeable procedure, requiring sometimes several sittings, and will not, for various reasons, be used by many physicians.

A large majority that apply for treatment to the general practitioner are not possessed with the means to take a sea-voyage or to spend several months in the mountains, so we must resort to means more within the reach of all. Referring, then, to the palliative treatment, local applications are to be recommended. Sprays of various sorts produce only a transitory effect, besides not being convenient. Cotton has been used in the nose with a view of preventing the irritating substance, whatever it may be, from gaining access to the hyperæsthetic membrane, but most people do not like the sensation, and the cosmetic effect is not wholly attractive. Ointments produce a twofold effect, viz., combined with anæsthetics they diminish hyperæsthesia, and shield the nerve-terminals from irritation. The following combination I have found very effectual, and I have yet to see a case where it did not give almost instant relief.

℞. Mentholis ..... grs. xx.
Olei amyg. dulcis ..... ʒ ij.
Acidi carbolici ..... ♏ x.
Cocain hydrochlor. ..... grs. vj.
Ung. zinci oxidi ..... ʒ ss.

Sig.: Apply thoroughly to the nostrils on cotton attached to a tooth-pick.

It will at once be seen that cocaine is the chief drug to be relied upon, but I do not think it is the only one, as I have used it in other ways with much less satisfaction. It is the combination as a whole that I think worthy of notice, and while empiricism ought generally to be discouraged, I think in the disease under consideration it seems justifiable. There are adjuncts that are valuable in these cases depending upon the general condition of the system. Out-door exercise, Blaud's pill in anæmia, and arsenic, strychnine, and phosphorus, as indicated, are too well known to warrant comment.

Progress of Medical Science.

Intestinal Obstruction in Children.—Dr. Monti, after discussing the causes and general symptoms of intestinal obstruction in children and accepting in the main the views of Leichtenstern, gives the following points as those which are of value in forming an opinion as to the site of the obstruction (*British Medical Journal*): 1. In the lower part of the colon the first symptom of acute obstruction is painful colic, and the region of the abdomen in which the colic is first felt may afford some indication of the part of the colon obstructed. Vomiting does not occur until the colic has lasted for some hours or days; it is at first bile-stained, then becomes foul, and finally feculent. Collapse sets in late; gaseous distention of the intestine begins in the colon, and at first it may be possible to make out that it is limited to the region occupied by the colon (flanks and epigastrium), but later the ileum also becomes distended, and the tympanites may reach a very high degree. In incomplete obstruction the symptoms are the same, but develop more slowly. Action of the bowels may occur, and be attended by temporary relief, especially of the tympanites. If the rectum be incompletely obstructed, constipation alternates with attacks of painful tenesmus, followed by the passage of small scybala. Circular constriction of the rectum causes the motions to be of small calibre. 2. Acute obstruction in the lower part of the ileum is attended with frequent attacks of painful colic, starting in the ileo-cæcal region. Each paroxysm of colic induces an attack of vomiting, the vomited matter being at first the contents of the stomach, but later fecal. Collapse sets in early. The distention of the abdomen is most marked at first in the umbilical and hypogastric regions, but in time becomes general; it is not notably diminished by vomiting. At first several fecal stools may be passed, but after a few days there is complete constipation. The quantity of urine is diminished after the first few hours or days, and there may eventually be suppression. When the obstruction is incomplete the colic may be as severe, and the movements of the coils of intestines perceptible. The degree of distention may vary greatly in a very short time, and this independently of the passage of a stool. The constipation, after lasting some days, may be succeeded by copious, foul diarrhœa. 3. Acute obstruction in the duodenum or jejunum causes severe colicky pain, starting about the umbilicus and radiating toward the stomach. Vomiting comes on early, and is violent; the vomited matter is at first bile-stained, later it becomes foul smelling. Gaseous distention is slight, and is limited to the epigastrium. It may be very much diminished by vomiting, but collects again. The bowels may at first act spontaneously or after enema, but eventually there is complete constipation. Suppression of urine is established early. When the obstruction is not complete, the symptoms are similar but less severe. The colic is painful, and the vomiting, either in relation with the colic, or independently, very frequent. The quantity of urine is diminished. There is no distention of the abdomen, and diarrhœa alternates with constipation. Monti considers that if a case is seen early much may be learned as to the probable seat of the obstruction by observing the way in which the tympanites develops.

The Library of the Surgeon-General's Office of the United States Army now contains 116,847 volumes and 191,598 pamphlets.

Every Fatal Case of Typhoid, says Mr. Ernest Hart, is, in fact, a violent death, an example of water poisoning, and should be the subject of sanitary inquest.

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SUNDAY LIQUOR-SELLING FROM A DOCTOR'S STANDPOINT.

THE discussion of the excise question, of local option and of Sunday liquor-selling, which now interests so many, has a medical and scientific side which should not be entirely neglected. It is very proper that those people who are anxious to provide (or deny) opportunities for drinking every day in the week, should, in a measure, consider not only the question of "personal liberty" and the "poor man's rights," but also the question whether the habit of drinking liquor on any day may not be injurious to the body of citizens as a whole. Our readers will remember that not many years ago, the question of the danger or lack of danger from the use of alcoholic drinks, was very widely agitated among medical men, and that many learned opinions were given, very largely by eminent English physicians, as to the safety, or otherwise, of the habit of moderate drinking. The conclusions, at that time, seemed to be, from all the facts and opinions that could be gathered, that a large number of persons could drink temperately for years without really impairing their health or shortening their lives. Since that time a good deal more evidence, as to the action of alcohol upon the human body, has been collected, not by hysterical prohibitionists, but gathered from the laboratory, the autopsy-room, and the bedside. One series of facts, opening up a decidedly new field, has been obtained through the works of the experimental psychologists. Through the efforts of some of these gentlemen, and we may mention particularly work done at the Heidelberg University, it seems to be established that alcohol has an effect in dulling certain mental processes, such, for example, as learning by rote, simple arithmetical calculations, and the simpler association of ideas. Another series of facts which tend to show the evident effects of alcohol, is that which have been collected by students of heredity, particularly the relation of heredity to degeneration in families. The French alienists, in particular, have shown that one of the most prominent of the factors in leading to development of mental and physical degeneration, is the use of alcohol, and it is further urged by these investigators that alcohol has more than an individual or family effect, that it produces serious deterioration of the human race. Of course, the effects thus claimed are all due to the abuse and excess of alcohol. Whether a further and more careful investigation would show that a moderate use of alcohol leads, eventually, to somewhat similar results, we cannot say. As regards the evidence against alcohol, furnished by clinicians and pathologists, there has really been nothing particularly new added in late years. But if one take an unbiassed survey of the position of medical knowledge and of medical men toward alcohol, and compare it with that held by them fifteen years ago, we feel sure that he will see that the feeling against the use of it is much stronger. This is because there has been a gradual accumulation of facts carefully ascertained and thoroughly proven, demonstrating the ill effects of the drug.

It is for the reason that the position of medical men regarding the use of alcohol has been always conservative and never fanatical, that the present slight shifting of the front deserves the attention of our law-makers and of all those citizens who are interested in good government and in the social problems of the day.

TUBERCULOSIS AND THE LIBRARY.

THE statement has passed current that a librarian of the city of Omaha, Neb., recently died of tuberculosis contracted from books which had been infected by consumptive patients. This report has naturally renewed the discussion regarding the danger of infection by means of public libraries. There are many physicians who are aware of cases in which some of the more actively contagious and portable diseases have been communicated by means of books, though not, perhaps, by the books of a public library. We recall, for example, instances in which scarlet fever was apparently communicated in this way. Practical experience, however, in the large cities, where there are well-patronized public libraries, seems to show that little danger is to be apprehended from this source. This is particularly the case in cities that are supplied with proper health boards and with modern sanitary methods. The danger, so far as it exists, could only apply to a few diseases of the more active kind, like scarlet fever and perhaps small-pox. Regarding this latter disease, *The Evening Post* quotes the remarks of a Boston physician, who says that he has never known an instance where there was any grounds for believing that contagious diseases were carried by books in circulation in the public library. In the year 1872 a severe epidemic of small-pox prevailed in Boston, and the physician in question saw every patient and traced, where possible, the history. In no instance did he connect the infection with the use of books. As the circulation of this library is more than two million volumes a year, this evidence is very convincing. We understand, also, that the American Library Association has twice investigated the subject of books and contagion, and in no instance was it able to trace the spread of disease to the circulation of library books. The American Library Association might, perhaps, be considered a body not entirely without bias in favor of circulating books, but its investigations were apparently thorough.

Despite all this, it would be wise to exercise a sanitary supervision over the circulation of books. Their

disinfection, when they have gone into neighborhoods that are at all suspicious, would be extremely easy, and the co-operation of a public library with the sanitary officers of the city might result in good to both parties and benefit to the public.

DOCTORS' WIVES AND PROFESSIONAL CONFIDENCES.

A LONDON journal lectures medical men on their "leakiness" as regards the personal affairs of their patients. The editor says (we quote from the *British Medical Journal*) that the great sinner is the country doctor. It is, however, adds the *Journal*, only a matter of size. "Let the victim be but big enough, and urbans can babble as incontinently as any pagan of them all." The *Journal* is ungallant enough to hint that the error often begins by the doctor telling his wife. The partner of his bosom too often makes it a test of the loyalty of her husband that he tells her everything. "It is an old saying that a secret can be kept by three men if two of them are dead, but a woman conceals—what she does not know. A wise man will make it a rule never to speak to his wife of professional matters, never even to tell her the names of those who consult him."

A man may be wise enough to make such a rule, but will he be strong enough to keep it? Experience seems to indicate that he will not. The doctor is human and feels the need of a confidant; the wife is very human and likes nothing so much as domestic details.

We must deplore the "leakiness" of which the profession is accused. It is wrong; but there are imperfections in our social fabric which must exist for a long time—until, for example, woman ceases to be curious and man—to be her slave.

HOSPITAL CORPS AND THE STATE MILITIA.

THE recent meeting in this city of the medical officers of the National Guard and Naval Militia of the State of New York, for the organizing of a trained hospital corps, is of great moment to everyone interested in the welfare and efficiency of our citizen soldiery. The experience in the late riots has so abundantly proved the prospective necessity of such a measure that there appears to be no reasonable doubt that the legislative assistance to that end which will be sought, will be granted accordingly. It will be a matter of surprise to many to learn that the provisions for the care of the sick and wounded have been for the most part made through voluntary contributions of the regiments themselves. In fact, it would appear that the only way in which proper instruments and appliances could be obtainable was by the private contributions of the surgeons themselves. Now that these facts are known, there will be no difficulty, we imagine, in obtaining from the State a sufficient appropriation to cover the actual and pressing necessities of the case. The militia of this State have shown their valor and efficiency in so many ways that their necessity as a State organization, liable for the most trying duties at the shortest notice, can no longer be questioned. It is then of the utmost importance that these self-sacrificing citizens, ever willing to do and dare in all emergencies, should be properly cared for. In the recent Brooklyn riot, this was made strikingly manifest. It was on that occasion due almost solely to the great efficiency of the medical staffs of the different regiments, that much real suffering and sickness were reduced to the minimum.

The organization of a distinct hospital corps becomes one of the necessities of the situation. Ample experience in the inefficiency of the prevalent system of special and chance details, has abundantly demonstrated this, and the medical staff, always alive to the best interests of the service, are becomingly timely and properly earnest in the advocacy of such a beneficent and useful measure.

POLICE ATTENTION TO ALLEGED TRIVIAL ACCIDENTS.

AN effort is being made by the several hospitals, through a representation of the surgeons of these institutions, to relieve the ambulance service of those trivial cases, which might be treated by the police surgeons at their respective police stations. This would appear to be eminently proper on general principles, but there are so many difficulties in the way of making such service practically effective, that it is well to consider them before taking definite action. While it is very properly argued that a police surgeon of experience is better qualified to make a diagnosis as to the real gravity of an injury in obscure cases, than is the ordinary ambulance surgeon, such chances of neglect are more than overbalanced by the loss of time in the many cases requiring the prompt assistance which the police surgeon is confessedly unable to give. The ambulance system, as it is, is well distributed over the different districts, and hospitals vie with each other in their prompt attention to accidents. Not a few of the ambulance surgeons, in their zeal to get first to the case, are so thoroughly imbued with the spirit of generous rivalry that they always dodge the penalty of the "hindermost."

There does not appear to be any unwillingness on the part of the majority of the hospitals of responding "early and often" to all summons for relief. So far, then, the system can hardly be improved by any intermediate provision of expediency. More than this, however, would be the difficulty of deciding what were and what were not trivial cases. As the responsibility of so doing would mostly rest upon the policeman who first saw the case, rather than upon the police surgeon who might or might not be within reach at a critical moment, it is easy to see that the ambulances would have and should have the first choice.

Small-pox in London.—The English journals state that the outbreak of small-pox in London goes on increasing, despite the energetic measures taken by the health authorities.

A NEW ANÆSTHETIC, A SUBSTITUTE FOR CURARE.

PROFESSOR ROSENDAHL, of Upsala, gives (*British Medical Journal*) a description of a new anæsthetic and paralyzing drug, which he thinks can take the place of curare in the physiological laboratory. We should infer, from the description he gives of its properties, that it might have also some use medicinally. The name which is given to this substance is septentrionalin. It is obtained from the aconite of the north, *aconitum lycoctonum*. There are two other alkaloids in this plant which are strong convulsive poisons, and are antagonistic to the particular drug which Rosendahl now describes. This drug is a white or slightly yellowish powder, of a bitter taste, producing after a short time an anæsthetic effect upon the tongue. It dissolves in alcohol, ether, and slightly in water. Given by the mouth, septentrionalin produces no general poisonous effects; given subcutaneously or by the veins, it causes increased salivation and sometimes nausea. It paralyzes, first, the sensory nerve-endings, and later there is sometimes a short motor irritability, followed by a paralysis of the muscles. The result is that the animal is made first anæsthetic and then is quite paralyzed and lies motionless. If the dose is very large, the muscles of respiration also become affected and breathing ceases, though the heart still continues to work. The heart is thus always the *ultimum moriens*. If artificial respiration is employed, the animal can be kept alive, and as the poison is eliminated, it soon recovers. In spite of rather severe poisoning with the drug, the heart muscle does not seem to be very much affected. The drug has but little influence on the pupil. Pro fessor Rosendahl states that, from a practical point of view, he would first call attention to the power of this drug in replacing curare in vivisection. It is preferable to curare because the dosage is fixed, and besides that it produces anæsthesia. So far as its possible use in practical medicine is concerned, the writer says that strychnine-tetanus yields immediately, both in frogs and warm-blooded animals, to injections with septentrionalin. The toxic dose required for producing paralysis or curarization is, per kilogramme of body-weight, for dogs, .0070 grammes, for cats .0100 grammes. The dose for the human being must be calculated on this basis.

Professor Felix Hoppe-Seyler.—The death is announced of Professor Hoppe-Seyler, at the age of nearly seventy. In the early part of his life he was a physician and pathologist. The last thirty years of his career, however, were devoted to chemical teaching and investigation. He published, in 1881, an exhaustive treatise on Physiological Chemistry, and later a practical handbook on the same subject. For nearly twenty years he has edited the well-known chemical journal, *Zeitschrift für physiologische Chemie.*

Dr. John S. Young, of Brooklyn, died in that city on September 24th, aged sixty-two. He was a graduate of the College of Physicians and Surgeons of New York, and served in the Health Department in Brooklyn for a number of years.

News of the Week.

The Legislature of Wisconsin has appropriated $50,000, as a contingent fund, to be used by the Health Board, if necessary, at any time during the next two years, to prevent the introduction of cholera.

Dr. J. C. Warren.—The honorary degree of LL.D. has been conferred upon Dr. John Collins Warren by the trustees of Jefferson Medical College.

Dr. Benjamin Rush.—The Rush Monument Committee of the American Medical Association, are working hard to increase the fund which is to be used for the purpose of erecting a monument to him in Washington. The sum total of the fund, up to September 23d, was $3,357.39. While the energetic and patriotic members of the American Medical Association are thus laboring to secure for Dr. Rush an enduring monument in brass, a literary gentleman and historical student of this city, Mr. Paul L. Ford, is busily at work undermining the eminent doctor's character. According to Mr. Ford, Dr. Rush was a politician of the lower stripe of the present time. His political associates, we are told, were among the trickiest of Philadelphia's tricky politicians, and he got into Congress through a "job," and was not in any wise entitled to sign the Declaration of Independence. This is the point of view of a historical investigator, who has paid a good deal of attention to the contemporary documents. We are not in a position to deny the truth of some of his charges, but the life and work of Dr. Rush, as made known by his writings and his scientific attainments, are, we think, sufficient evidence that he was a man of superior mould, and of a higher character than his critic would admit.

Professor Schede, of Hamburg, has been appointed to the chair of surgery in the University in Bonn, in succession to Professor Trendelenburg.

Leprosy in New York.—Some excitement was caused recently by the circulation of the report that there were five hundred cases of leprosy in New York. Naturally, the report did not long receive credence. There may be two or three cases of the disease in the city, and if so, there is nothing to apprehend from it. Though leprosy may be a very slightly contagious disease, it is not one whose contagion is going to cause the slightest degree of harm in a modern city.

Death of Professor Bardeleben.—Professor Henry Adolf Bardeleben, of Berlin, died in that city on September 24th, aged seventy-seven. Professor Bardeleben was one of the leading physicians of Berlin for many years.

The Retirement of Dr. John S. Billings, United States Army.—Dr. John S. Billings, Director of the Army Medical Museum, availing himself of the law which permits an officer to apply for retirement at the expiration of thirty years' service, retired from the army October 1st, with the rank of Lieutenant-Colonel and Deputy Surgeon-General. He has been in the service thirty-four years and has completed the organization of the great medical library of the Surgeon-

General's office, a model of its kind and the largest and most valuable collection of medical literature in this country. He will next week assume the chair of hygiene and the directorship of the laboratory of hygiene of the University of Pennsylvania. Dr. Billings has been identified with Washington life since the war, having had charge of the army hospitals at Cliffbourne Barracks, Georgetown. He is the author of "Reports on the Vital Statistics of the District of Columbia and Baltimore," and of New York and Brooklyn, covering six years, ending May 31, 1890. He is also the author of "The National Medical Directory." Dr. Billings is a native of Indiana, and was born in 1837. He took degrees at Miami University Medical College of Ohio, Edinburgh, Harvard, Munich, and Oxford. At one time he was resident physician at St. John's Hospital and the Commercial Hospital at Cincinnati, and was demonstrator of anatomy at the Medical College of Ohio. In September, 1861, he was appointed Acting Assistant Surgeon, and received the brevet rank during the war of Lieutenant-Colonel, which was confirmed by promotion in 1894. During parts of 1863 and 1864 he saw duty in the hospitals at David's and Bedloe's Islands, N. Y., and in 1864 was ordered to Washington. He was appointed curator of the Army Medical Museum in 1883. Few men have had more opportunities for wide usefulness, and few have improved them more. His enduring monument will be the Army Medical Museum and Library, to which he has untiringly devoted a long professional career with that brilliant success which all who know him have ever been glad to acknowledge and appreciate.

Retirement of Medical Director A. L. Gihon, United States Navy.—Medical Inspector A. L. Gihon was retired September 28th, in accordance with the age limit, after a distinguished service in the Navy of forty years. Aside from this, he gained for himself an enviable reputation as a medical writer and an acknowledged authority on matters connected with naval medical services. He enters upon his career as a civilian with good health, his old-time energy, and with the best of prospects for a still more useful future.

Death of the Sister Superior of St. Vincent's Hospital, New York.—At a special meeting of the Medical Board of St. Vincent's Hospital, held in consequence of the recent death of the Sister Superior and Director of the Hospital, the following resolutions were adopted:

Resolved, That the Medical Board of St. Vincent's Hospital express to the Reverend Mother Superior and to the whole Sisterhood of Charity, their profound sorrow at the death of Sister Superior Mary Laurentia, who for the last thirty years has administered the affairs of the Hospital with such fidelity, efficiency, and success, as to render it one of the foremost of the beneficent institutions of the city of New York.

Resolved, That a copy of these resolutions be sent to the Reverend Mother Superior of the Order of the Sisters of Charity, at the Convent of Mount St. Vincent.

Cholera.—Cholera is reported to prevail at Hong Kong, Yokohama, and other Chinese and Japanese ports, and also in Honolulu.

Obituary.

DR. LOUIS PASTEUR.

M. Louis Pasteur died on September 27th. Though originally a chemist, M. Pasteur's work in the later years of his life was identified with pathology, and one of his greatest achievements was the establishment of an institute where problems connected with bacteriology and pathology could be studied. Pasteur was a pioneer in the study of fermentations and micro-organisms, and he has been justly called the father of bacteriological science. His greatest practical discoveries were that of a method to prevent the silkworm pest, and his method of inoculation against rabies.

Louis Pasteur was born at Dôle, in the Jura region, on December 27, 1822. His father, a journeyman tanner, was poor, but he was a soldier who had been decorated for his valor on the field, and it is supposed that from him the famous man of science imbibed the patriotism which has always been one of his striking characteristics. His father superintended personally his early education, and the boy was sent to school at Arbois and began his classical studies there. Later he took a degree of Bachelor of Letters at Besançon. He went to Paris in 1845. He spent two years at the École in the study of chemistry, and was appointed a doctor in 1847. The following year he was appointed a professor of physics in the college at Dijon, and three months later was called to the University of Strasburg, where he was appointed professor of physics in the Faculty of Sciences. In 1854, he accomplished the organization of the newly formed Faculty of Sciences at Lille, and three years afterward he returned to Paris and assumed the "direction of the scientific studies" at the École Normale.

In 1865 he was made a professor of geology, physics, and chemistry at the École des Beaux Arts, and in 1867, professor of chemistry at the Sorbonne, and he remained here until 1875. He was elected a member of the Academy of Sciences in 1862, and six years later the faculty of medicine at Bonn gave him the title of Doctor, but he returned the diploma on account of the Franco-German war. In 1869 he was made a foreign member of the Royal Society of London, and in 1881 a member of the French Academy. The University of Oxford conferred on him the title of Doctor of Sciences, and he was made unanimously a perpetual Secretary of the Academy of Sciences to replace Vulpian, who died in 1887; but the state of his health and his personal scientific researches did not allow him to assume the duties of the position. He resigned after two years, and was made an honorary perpetual Secretary.

He has received almost every distinction that the French Government could give him. By a decree of Napoleon III., not promulgated, he was made a Senator, and in 1885 became a member of the Legion of Honor, in which he was steadily promoted to the highest rank.

M. Pasteur began his well-known investigations with the study of crystals while he was an assistant in the École Normale. He had no allowance for the expenses of his studies, and so he worked in a laboratory of his own with no funds except what was supplied by his own slender resources. His success in this particular branch of inquiry was regarded as remarkable for so young a man, and it was only through the force of circumstances that his labors were led into another direction. He began the study of fermentation when he became connected with the Faculty of Sciences at Lille. It was a subject little understood at that time, and he speedily succeeded in bringing the scientific men of France to his conclusions.

In 1870 he commenced his studies in inoculation for diseases other than small-pox, with which his name is most associated. From this time his name and work have been constantly before the world.

Society Reports.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, September 23, 1895.

EGBERT H. GRANDIN, M.D., PRESIDENT, IN THE CHAIR.

Nomination of Officers, Censors, and Delegates.—For *President*, E. H. Grandin (declined), E. D. Fisher, Richard Van Santvoord; *First Vice-President*, Wendell C. Phillips, Frederick Peterson; *Second Vice-President*, J. Henry Fruitnight; *Secretary*, Charles H. Avery; *Assistant Secretary*, W. E. Bullard; *Treasurer*, John S. Warren; *Censors* (five to be elected), B. F. Curtis, Simon Baruch, Frederick M. Warner, A. M. Jacobus, E. H. Grandin, Seneca D. Powell, Frank Van Fleet, C. L. Gibson. About forty members were nominated as delegates to the State Medical Society, thirty-five to be elected.

The Importance of Asepsis in the Practice of Obstetrics.—DR. ADRIAN Y. REID, in a paper with this title, compared the methods and results of aseptic and antiseptic midwifery as practised in four city institutions with the same in the private practice of four physicians. The institutions included the Sloane Maternity, the City Maternity on Blackwell's Island, and the Lying-in Hospital for the Instruction of Medical Students at Seventeenth Street and Second Avenue. In the first named there had been but three deaths out of over four thousand cases, and in these three infection had taken place before admission. There had been no deaths in the last thousand cases confined at the City Maternity. The mortality-rate in the several institutions named, under present aseptic and antiseptic methods, was about one-eighth of one per cent., while that in the practice of the four physicians quoted was about one-fifth of one per cent. in a total of nearly one thousand confinements. Dr. John Woodman had had no deaths from sepsis in his last one hundred and fifty cases; Dr. Reid but one in his last four hundred and fifty-eight cases. The chief difference in the methods of aseptic and antiseptic practice in the institutions and in the hands of the private practitioner, was the omission by the latter of the vaginal douche before and after labor. Whenever possible, Dr. Reid insisted on cleanliness of clothing, bed-linen, towels, and napkins, washing of the external genitals with soap and water and some antiseptic, cleansing and disinfection of hands and instruments. The physician seldom arrived before the woman was in labor, and the surroundings were not such as to enable him to give a vaginal douche without liability of defeating the purpose for which it was intended, disinfection and asepsis. Nor was it practical to shave the pubes as was done in hospitals. He would irrigate the vagina subsequent to labor only in case of rents, and the uterus only after introduction of the hand, using then a 1 to 10,000 bichloride solution. If no complication arose, the patient was allowed to get up on the ninth or tenth day. While he did not object to the details of hospital asepsis being attempted in private practice, yet he did not think all of them necessary.

Antiseptic Midwifery Dates from 1883.—DR. H. J. GARRIGUES said October 1, 1883, marked a new era in strict antisepsis in the United States, the date when he changed the prevailing treatment in the New York Maternity. Just before he introduced antiseptic methods, the mortality had been about five per cent. During the last month it had been at the rate of twenty per cent.; the four months after introducing antiseptic methods no deaths occurred. He said he did not agree with Dr. Reid when he spoke of the fallibility of human effort in aseptic midwifery, for there were few things in which we had obtained such splendid results.

Sepsis Due to the Physician.—DR. R. A. MURRAY called attention to the fact that the worst cases of midwifery occurred usually in maternity hospitals, yet these now gave a smaller mortality-rate than was seen in private practice. The reason was that in private practice physicians did not do what they ought to secure asepsis. He believed that asepsis, in nine cases out of ten, was conveyed by the doctor. When the physician kept himself and his hands clean, he did not have sepsis, no matter what the surroundings of the patient. The chief thing to do was to clean our hands and not to touch anything before making the examination. The genitals should be cleansed with soap and water, but the vaginal douche was not necessary. He used carbolic acid or creosote for the hands; kept the bed as clean as possible, and especially had antiseptic napkins for use immediately after expulsion of the child. The nurse must not examine the patient. He had yet to see his first case of sepsis in his own private practice.

Aseptic Midwifery Less Formidable than it Looks.—DR. GEORGE W. JARMAN said the mention of the many antiseptics and antiseptic procedures enumerated in the paper might lead one to suppose that to carry out antiseptic midwifery was very difficult. But there was no physician who could not carry with him everything which was necessary in order to secure asepsis. One or two antiseptics were sufficient, and these, with soap and water and clean cloths, would secure asepsis. We should encourage aseptic and antiseptic practice. It was not sufficient that the patient recovered after labor; she should be left well, and not suffering with an endometritis, crippled tubes, etc., as so often happened.

DR. E. A. TUCKER said that on little inquiry one still learned of many women dying of septicæmia after childbirth, although fewer than formerly. This showed the necessity for a more general application of antisepsis and asepsis as practiced in maternities where the death-rate had been reduced to a very low percentage. Regarding the uterine douche, this was not necessary even after the introduction of the hand, provided the hand had been quite clean; it certainly was not necessary after version, since here the hand did not touch the uterus. He would not advise the uterine douche unless a foul fœtus had been expelled, or some such indication were present. Shaving the pubic hair could be done in a hospital, but it was not necessary in private practice. He was glad to hear the view expressed by a private practitioner that milk fever was septic. It was not necessarily so, but usually it was. Asepsis could be carried out in private practice as well as in hospitals, being essentially the same but not quite so elaborate.

DR. THOMAS DARLINGTON said that in country or sparsely settled districts he frequently found none of the conditions permitting of antisepsis as practised in the maternities. Sometimes there was an absence of soap, of boiled water, or water of any kind. He had confined nearly one thousand women, and had lost none from any cause. Whenever there was sepsis, it came from the physician, not from the patient. He carried bichloride tablets, and cleansed and disinfected his hands. He thought the vaginal secretions helped the passage of the head, and that the douche retarded it.

DR. ROSENBERG thought there was danger of infecting the woman by giving the vaginal douche. He thought the secret of puerperal infection was easily understood after one came to realize that the womb was absolutely aseptic, and that manipulations and douches were both unnecessary and harmful. Simply clean the hands before making examination; or better, do not examine at all.

DR. REID, in some concluding remarks, wished to

impress the fact that accoucheurs were not opposed to gynecologists and surgeons; all stood together in their aim to secure asepsis and aseptic results. While he believed it was not possible to carry out aseptic details in private practice to the extent that it could be done in hospitals, yet we should try and do as well as circumstances would permit.

An Appeal from a Decision of the Comitia Minora.—Dr. Frank Van Fleet read a printed statement containing an appeal from a decision of the Comitia Minora. A suit has been brought against him for damages to the extent of forty thousand dollars for his remarks before the Society when he had asked to have an advertisement expunged from the medical directory relating to eye-strain and the fitting of glasses by an optician not a physician. He thought the right of free speech and scientific discussion in medical meetings was involved, and that the Society should interest itself in the suit.

The President explained that the Comitia Minora had not thought it right to involve the Society in the defence of a suit for damages which was based in part on the remarks of a member regarding a certain case of which that member alone had any knowledge.

Dr. H. D. Noyes made some remarks upon a resolution offered by Dr. J. B. Emerson, saying that he felt very warmly upon this subject because he believed the right of free scientific discussion was involved. Much was exacted of physicians before they were permitted to practise medicine, yet in the medical directory published under the auspices of the Society was the advertisement of one not a physician presuming to advise physicians in the matter of fitting glasses for the relief of eye-strain, etc.

Dr. Emerson's resolution was adopted, appointing a committee of five—the President, and Drs. R. H. Derby, J. D. Bryant, D. B. St. John Roosa, and H. D. Noyes—to act with the Comitia Minora in the consideration of the matter.

Clinical Department.

A LONG SURVIVAL OF INJURY TO THE SPINAL CORD IN THE CERVICAL REGION.[1]

By JAMES L. KENT, M.D.,

BERTHA, VA.

In presenting this paper I do not aspire to teach you anything new, but to interest you in a case which is almost unique.

On July 22, 1893, a healthy miner, aged twenty-three, got into a drunken fight with several others, who struck him over the head with steel knuckles, caught him by his feet, and rammed his head against the ground until he was supposed to be dead. He was carried home unconscious, and his relatives, presuming that he was only intoxicated, paid no special attention to him, until he failed to get up next morning. Then I was summoned and found him in a very drowsy condition, from which he could with difficulty be sufficiently aroused to answer questions. There were several cuts over the left eye and a small scalp wound near the posterior superior angle of the left parietal bone. His face and hair were covered with dust. His face was markedly flushed, there was a slight elevation of temperature, very difficult diaphragmatic respiration, retention of urine, and absolute sensory and motor paralysis of the entire body below the second ribs. He could flex, but could not extend the forearms; could flex the fingers slightly, but could not extend them. I could not discover the slightest deformity of the vertebral column, but the patient suffered intensely if his head was moved laterally or lowered to the same plane as his shoulders. At 9 P.M. the same day his intellect had become much clearer, and he said that he did not remember anything that had happened since the previous evening, before he was injured. At this time his physical condition was much worse; pulse 138, full and bounding; respirations 35, and very labored; temperature 103° F.; suffering very great pain in the back of his neck and over the scapulæ, with continued retention of urine and constipation.

From this time on flexion of the upper extremities became weaker gradually, sensation in the fingers was soon lost, emaciation was rapid, and, in spite of early antiseptic precautions, cystitis developed at the end of the first week. Then came overflow of urine and fecal incontinence. There was occasional vomiting, but never any dysphagia. On the eighth or ninth day bedsores appeared over the sacrum and necrosis soon became so deep as to expose the sacral nerves. There was at no time that sensation of a band or constriction about the body, a symptom so often complained of in cases of spinal injury. There was nearly always a sensation of heat, but there was never any special elevation of temperature after the third day. The difficulty of breathing was greatly increased when the patient was placed on either side, or when his bowels became distended with gas. With the exception of a few days, when the diaphragm and serratus-magnus muscle seemed ready to rebel against doing the work of all the muscles of respiration, he breathed fairly comfortably, but dyspnœa came on oftener toward the end, showing that degeneration was approaching the origin of the phrenic nerves. (I could relieve the dyspnœa very much by four $\frac{1}{60}$ grain doses of strychnine sulphate, given every two hours until relief was obtained.) His consciousness remained clear until 8 P.M., September 7th, when he became unconscious and died one-half hour later, forty-seven days after the injury.

On September 9th, assisted by Dr. E. M. Wilkinson, of Patterson, Va., I opened the spinal canal and found the cord normal, except for a space of about one inch beginning opposite the articulation of the body of the sixth on that of the seventh cervical vertebra, and extending upward to near the origin of the sixth cervical nerves. For this distance the membranes of the cord were not broken and showed only slight signs of an old inflammation, but the substance of the cord was of the consistence of thick cream and exuded from the roots of the nerves as they were severed, leaving nothing but the connective tissue and membranes, which formed a thin flabby connection for the two ends of the cord. The vertical laminæ and spinous processes were intact, and the only sign of violence to the spinal column was the ruptured posterior common ligament between the sixth an seventh cervical vertebræ.

I could not remove the bodies for examination, as the autopsy was held under protest, and I had promised not to mutilate the corpse more than was absolutely necessary to ascertain the cause of death, but these were in normal relation, so that there must have been a displacement to tear the ligament with spontaneous reposition.

From the evidences at the time of injury and post mortem we concluded that the weight of the body was thrown on the forehead in such a way as to lift the sixth vertebra up and slide it back over the seventh, as there were dirty cuts on the forehead and nose, and the posterior common ligament was torn through while the ligamentum nuchæ was intact.

The violent displacement would bruise and constrict the cord sufficiently to cause its death at this point.

I regret that I cannot show microscopic sections of this cord, but it did not harden satisfactorily after ten months' immersion in Muller's fluid.

Ashhurst says that two-thirds of the cases of injury of the cord in this region die in the first week; this one lived nearly seven weeks.

[1] Read before the Medical Society of Virginia, during its twenty-sixth annual session, September 5, 1895.

A peculiar coincidence connected with this case was that his nurse had sustained a fracture of the spinal column in the lumbar region twelve years before, and recovered so that his only trouble was incontinence of urine and a slight muscular weakness of back.

There was an interesting paper on this subject, by Dr. Thomas H. Manley, in the MEDICAL RECORD of October 28, 1893.

GUNSHOT WOUND OF ABDOMEN.

By WILLIAM H. SIMMONS, M.D.,

BANGOR, ME.

THE following case is reported to show what good results may follow immediate operation under favorable circumstances:

Michael M——, aged fifteen, was shot with a 22-calibre rifle, April 27, 1895. Some three hours after the accident he was seen by me at the Bangor General Hospital, and at once operated upon with assistance of other members of the hospital staff. The bullet had entered about an inch above and to the left of the navel, and on the abdomen being opened was found to have passed through the edge of the left lobe of the liver and then through the stomach. Bleeding was going on from a vein near the greater curvature, and there were clots in the abdominal cavity. These were removed, the bleeding point tied, the wounds in the stomach occluded with Lembert suture, the intestines withdrawn and thoroughly searched for other punctures, finding none. The wound was sutured in layers, the boy put to bed, and discharged well May 16th. Convalescence was quite uneventful, no rise in temperature occurring.

TARTAR EMETIC IN TEDIOUS LABOR.

By JOHN T. DE MUND, M.D.,

RINGWOOD, N. J.

THE progressive period in which we live necessitates speedy and safe medicament. As chance has no law, I avail myself of clinical observation founded on facts. In a pretty large obstetrical practice of over thirty years, alone and in counsel, I have found that in the majority of confinement cases the rigid os and equally rigid perineum yield readily under the proper administration of tartar emetic, with no unpleasant effect upon the child in utero and none to the mother.

Tartar emetic is positively oxytocic, a something long looked for. It almost usurps the place of forceps—is a great aid to them when necessary; it casts into oblivion dilators—instruments of torture; and the inhalation of chloroform or ether may also be numbered with the things of the past.

The emptied bladder, the washed-out rectum, are two cardinal points in delivery; and third, the emptied stomach enables a certain stage of labor to progress rapidly, as well as favorably.

I will cite but one case among many. Mrs. ——, fourth delivery. Rigid os, strong, lancinating pains. I spent most of the night with the patient, who apparently made no progress. I then dissolved ten grains of tartar emetic in one-half tumbler of water and requested nurse to give two teaspoonfuls every ten or fifteen minutes till free emesis ensued. Perfect relaxation followed shortly, the expulsive effort was intensified, and the child, a bouncing boy, was quickly in the world. This was a fair case for forceps, chloroform, etc., "as we used to do."

It seems passing strange to the writer that so simple a remedy should have lain dormant till the present. My preceptor, the late Dr. John L. Atlee, of Lancaster, Pa., was the first operator in the world to remove both ovaries successfully. He was a good obstetrician, which I can vouch for, and yet at that time we little thought of this simple method of delivering a woman.

Briefly, if all obstetricians will study this one simple remedy and act accordingly, they will not labor in vain.

A CASE OF CARDIOCENTESIS.

By G. G. COTTAM, M.D.,

ROCK RAPIDS, IA.

I PRESENT this brief report of a most peculiar case, in view of the general interest now revived in cardiocentesis as a therapeutic possiblity, though the indefinite history, complex diagnosis, and irrational results do not warrant me in offering it as a substantial contribution to our knowledge of the subject.

Hans L——, aged fifty, Norwegian, came under my care in February, giving a history of rheumatic antecedents, and now supposedly suffering from asthma. His account of himself was devoid of any details of practical value.

Examination showed him to be affected with chronic bronchitis and mitral regurgitation, though no secondary effects of the latter had yet appeared. The possibility of pulmonary tuberculosis in an incipient stage was entertained.

He was then placed on general tonic and symptomatic treatment, with iodide of potassium on general principles. The symptoms continued without much change until June, when, compensation failing, it was found necessary to supplement the treatment with strophanthus, diuretics, and occasional hydrogogue purgatives. Digitalis did not act well.

The man's condition did not improve. Dilatation of the right heart set in, and his breathing became much oppressed, orthopnœa being pronounced and constant. The pulse at this time varied from 114 to 124, and was weak and compressible. The feet were œdematous, and there was a small peritoneal effusion.

The extreme symptoms evidently came from the distended right heart, and with the view of overcoming them temporarily, the feasibility of cardiocentesis was considered. This was put into execution a week later, the man's precarious state demanding that something radical be done to avert a fatal issue. Accordingly, I made an aseptic incision into the sixth interspace one inch from the sternum and inserted a long, slender trocar. By percussion this point had been determined on previously as the most favorable for approaching the right ventricle. The movement of the heart was distinctly felt as the point of the instrument entered the organ, the motion being somewhat of a "tugging" character. Then followed a continuous stream of blood, and I was puzzled to account for the color, a bright scarlet. The trocar was withdrawn after four ounces of blood had passed through it. During the procedure the man made no complaint, save of the sharp, pricking sensation caused by the entrance of the trocar through the chest-wall. He conversed without effort, and afterward rested quietly, though with but slight immediate relief from the dyspnœa. Five days later, however, he was breathing easily, though coughing constantly and expectorating profusely. His appetite, at no time good, failed almost entirely, and he became greatly emaciated. He was evidently now well advanced in pulmonary tuberculosis, and six weeks after the operation died of exhaustion.

A partial necropsy was performed ten hours after death. Both lungs were full of tubercular deposits. The heart had stopped in diastole. Removing the organ *in toto*, the cicatrix following the puncture was plainly made out and the course of the instrument traced, to my great surprise, through the wall of and into the cavity of the left ventricle. The mitral diag-

nosis was verified also, but nothing else of note developed.

The case was an ambiguous one throughout. Death was certainly not directly due to the heart affection; and yet before the operation was performed the patient was rapidly sinking from dyspnœa, due to an overburdened right heart. How aspiration of the left ventricle could relieve this and apparently prolong the man's life is, and probably always will be, a mystery to me.

CALCIFICATION OF AN ORANGE LYING FREE IN THE PELVIC CAVITY.

By JOHN A. PRINCE, M.D.,

SPRINGFIELD, ILL.

Miss B——, aged forty, had been a sufferer from ovarian trouble for some years, having pain mostly on the left side. During the last year or so she has suffered also from prolapsus uteri. Examination revealed the uterus studded with fibroid nodules of small size. I advised removal of the ovaries to stop the ovarian pain and avert the growth of the fibroids, and proposed also to do ventro-fixation for the prolapsus. On passing my fingers over the posterior surface of the uterus they came in contact with a hard body, loosely adherent, and easily separated from its attachments to the uterus. The right ovary was present and cystic. This with the tube was removed. The left ovary and tube were absent. All that remained was a short stump of the tube about one-fourth of an inch long.

On examining the hard body removed from the posterior surface of the uterus, it was found to be of the exact shape and size of the ovary. It was free in the pelvic cavity, save the very slight attachment to the uterus by its rough surface.

The ovary must have attained full size in its normal position, when from some cause it became detached with the tube, probably from some constricting agency, which has done a far neater amputation than could have been done by any surgeon. All vestige of any constricting band or of the amputated tube had disappeared. Ventro-fixation was done, and the wound closed. The patient is making a good recovery.

ANENCEPHALOUS MONSTER.

By J. M. PERKINS, M.D.,

LEBANON, MO.

On March 5, 1891, I was called to see Mrs. H——, aged twenty-seven, multipara. She and her husband thought, and all who had seen her thought she was going to give birth to twins on account of her unusually large size. From her appearance I thought so too, but on examination I changed my mind. She had short sharp cutting pains, commonly called by old women wiggling pains. I waited on her for three or four hours to see if pains would get harder and cause a dilatation of the os. I noticed her pinched features, which was unusual with her, and her great restlessness, which was gradually becoming more and more in any position. I concluded to rupture the membrane and relieve her of the amniotic fluid, which was excessive in amount. Labor pain set in a few moments after the membranes were ruptured. I waited a while, made another examination, and found that something was wrong, but what it was I could not at the time say. After great difficulty, having introduced my hand and made traction with the finger on the presenting part, I delivered my patient of an anencephalous monster.

There was no sign of a neck, except a depressed rin all round the place the neck should have occupie The body was rather short, about two-thirds of the dinary body of a well-formed fœtus, legs very long and sturdy, arms long and slender, male organs well developed, anus closed. mouth very large and opened like the mouth of a bull frog. Eyes well developed, but closed, nose flat and broad, ears back at point of scapulæ or nearly so; no occipital or frontal bones, eyes ran back to origin of optic nerve, the course of which could be traced with the index finger as there were no orbital bones.

On August 9th, prior to the birth of this monster, a picnic was had at which a brother of the mother of this monster drank too much and became engaged in an altercation with another intoxicated man, with the result that he was terribly whipped. Both eyes and the top of the head were bruised almost to a jelly, and he was also shot. I was called to dress the wounds of both men, and when I finished my work, the mother of this monster arrived from home, and seeing her brother in this terrible plight, fell on his neck and went into a fit of hysteria. I at that time did not know she was pregnant, or I should not have allowed her to have seen him. My opinion is that the impression made on the mother at this time was the cause of the non-development of the fœtus, as both the mother and father had always been healthy.

A CASE OF TREPHINING FOR FRACTURED SKULL.

By W. KIRKER BEATTY, M.D.,

SURGEON TO ANCHOR LINE OF STEAMSHIPS.

In reporting the following case, in many points open to criticism, my object is to illustrate the beneficial result obtained by immediate operation for depressed fracture of the skull.

July 13, 1895, four days from the port of New York, the following case came under my observation:

Michael McC——, an able-bodied seaman of twenty-one years of age, Irish by birth, a strongly built man, slow of action, and of a rather phlegmatic temperament, while at work on deck was struck on the head by a bolt (from a shackle) falling from aloft from the main trysail.

On reaching his side a few moments later I found him lying senseless in a large pool of blood with a ragged contused wound over the right parietal bone. Upon examination I discovered a considerable depression in the bone of an oval shape; the bone was much comminuted and closely impacted, so that it was impossible to loosen any of the fragments; the depth of depression was half an inch. His condition was that of such profound shock that I feared dissolution would occur before I could relieve him. After dressing the wound temporarily to check hemorrhage, I administered two milligrammes of the sulphate of strychnia hypodermically, and began preparations for operating.

Having no time for an elaborate sterilization of instruments and dressings, my main reliance for antisepsis was placed on carbolic-acid solutions, the proportions being roughly estimated. After administering chloroform until the patient was thoroughly anæsthetized, I gave the anæsthetic into the charge of the steward, quite an intelligent and capable man.

I commenced the operation by incision at either end of the wound, laying bare the bone for an inch at either end of the fracture. After carefully elevating the periosteum and turning it aside, I obtained a better view of the fracture; it was located in the lower portion of the right parietal bone, nearer its posterior than anterior border. Placing the trephine posteriorly from the fracture, I removed a disk of bone half an inch in diameter, which I immediately placed in a glass of water at about 37.8° C. (100° F.). I then inserted an elevator and removed the comminuted bone, placing the larger fragments into the water with the disk. After cleaning

away all visible fragments, with the aid of a probe bent at right angles, I removed several small spicula from between the dura mater and the calvarium. After the clearing of the dura I allowed none of the carbolized solutions to be used, relying solely on warm water, which had been previously boiled. When all active hemorrhage had been checked, I replaced the trephined disk and two of the larger fragments in as nearly their original position as possible, and closed the wound by continuous suture, dressing with carbolized cotton.

The immediate result of the operation was an obvious relief of the respiratory symptoms, which before the operation had been marked by great irregularity; after removal of pressure upon the cerebrum respiration became regular and easy.

The subsequent history was that of steady and uninterrupted improvement; he regained consciousness one week later, and in twelve days insisted on being allowed to walk. One week after the operation I removed the stitches, finding the wound had healed perfectly and the bone beginning to unite solidly. July 25th I removed him from the ship and placed him in the Colonial Hospital, Gibraltar, to convalesce.

During the operation, which of necessity had to be performed on the upper deck, only the crudest of antiseptical precautions could be obtained; had his condition permitted delay it might have been otherwise.

I attribute the gratifying result of the operation to the immediate removal of pressure from the cerebrum.

August 22d I was again in Gibraltar, where I learned that he had suffered no subsequent mental disturbance, and that he was in a perfectly normal condition of mind and body.

SPONTANEOUS RUPTURE OF THE BOWEL.[1]

By W. E. LOWER, M.D.,

CLEVELAND, O.

On August 21st, about twelve o'clock, a laborer, aged sixty-three, reported at my office, and stated that while lifting one end of a 24-foot plank he strained his left side.

He complained of considerable pain in the left iliac region, the pain extending into the left inguinal region. He was placed upon the table, and it was noticed that a considerable fulness existed in both iliac and inguinal regions, more marked on left side, and extending well over the pubes on that side. After satisfying myself as to the non-existence of a hernia, Dr. Bunts, who was in an adjoining office at the time, was asked to see the case. He, also, found no evidence of hernia. Upon closer inquiry relative to the fulness on the left side, the patient informed me that there always had been more or less fulness there. His pulse was 78 and of good volume. He was rather anæmic, which he stated was quite natural with him; of a rather waxy complexion, and had a somewhat pinched expression. His bowels had not moved on this day, but had on the day previous, although he was rather constipated. He was sent to his home and instructed to go to bed, a laxative was prescribed, and hot applications ordered.

In the afternoon he was still suffering considerable pain and vomited several times. He was given one-eighth of a grain of morphine, and ordered to take one such dose every hour until relieved.

In the evening, about seven o'clock, I was called to his home and found him suffering quite severely, pain extending over the entire abdomen, but most severe in the left iliac region. His abdomen was slightly tympanitic.

I again examined him carefully for hernia, believing from the nature of the injury and the symptoms present, there might be strangulation, but again failed to find any objective symptoms of hernia. His bowels not having moved, an enema was given, which caused a slight movement. His pulse was 98, and temperature under the tongue 99° F. His tongue was dry and covered with a heavy coating. This was noted when he reported at the office. Hot applications were continued and morphine as needed to relieve pain. The abdominal symptoms and the pinched expression pointed to peritonitis. I again saw him the following morning. He had slept but little during the night, but became quite easy in the early morning. Another enema had been given during the night, but failed to move his bowels. He had vomited frequently, a dark-colored vomit. The tympanitis remained about the same as on the previous evening; tenderness slightly diminished; pulse, 108; temperature under the tongue, 99.4° F.

There was great thirst. A diagnosis of probable septic peritonitis was made, though no satisfactory cause could be assigned. Hot applications and morphine were continued. About 6 P.M. I again saw the case, and found him in collapse; pulse, 150, and very weak; cold perspiration and extremities cold. Respirations, 30; and a persistent hacking cough was noted. He was rational. Enemata of milk and brandy were ordered. At eight o'clock Dr. Ceile saw the case with me. The question of operative interference was considered, but not thought advisable, on account of the condition of the patient and the hour of the day. Stimulating enemata were continued, and the case again seen about 10 P.M., with Drs. Bunts and Ceile in consultation. An operation was considered inadvisable, and the patient died at 2 A.M., August 23d, thirty-nine hours after receipt of injury.

Autopsy.—Abdominal wall above pubes œdematous; a considerable accumulation of adipose tissue gave the prominence in inguinal regions clinically noted; adhesions to the parietal peritoneum more marked on left side; the under surface of the diaphragm and the intestines adhered to each other. There was no gas in the peritoneal cavity, but about half a gallon of muddy fluid. A large amount of tenacious exudation at various places; very marked congestion of all the superficial coils of intestines, especially in the umbilical, left iliac, and hypogastric regions. A perforation presented, one-fourth inch in diameter, half an inch from the median line of the convex surface of the ileum, six feet above the iliac-cæcal valve.

The perforation was round, the margins of which were rounded and smooth. The mucous membrane for about an inch around the perforation was markedly congested; the wall of the intestine was not perceptibly altered in thickness. No evidence of ulceration. The perforation was the centre of an intense peritonitis; the immediate coils of intestine were intimately adherent, and a profuse plastic exudation covered this part. The entire intestinal tract was laid open and inspected. There were no ulcers, no thickening, but in places there were patches of considerable congestion. The mucous membrane was everywhere intact, and not easily stripped off. The appendix was normal. The diaphragmatic peritoneum was congested, covered with exudate, and could be easily stripped off. The liver rather large; the gall-bladder and bile-ducts normal; kidneys apparently normal. The bladder hypertrophied from an old inflammation; the prostate enlarged. There were no old adhesions and no excessive amount of gas in the intestines.

Diagnosis.—Acute septic peritonitis, caused by the spontaneous perforations of the ileum.

[1] Reported to the Cleveland Medical Society, September 14, 1895.

A Coroner's Jury in England once brought in a verdict that "a three months' old child was found dead, but there was no satisfactory evidence that it had ever been alive."

A CASE OF TETANUS (TRISMUS) WITH RECOVERY.

By CARL PROEGLER, M.D.,

FORT WAYNE, IND.

A TWO-YEAR-OLD child was caught with her right hand in a feed-machine and brought to my office with a badly mangled hand, index-finger nearly torn to the tendons, but no bones broken. The wound was treated strictly antiseptically, three silk sutures were used in uniting the loose skin of the finger, and then the whole hand was wrapped up in moist iodoform gauze. Redressings were always done antiseptically; after one week the stitches came out with hardly any suppuration.

Two weeks afterward the child was brought again to my office with confirmed trismus. The jaws were so firmly set that it was impossible to open them; opisthotonos occurred during the examination. The wound was completely healed. I prescribed chloralamid, five-grain doses, per rectum, every three hours.

Next morning the child was deeply narcotized, but the jaw was a good deal more relaxed, and she was able to swallow milk I ordered the injection then every four hours. Recovery was complete, with the exception of an inability to swallow solid food, probably due to spasm of the œsophagus. With a few hypodermics of strychnia ($\frac{1}{15}$ gr.) this was overcome, and the child is now as well as ever. The wound was already healed when trismus occurred, therefore no bacteriological examination was made.

161 GRIFFITH STREET.

ABSCESSES OF THE EXTERNAL AUDITORY CANAL, FOLLOWED BY PERICHONDRITIS AURICULÆ.

By S. GOLDSTEIN, M.D.,

NEW YORK.

MR. L—— came to me on July 1, 1894, stating that some months previous he had suffered from what he termed "a boil in his ear." For this he went to a specialist for treatment. The abscess was incised and recovery was uneventful.

When I first saw him, on the above-mentioned date, he complained of stenosis of the nares, foul odors from the nose and mouth, and a discharge from both ears. Upon examination I found the occlusion of the anterior nares, due to extensive hypertrophy of the middle and inferior turbinated bones on both sides and ecchondroses of right and left sides of the septum; he also had an exceedingly large pendulous uvula and a follicular pharyngitis. Upon examining the ears I found a chronic suppurative inflammation of both ears, the discharge being more profuse in the right. At that time I advised the removal of the hypertrophied portions of the middle and inferior turbinated bones, the pendulous portion of the uvula, and curettage of the pharynx; also antiseptic treatment of the ear. To this he acceded. Upon completion of this treatment the discharge from the ears had almost ceased; in the meantime the odors had disappeared, and nasal breathing and drainage were well established. Unfortunately, my patient was unexpectedly compelled to leave town, and I did not again see him until May 26, 1895. He then complained of the discharge from both ears. For this I placed him upon appropriate treatment. He was improving steadily until July 1st; he then had a small furuncle on the concha of the right ear, which I incised, and from which a few drops of pus exuded. On July 5th he complained of pain over the right mastoid, cheek, and within the external auditory canal. I found the external auditory canal almost completely closed by a swelling in front of the tragus, and the meatus red and swelling quite extensively. Fluctuation was evident over and in front of the tragus and within the canal. I made an incision anterior to the tragus and within the canal, making communication between the incisions for drainage. A large quantity of thick, creamy pus poured out. I then curetted the part and drained with iodoform gauze. The patient was seen daily for a week. Each day the canal and abscess cavity were thoroughly cleansed. An uneventful recovery took place at the end of the second week. At that time there was still some discharge from both ears. For this I cleansed each canal every second day, and twice weekly made applications of pure iodine, with happy effect.

166 EAST NINETY-THIRD STREET.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE — ALARMING INCIDENT AT THE PRESIDENT'S ADDRESS—SCANDAL AT THE CANCER HOSPITAL.

LONDON, September 14, 1895.

THE British Association for the Advancement of Science is in session this week, the place of meeting being Ipswich, where the members have been heartily welcomed. Lord Salisbury retires from the presidency and Sir Douglas Galton takes this high office. He gave one of the least technical addresses that have ever been delivered from the chair. During his address he was seized with indisposition, and, to the great alarm of the audience, unable to proceed. He had been reading carefully for about an hour under a rather powerful argand burner, when he faltered, stammered, and then stopped amid a dead silence. He was seen to be leaning rigidly against his desk with his papers still in his hands, which were trembling. Sir John Evans, who was near, sprang forward, and so did the Mayor, who is a medical man. They assisted the President, who tried to utter a sentence, to his chair and restoratives were administered. It was a scene of a most painful and agitating kind. It was presently announced from the platform that there was no danger to Sir Douglas, and the strain of the audience was thereby greatly relieved. It was then suggested that the remainder of the President's address should be taken as read, but Sir Douglas had by this time sufficiently recovered to express a wish that Sir John Evans should read for him the concluding pages. This accordingly was done, while the President, pale and looking worn, sat smiling and listening. At the conclusion there was a burst of applause which could not be exceeded, and which was probably none the less hearty as it was a reaction from a state of consternation. A vote of thanks was carried with enthusiasm, and then the President rose and slowly approached the desk and said he wished to express his thanks, but would be glad under the circumstances to be excused. He was able to leave the platform leaning on a friend's arm, and the audience quickly dispersed.

The next morning (Thursday, 12th) the first question in all directions was as to the health of the President, and great was the satisfaction felt on the announcement that the faintness was but a temporary indisposition, and that Sir Douglas was sufficiently recovered to fulfil his engagements in connection with the Association.

The meeting at Ipswich has been successful; it has been conducted in a business-like manner and the sections have been well attended. There are nine of these and each has its presidential address—rather a surfeit

of addresses for those who take an interest in many subjects. But this arrangement enables a number of experts to bring before the public the progress made in their several departments, and thus scientific matters are made to interest wide audiences. This is, of course, desirable for science, in which respect this Association stands on a different plane from that of its imitator—the Medical—which should not approach the public, its proceedings being only for the profession. I think, therefore, these sectional addresses may do much good, but would be better omitted in the case of the Medical Association.

Some three years ago a dispute at the Cancer Hospital led to a trial for libel, in which Mr. Jennings sought to vindicate his character. He had advised a woman to submit to amputation of her arm. Some of his colleagues disagreed with this recommendation, and somehow the matter was brought before the managers, who dismissed Mr. Jennings. He is now asking for some apology or an explanation of the curious alleged sequel. It is stated that the poor woman was afterward readmitted to the same hospital, that amputation was performed there, that she died there, and that the certificate of death assigns as the cause morbus cordis! More facts should be forthcoming promptly if the management or staff expect to vindicate themselves. Who signed the certificate? Who amputated? If Mr. Jennings made an error of diagnosis, though he was supported by eminent surgeons, and was justly dismissed for it, what should be the penalty of amputating for morbus cordis, and who is the proposer of this treatment?

CHOLERA IN KOREA.

INTERESTING FACTS CONNECTED WITH ITS WIDE PREVALENCE THERE—THE REGULAR MORTALITY—THE EFFICACY OF SALOL IN ITS TREATMENT.

(Special to the MEDICAL RECORD.)

SEOUL, KOREA, August 19, 1895.

IT has been my rare privilege, during the epidemic of cholera now about over, to see more of the disease than anyone else, and yet in the month that we have had it I have been enabled to personally see only about five hundred cases, though the total deaths in the city and vicinity, comprising a population of about three hundred and fifty thousand people, have been at least six thousand. The same ratio in New York City would be about ten thousand a week. During this time I have had charge of the only cholera hospital now in operation, another one, run by a number of physicians, having proven impracticable, as they hadn't many conveniences and were unfortunate in having many dying patients sent to them—a condition from which we did not escape either—and consequently their death-rate was so high, sixty-five or seventy per cent., that it had to be closed. We were fortunate in reversing those figures, and have had from sixty-five to seventy per cent. of recoveries, and as I think it was in great part due to a certain plan of treatment, I think it is appropriate for me to send you a brief statement with a couple of typical cases. In the hospital here I have had but one hundred and forty odd cases (some were indeed very odd), the others were in the other hospital, which treated about one hundred and twenty-five, and around town, from the hovels of the poor to the palace of the king, where I was on duty for a while. In a general way the disease doesn't seem to be particularly virulent, though it has swept over certain portions of the city like as if a wind had carried the germs.

In regard to the disease as seen here, I am inclined to think that of one hundred people attacked ten will recover without any treatment at all. A sort of survival of the fittest proposition which may, or may not, stand against theoretical arguments. Without the use of drugs by the mouth, using only the saline or tannic-acid injection, then about twenty per cent. can be cured. With all the drugs usually used and all the methods too, then fifty per cent. will recover; but with salol and the rest, I am strongly of the opinion, proven by our records, that eighty or ninety per cent. can be cured. The limited supply we had of this valuable drug enabled us to use it in but few cases, and the percentage of cures in those was over ninety per cent.

It would be tedious and lengthy to go into the details of the symptoms, complications, and treatment of the various patients, but a general idea of the routine carried out from the two cases is here submitted, though the majority did not receive salol, as we hadn't it to give.

In regard to the complications we had some very diverting ones. Pregnancy was a common condition in the women, and they usually died. One, however, had a miscarriage at the fourth month, and I said if she would only have puerperal fever, that I thought she would recover. There was no evidence of fever, but the woman came out of cold sweat, collapse, and a most unfavorable condition, and recovered. Two cases dropped off suddenly from heart failure and one from cystitis. In one case of retention, I drew off sixty ounces of urine.

CASE XLIV.—Kim Wun Pal, male, aged forty-eight. Received at the hospital at 4.30 P.M., August 8th. Had had severe vomiting and continuous watery stools since morning. Symptoms of complete collapse. There seemed to be no chance at all for the man's recovery, so I wrote on the record paper, "No pulse, collapse, dying condition. We only receive him because——." Nevertheless, I set the Korean nurses I have trained at work. Gave sixty minims sulphuric ether hypodermatically and three pints of a saline solution (3 j. salt to the pint) high into the bowels, using two long soft-rubber catheters, enteroclysis as it is called, being particular as to all the details of the procedure. At 5.20 his condition was unchanged, so I practised hypodermoclysis, injecting three pints of the saline solution, at a temperature of 104° F., under the abdominal tissues. I did this many times on many patients, but was unable to carry out the fine details of antiseptics usual. My water wasn't sterilized, nor the body at the point of puncture washed. I had no bad result in any case, except a slight inflammation in one where I injected into the thigh instead of into the abdominal space. In regard to the enteroclysis, I think it ought to be a most valuable antipyretic procedure, having the water at whatever temperature is appropriate. I also gave twenty-five more minims of ether, having had the patient vigorously rubbed with alcohol in the meantime; at 6 P.M. enteroclysis, three pints.

The characteristic pains and cramps which they appropriately call "snakes," as the muscles contract into hard knots, and seem to creep up, so that many patients are brought in with cords tightly bound around their legs, now supervened. For the relief of this I gave ¼ grain of morphine, our rule being to use morphine only when absolutely necessary. At 10 P.M. enteroclysis and brandy at intervals. At 1 A.M. there was as yet no reaction and no pulse, but the vigorous measures were continued. At 6 A.M. the pulse became barely perceptible and the body slightly warm; 30 grains of salol were given, which was continued in 15-grain doses every three hours for several doses, enteroclysis with the saline fluid, cracked ice for vomiting and to relieve the thirst, milk, rice-water, brandy, and beef-tea. There were no other unusual symptoms. The man made an uneventful recovery, and in a few days walked home well, stopping at my sarang as he went out to make his profound bows and orientally exaggerated thanks. Indeed, this feature has been one of the most pleasing and diverting of all.

The other case in which I think the recovery entirely due to salol, was in this wise:

Kim Gung Yun, male, aged twenty-six. Frail, weak

young man, received at 2.30 P.M. on August 5th. He was much emaciated and looked as if he had been through a threshing-machine. His mother and other members of the family had just died of cholera. His severe symptoms had only commenced in the morning, and as yet he had had no vomiting. The pulse was good. I ordered at once the saline injection to thoroughly wash out the bowel, and gave a dose of sulphuric acid (dilute) and camphor and 10 grains of salol. At 6 P.M. enteroclysis, sulphuric acid, and camphor, internally. The man grew rapidly worse, vomiting came on and was uncontrollable. At midnight, gave 30 grains of salol, and had the usual vigorous rubbing with alcohol kept up constantly. Champagne was given at intervals. At 6 A.M. 5 grains of salol. At 7 A.M. those awful cramps and pains doubled him into a knot, and I gave ¼ grain of morphine. At 9 A.M. the pulse was barely perceptible, so I gave forty minims of ether hypod., and 20 grains of salol. At 10.30, 10 grains of salol. At 12, ¼ grain of morphine and sixty minims of ether. Enteroclysis was repeated at regular intervals. At 3 P.M. $\frac{1}{60}$ grain atropia in thirty minims of ether. From 3 to 8 P.M. we kept up the work, when the nurses and all gave him up and sent for his father and friends, who came in the morning, bringing the grave clothes; but the man wasn't dead yet. At 3 A.M. there was a slight improvement, the salol was continued, as was the enteroclysis and other routine of food and stimulation, and on the sixth day the man was discharged well. There were scores more like these two cases, presenting many interesting details, but alike in general particulars. The last case illustrates the general symptoms as we find them in this epidemic. As to salol, it is not necessary for me to more than mention its physiological action. It beads up into forty per cent. of carbolic acid and sixty per cent. of salicylic acid by the action of the pancreatic juice, and so comes in contact with the comma bacillus and when it does most live to coagulate. In my hands it has proven a most remarkable remedy in this affection. I used a small quantity of the sulpho-carbolate of sodium, all I could obtain, in a limited number of cases, and wish to report most satisfactory results. I am inclined to think it may be as valuable as salol.

J. HUNTER WELLS, M.D.

ANOTHER BERIBERI SHIP.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: The bark Lottie Moore, one hundred and seventeen days from Aleppy, India, opposite Ceylon, arrived in New York harbor this morning from Barbadoes, where she had put in, with her entire crew, all Europeans, sick of beriberi. There were sixteen persons, all told, on the ship. All were affected except the wife and child of the captain. Before reaching Zanzibar, two months and a half after the start, the first cases appeared, two men in the forecastle, where eight men were quartered. The captain and the officers were quartered in the stern. The voyage was exceptionally dry. At no time did the water on the decks reach to the hatches, which shows that very little rain fell. The cargo consisted of eight hundred tons of coir garu (cocoa fibre), some ginger, cocoanut oil and gamboge. The cocoa fibre sweated. I found in the hold all the iron carburetted. The ship's carpenter told me that on opening the hatches large volumes of steam streamed from them. He states that last year he was on a boat charged with a similar cargo; this ship also had to put into Barbadoes, where the captain and two of his men died of beriberi. The same man was on board of a coffee ship, twelve years ago, when three men were stricken with beriberi. This coffee cargo had "burned" on the voyage, and the crew, not knowing what the disease was, attributed the outbreak to that circumstance.

I may add that here again, then, we find evidence that the sweating or fermentation of a vegetable cargo is the main cause of beriberi.

ALBERT S. ASHMEAD, M.D.

NEW YORK, September 18, 1895.

CRANIOTOMY.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Dr. F. W. Higgins, in his article in the MEDICAL RECORD of September 14th, quoted Balestrini on his investigations of infanticide and abortion as saying that what is killed is not a man, but a being inferior in the zoölogical world. Now I say that this is a dangerous and most abominable doctrine, particularly at a time when the "fashion of abortion" is on a fair way to die out in this country. I hold that as soon as the two elements meet in copulation there is life, and it is criminal to destroy it, whether one month old or more, unless justified by prevailing grave conditions.

In my opinion craniotomy is justified, 1, when the fœtus is dead; 2, when abdominal section and symphyseotomy are out of the question.

Referring again to the doctrine of Balestrini, I will say that this will be balm to abortionists, and that by it they will have a means to defend their nefarious practice. If it is inferior, it is only so far inferior to the infant as the infant is to the man.

CARL ENGEL, M.D.

MINDEN, IA.

THE ELECTRO-MAGNET FOR THE REMOVAL OF FOREIGN BODIES FROM THE EYE.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Please allow me space through your columns to explain to Dr. S. Mitchell, of Hornellsville, N. Y., why I neglected to mention the electro-magnet in my report of "Accidents to the Eye while Chopping with a Hoe." Had my theme been "Foreign Bodies in the Eye and their Removal," then perhaps it might have been a crime not to have mentioned the use of the electro-magnet, but as I only intended to show the frequency of accidents to the eye while chopping with a hoe, I ask for pardon. In looking over my case-book it so happened that I selected cases in which I did not think it necessary to use the electro-magnet. Had I reported all of my cases of this nature, the use of the electro-magnet would have been mentioned, inasmuch as I really own one, and have at various times used it, and am sorry to have to report that at various times I found it useless. I bought the instrument during a sojourn in London in 1880. Several times have I witnessed Mr. Nettleship, Lawson, Tweedy, and other surgeons to Moorfields, and equally as competent and celebrated men in the different cities of America, manipulate and manœuvre about in the vitreous with an electro-magnet for *corpus alienum* of steel, with more failures than success. I myself have tried to remove pieces of steel with the magnet from the vitreous, only a limited number of times, from the fact that most of my cases when presented had commencing or advanced panophthalmitis, and experience, if nothing else, dictated to me that the electro-magnet would be of no use, even if the extraction of the foreign body were certain. But in recent cases—before irido-cyclitis, suppurative choroiditis, or panophthalmitis has set in—a careful use or trial of the electro-magnet is certainly advisable. Two weeks ago to-day a patient—a stone-cutter—consulted me, saying that he had "a piece of grit in his eye." The accident happened the day before. A bead of vit-

reous could be seen protruding from the wound in the sclerotic, made by the foreign body. I was satisfied that the offending member was a piece of steel from the hammer or chisel, and was lodged in the vitreous. I at once extracted from my armamentarium an electro-magnet, and with competent assistance used every effort to extract the piece of steel, but am sorry to have to add we made a complete failure. Had we been fortunate enough to have extracted it, I am doubtful as to the saving of the ball in this case, as I suspected incipient panophthalmitis, and advised enucleation, which, however, was refused. A solution of atropia and anodyne, and cold applications were advised. In three days the patient returned with an advanced case of panophthalmitis, and eager to have the ball removed, which I did, and afterward found the foreign body—a piece of steel, the size of a large pin-head, in the vitreous. My reason for not using the magnet in cases of foreign bodies in the anterior chamber of the eye is simply this: I much prefer to use forceps. Why not have an electro-magnetic pair in our armamentarium? I might announce, like the doctor, "I am now," and have been for years past, "using" the alternating current "in my office, and by means of a converter, manufactured by a mechanic in this city, I am able to use it for all kind of cautery work," and pardon me for saying that lots of this kind of work might be left undone, with no detrimental effect to suffering humanity. The alternating current is not suitable for the use of the electro-magnet, in consequence of which I am forced to resort to various kinds of storage batteries, and this may be the cause of my non-success with the use of the electro-magnet.

WILLIAM L. BULLARD, M.D.

COLUMBUS, GA.

"*THE*" WRITER, NOT "*A*" WRITER.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: My attention has just been called to the fact that in my article upon appendicitis in your issue of the MEDICAL RECORD for August 31st a misprint occurs, which changes the meaning. I am made to say, of the technique which I there advise, in appendix-operation, "It has recently been described by *a* writer in the *International Journal of Surgery*; together with a study of these eleven other methods."

This should read "*the* writer," as the article in question in the *International Journal* was written by myself. I ask for correction of this typographic error simply because it leaves me in the apparent attitude of using and quoting the original work of another man without doing him the justice to mention his name.

Respectfully yours,

ROBERT H. M. DAWBARN.

September 20, 1895.

"A SHORTER SCALE FOR THE THERMOMETER."

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Allow me to suggest to Dr. Elmar C. Fahrney, and to those who may agree with him as to the desirability of having the thermometer scale commence at 98° instead of 95° F., the utility of studying subnormal temperatures. I could better agree with him in his letter to the MEDICAL RECORD of August 31st, to cut down the top of the scale—though I did run across a temperature of 109° F. a while ago in a scarlet-fever case—than to chop off the scale below 98°. A physician who sees his chronic cases after 10 A.M., as most of us do, is not likely to catch their lowest temperatures. Let such patients have a thermometer and keep their own records at seven, ten, one, four, and eight o'clock, and a different phase may be put upon their thermal condition. My own rule is to choose the hours 8 to 9 A.M., 1, 4, and 8 P.M. In tuberculosis especially we ought to take cognizance of both swings of the heat pendulum.

Of a dozen cases of tuberculosis now under treatment, morning temperatures have been found in the last fortnight in at least one-half, ranging from 94½° to 97° F. Under tuberculin or antiphthisin treatment this decadence in the morning record is especially noticeable when the treatment is proving effective, and it is a good sign to see the morning average rise as the evening record lowers under the continuance of any remedial means.

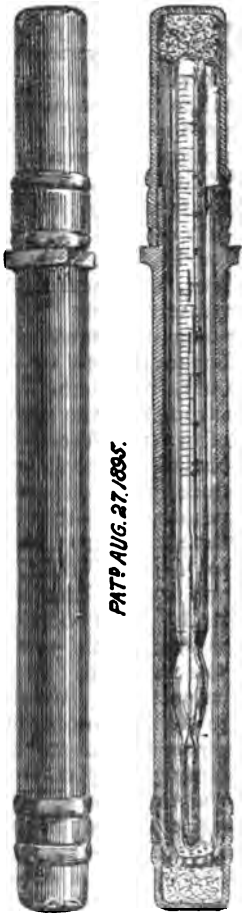
CHARLES DENISON, M.D.

DENVER, COL.

New Instruments.

THE AUTO-STERILIZING THERMOMETER CASE.

THIS is a new invention which furnishes the physician with a reliable and never-failing means for preventing the transmission of disease by means of the thermometer. It keeps the instrument sterile and always ready for instant use, without any special attention on the part of the physician.



Government tests of the auto-sterilizing thermometer case, made under the direction of the Surgeon-General of the United States Army, by Dr. Walter Reed, the curator of the Army Medical Museum, show that although the thermometers were freely smeared with solid cultures of bacillus diphtheriæ, staphylococcus pyogenes aureus, and streptococcus pyogenes, absolutely no growths occurred after an exposure of the thermometer for twenty-five minutes in the auto-sterilizing thermometer case.

As the tests were many and exhaustive, extending over the period of a month, from June 21, 1895, to July 23, 1895, they appear to prove conclusively that the auto-sterilizing thermometer case will destroy all germs of disease with a maximum exposure of twenty-five minutes to the action of the vapor, and for the ordinary use of the thermometer ten minutes' exposure is all that is necessary to render it aseptic.

The thermometer rests in a receptacle like the hard-rubber cases usually sold with thermometers, except that at the lower end of the case is attached an extra hard-rubber chamber one-half inch in depth, which contains a small pledget of absorbent cotton soaked with the glyceraldehyde. The fluid being very volatile, the vapor rises to the interior of the case proper through openings provided in the bottom of the case, and keeps the thermometer sterilized without other attention than recharging once a week with a few drops of glyceraldehyde.

Glyceraldehyde is composed of several germicidal properties, the base of which is formaldehyde.

Dilatation of the Stomach.—At no distant day dilatation of the stomach will be successfully treated by gastro-enterostomy.—WINIWARTER.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending September 28, 1895.

	Cases.	Deaths.
Tuberculosis	103	102
Typhoid fever	36	15
Scarlet fever	25	2
Cerebro-spinal meningitis	5	4
Measles	56	3
Diphtheria	121	15
Small-pox	1	0

Some Recent Views on Immunity.—At a late meeting of the Epidemicological Society of London (*The Lancet*) Dr. J. W. Washbourn read a paper on the subject of immunity, which was, he pointed out, a problem of the deepest scientific interest, and of no less practical importance because the antitoxin treatment of diphtheria, probably the first step toward an entirely new field of therapeutics, was the direct outcome of the close study of its phenomena. The first fact to be taken into consideration was that pathogenic bacteria produced their effects on the organism by means of poisons or "toxins" which they elaborated in the fluids of the body, as was well seen in the production of all the symptoms of diphtheria or of tetanus by the inoculation of sterilized culture fluids, without a trace of the bacilli themselves. These toxins were intensely virulent, but others, as that of the pneumococcus, were extremely feeble. The bacilli of diphtheria and tetanus when inoculated did not invade the vascular system, but multiplied in and around the seat of inoculation only, though the toxins they produced were diffused throughout the body. These might be taken as types of toxic diseases; though in the case of tetanus the inoculation of washed spores into a healthy wound produced no effect unless the tissues were lacerated or suppurating, or other bacteria were introduced at the same time and place. In septic diseases, on the other hand, the toxins were feeble, but the bacteria invaded every tissue and fluid of the organism. This was well seen in the study of the coccus of pneumonia in the rabbit. Some, as septicæmic, partook of the character of both, and some acted in one way or the other under different circumstances. We must consider the power of the body to destroy the bacteria or inhibit their growth, and the power of resisting the effects of their toxins, the former factor being most important in the case of the septic and the latter in that of the toxic diseases. Immunity might depend on either condition or on both. It was either natural or artificial and acquired. Fowls, pigs, and white rats were immune to anthrax; birds generally to the pneumococcus; mice to the toxin of diphtheria; and fowls to that of tetanus, just as they were to large doses of morphine. They would, however, succumb to anthrax if depressed by cold and ill fed. An artificial immunity might be acquired in several ways, as by inoculation with a mild or artificially attenuated virus, or by minute doses of a virulent one, or by non-fatal doses of the pure toxin. Anthrax virus could be attenuated by cultivation at a high temperature or by the addition of certain antiseptics. As a rule, immunity obtained by means of the toxins was less permanent than that from inoculation of living microbes. Time was required to establish immunity by means of toxins, and such immunity did not last long, both periods being longer the greater the effect of the inoculation. It was easier to render an animal immune to fatal doses of the living bacteria than to those of the toxin; and when this latter immunity was obtained that to the bacteria was also, but the converse did not hold good. A fallacy of observation might, however, arise from the fact that living bacteria were often retained in the tissues long after apparent recovery, and called into renewed activity by the injection of toxin, they and not it being the cause of the subsequent fatal attack. In some few cases a very transient immunity had been produced by the intra-peritoneal injection of dead bacteria, etc. But of infinitely greater value was that conferred by injection of the serum of a highly immunized animal. The immunity was of far shorter duration than that produced by vaccination, but this method had a therapeutic as well as or even greater than its prophylactic, and unlike vaccination was available after the disease had developed. This was the antitoxin treatment of diphtheria and tetanus. Turning to the properties of the cells and fluids of the body in their relation to bacteria, Dr. Washbourn referred to phagocytosis as the most seductive theory of immunity. To Metschnikoff, who had studied the process throughout the animal kingdom, we owed all our knowledge of the subject. The amœba, as was well known, was capable of surrounding and digesting particles of food, including living bacteria. Among these Metschnikoff had observed a small unicellular micro-organism, the microsphæra, which, however, instead of being digested multiplied within the amœba and ultimately destroyed it. Such a struggle between the invading microbes and the protoplasmic cells of the body occurred, according to Metschnikoff, in every case of infection, ending in recovery or in death, as the cells or the microbes were victorious. The struggle and the alternative results were well seen in the daphnia, a small fresh-water crustacean, and the parasitic monospora, which entered the tissues from the alimentary canal, and in a large number of the invertebrata phagocytosis played an important part. Among vertebrata the phagocytes belonged mostly to the class of leucocytes, which Metschnikoff divided into lymphocytes, eosinophile, neutrophile, and mononuclear leucocytes. Of these the two latter, together with the endothelial cells of the lymphatics and kidneys, were phagocytic, even when removed from the body, and that they were capable of thus devouring bacteria in the living animal was easily proved by experiments, such as the introduction of anthrax bacilli under the skin of a pigeon, or of those of tubercle into the blood of a rabbit, when they would be found to be taken up by the leucocytes and by the endothelium respectively, and successful cultures from such leucocytes showed that the bacteria might resist digestion for some time. The migration of leucocytes through the walls of the vessels in inflammation around the seat of an inoculation was due to a power possessed by various substances of attracting or of repelling amœboid cells, and known as positive and negative chemiotaxis. It could be studied in certain protozoa, as the myxomycetes, and in the vertebrata by inserting under the skin capillary tubes open at one end and containing chemical substances. On removing the tubes after some days, the contents, if positively chemiotaxic, will be filled with leucocytes. That the blood and lymph serum had bactericidal powers was first observed by Nuttell, and carefully investigated by Buchner, Behring, and others. If serum were inoculated with a cultivation, and the number of bacteria present estimated day after day by plate cultures, it was found that they gradually fell off until they disappeared altogether, or after having sunk in number for a time began to increase until they were more numerous than at first. It has been suggested that the serum contained a bactericidal substance called "alexine," and that the bacteria secreted an antagonistic "lysine;" both were hypothetical, but the fact remained that bacteria, if numerous, could resist the undoubtedly bactericidal action of the blood, which was also very easily destroyed by physical agencies, such as the exposure of the serum to a temperature of 60° C. The bactericidal property was most conspicuous in inflammatory exuda-

tions, and was doubtless due to some substance secreted by the leucocytes, among which Hankin first indicated the eosinophile cells as the most active. But the serum was not merely bactericidal; it could be made antitoxic. Behring and Kitasato were the first to show that the serum of animals immunized by inoculation to the poison of diphtheria or tetanus possessed the power, when inoculated into others affected with the respective diseases, of neutralizing the poison and cutting short the morbid process; and the more frequently the immunized animal was injected with the toxin the more powerfully antitoxic its blood became. Ehrlich had shown that two vegetable poisons, ricine and librine, acted in a strictly analogous manner. Serums were thus antibacteric or antitoxic, the latter being antibacteric also. The bactericidal property of a serum was very easily destroyed by heat, but the antitoxic or protective property was not, and the substance in which it resided could not be precipitated without losing its efficacy. It was scarcely necessary to state that all antitoxins were specific or efficient against no toxin but that of the disease whence they were derived. Such were the factors in immunity—viz., phagocytosis, bactericidal substances, and protective serums, the last of these being outside of the question of natural immunity. Yet the problem of natural immunity was a complex one, special factors coming in; thus the low temperature of the frog's blood enabled it to resist inoculation with tubercle bacilli, and fowls were unaffected by tetanine as they were by morphine. The blood serum of white rats destroyed anthrax bacilli even out of the body, but their resistance to the action of the pneumococcus could not thus be explained. All such cases Metschnikoff would refer to phagocytosis, but marked phagocytosis might occur and death yet follow; indeed, in the case of rabbits infected with anthrax, the bacilli had been seen to escape from the interior of the phagocytes and multiply in the fluids. Again, in the exudation around the seat of inoculations many of the leucocytes were not phagocytes, and the exudation serum might be a powerful bactericide. Both agencies were involved in the resistance offered to infection and phagocytosis, very rarely alone. The problem of acquired immunity was further complicated by the introduction of a new and artificial factor—the protective power of the serum. An antitoxin, as that of diphtheria or tetanus, neutralized the paralyzing action of the toxin on the cells, allowing phagocytosis to have full play; for the serum of immunized animals had no bactericidal properties, and the spores of tetanus, if washed free from any trace of toxin and introduced into the body of a susceptible animal, were speedily ingested and destroyed by the phagocytes. Immunity acquired toward the septic diseases was even more obscure and complex, so that, pending the results of experiments which might throw light on the subject, it was better to refrain from conjecture.

The Section on Diseases of Children of the British Medical Association.—The subjects for discussion included "Congenital Syphilitic Manifestations in Bones and Joints," introduced by the President of the Section, and the treatment of "Hernia in Children." There was a very good attendance of members, and, the subjects being mainly of a surgical nature, many well-known surgeons contributed to the discussion. The president, in opening the proceedings, gave a short review of the work done by the Section in past years, which, though including a very wide range of subjects, had still left undiscussed a large number of most important questions of disease as occurring in children. He was in hopes that a section of such importance as this had established a permanent place in the proceedings of the Association. The president then opened the discussion on "Congenital Syphilitic Manifestations in Bones and Joints," with a highly interesting paper in which, after alluding to the researches already made in this country, he proceeded to discuss the pathology and clinical features of the atrophic and osteophytic varieties of the disease. The relation of rickets to congenital syphilis was also very fully discussed, especially with reference to the causation of cranial bosses and cranio-tabes, and to the occurrence of chronic effusion into joints. Other speakers were Mr. Frederic Eve, who continued the discussion of these last-mentioned points; Mr. D'Arcy Power, who quoted instances showing the difficulty of diagnosis between syphilitic and tuberculous joint disease; Mr. H. B. Robinson, who discussed the order in which changes in the bones begin to appear; Dr. Thomas Barlow, who laid stress on the modification effected in cases of rickets by the existence of congenital syphilis; and Mr. H. Stansfield Collier, who described three cases of syphilitic effusion into joints unaccompanied by any previous bone disease. Mr. Rushton Parker (Liverpool) read an interesting paper on the "Treatment of Hernia in Children." During the last four years he had operated on forty cases, all males, and all for inguinal hernia, in some cases double; out of these he had had two fatalities. He preferred not to operate if the patient was under six months, except in urgent cases. He considered the chances of recurrence in children very small. He advocated Macewen's operation as the most secure, if not the easiest, method. He laid great stress on prolonged rest in the recumbent position after operation—six weeks, in children over six years of age. Mr. C. B. Lockwood emphasized the difficulty of completely separating the sac from the spermatic cord in young children. Mr. John Langton advocated treatment by truss only in a large majority of cases. Professor William Macewen spoke of the impossibility of dealing effectively with hernia in hospital practice by means of a truss—an opinion which was endorsed by every speaker present. He considered the delicate tissues of children were quite reliable for this operation, and in about thirty cases operated on by him had met with perfect success. Dr. Ward Cousins considered the operation in children over twelve months old eminently satisfactory, and gave an interesting account of his own method of procedure. Mr. J. Macready, Mr. F. A. Southam (Manchester), Mr. H. P. Symonds, Mr. Reginald Lucy (Plymouth), Mr. Damer Harrisson (Liverpool), and Mr. H. Waterhouse, all contributed to a highly interesting discussion, which included methods of operation, kind of sutures, dressings, etc., advocated by each speaker. The president referred to the frequent occurrence of strangulated hernia in young children. A case of congenital syphilis of the tongue was shown at the conclusion of the meeting by Mr. Jackson Clarke. Dr. J. Kingston Barton introduced a discussion on the "Doses of Various Remedies Suitable for Children at the Several Ages," urging that sufficient indication was not given in the "British Pharmacopœia" of the various drugs to which children were peculiarly susceptible, and that an additional list of doses suitable for children should be given, having special reference to age. Mr. Barton proceeded to give a list of twenty-seven drugs, which, in his personal experience, had required either to be increased or decreased much beyond the limits usually recommended. In his experience belladonna was an overrated drug, and its ill-effects were often more marked than the good it did. He advocated a smaller dose. With regard to a general rule of dosage, he recommended one-twelfth of an ordinary dose for a child one year old, and for under that age a reduction reckoned by the months of the child's life. The president, in commenting on the use of chloroform as an anæsthetic for young children, expressed his preference for ether whenever possible. Dr. A. Foxwell said that he agreed with Mr. Barton in advocating small and frequent doses as a rule. Dr. Dawson Williams said that he altogether doubted the age-limit in the administration of drugs. In his experience it was

useless to give too minute doses; especially in the administration of antiseptics and of mercury, he believed in large doses. Dr. Leech (Manchester) pointed out that the doses in the "Pharmacopœia" represented average doses. Arithmetical calculations were of very little value; physiological considerations were more important. Dr. N. J. Tirard said that the main considerations should be the nature of the patient and of the disease, as well as the purpose for which the drug was employed. After some discussion, the following resolution was carried: "That this Section thinks it desirable that in the new edition of the 'British Pharmacopœia' the maximum doses of powerful drugs suitable for children at various ages should be indicated." Mr. E. Cautley read a paper on the "Value of Trephining in Tuberculous Meningitis." Mr. Herbert Waterhouse and Mr. D'Arcy Power continued the discussion. Mr. Nicholas Grattan (Cork) showed an apparatus for osteoclasis, and Mr. C. W. Cathcart (Edinburgh) showed a simple form of milk sterilizer. Mr. C. B. Lockwood reported a case of hernia of the ovary in an infant with torsion of the pedicle. Dr. J. Walter Carr read a protest against the term "consumptive bowels," and Mr. Telford Smith communicated the "After-history of Two Cases of Craniectomy." A vote of thanks to the president, proposed by Mr. D'Arcy Power and seconded by Mr. C. W. Cathcart, ended the proceedings.—*British Medical Journal.*

A New Treatment for Fever.—A new curative treatment has been discovered by a Transvaal doctor. Having noted the fact that milk absorbs poisonous germs from a bucket, he decided that it might be possible to turn this germ-absorbing power to a therapeutic account. He put his ideas to the test, and now asserts that he has cured persons of small-pox, fevers, diphtheria, and other maladies by simply wrapping them in milk sheets. The patient is laid on a mattress covered with blankets, and is packed in a sheet just large enough to envelop the body. This sheet has first been saturated in a pint and a half of warm milk, and is applied to the body without wringing. After this treatment, which lasts about an hour, the patient is sponged with warm water, or is put into a warm bath.—*Medical Press and Circular.*

A Claim to Priority in Vaccination.—In the *Ugeskrift for Läger* Dr. Friis advances a claim on behalf of a Holstein schoolmaster named Peter Plett, to the honor of priority in the discovery of vaccination. Jenner's first vaccination was, he says, performed on May 14, 1796, but Plett had already done it in 1791. The latter was a tutor in a family at Schönweide, in Holstein, in 1790, and while there he heard that it was a matter of common knowledge that the milkmaids who had previously been infected with cow-pox never caught small-pox. Having by chance seen a medical practitioner perform inoculation, Plett conceived the idea that cow-pox lymph might be used for the purpose of conferring protection against small-pox. In 1791 he was at Hasselburg, and an epidemic of cow-pox occurring among the cows on a farm, he told the children under his charge to rub their hands with matter from the pustules; as no result followed he himself vaccinated three of them without the consent or knowledge of their parents. He used a table-knife for the purpose, making the incisions on the back of the hand, between the thumb and the forefinger. The operation was successful, and a year later, when the other children of the family suffered from small-pox, the three who had been vaccinated by Plett remained free from the disease. There appears to be no record of his having performed any other vaccinations.

Professor Heim on Suicide.—What ought to be done by the Swiss authorities, we wonder, to Professor Heim, the savant, for his speech at the Alpine Club in Zürich? Only a week or two ago it was decreed that the Swiss press should be silent concerning suicides, for newspaper reports of suicides gave a stimulus to some people to go and do likewise. And here is a Swiss scholar setting forth at a public meeting, and with reporters well to the fore, the fact that one of "the most convenient, elegant, and agreeable" of all manners of death is that which follows a fall from some Alpine height. There is neither physical nor moral suffering, in Professor Heim's opinion, in being hurled through space; only a "delicious, fine taste of the celestial beatitudes." But since the hurling through space is only part of an Alpine accident, it would be interesting to know a little more of the sensations which result when the body of the "accidentee" comes in contact with the rocks, and when he arrives at the bottom of a precipice, mangled and bleeding, and not yet dead. It will be asked how Professor Heim obtained his information on this subject. By plebiscite, of course. But whether it is quite fair to conclude from the testimony of those who have recovered after an accident that dying by Alpine accident is *une aimable façon de mourir*, is to be doubted. A more satisfactory way would perhaps be to consult the spirits who have been despatched into Borderland after the chute. We commend the idea to Mr. Stead.—*The Westminster Gazette.*

The Sensation of the Stomach and Disordered Digestion.—Dr. Sollier has made a study of nervous dyspepsias. He says that the sensory innervation of the stomach derived from the sympathetic may, when disturbed, lead to modification in the gastric chemistry. The secretory functions of the stomach depend on the nervous system as well as on the state of the glands. The sensation of the stomach may be reflex or direct. (*The British Medical Journal.*) The former is better known; it leads to the movements of the stomach and also to secretion. If the stomach is insensitive to the contact of food-stuffs, the glands are not put into action. The stomach has also a sensation proper to itself, and thus heat and cold can be appreciated. This sensation is not so obtuse as has been thought. The most special sensation of the stomach is in respect to food. The sensation of hunger disappears when the stomach becomes anæsthetic. Thus, without its own proper sensation, there could be no feeling of emptiness, as in hunger, nor yet of satiety, and, without its reflex sensation, no secretion and no motion. There is no subordination of one form of sensation to the other. In nervous dyspepsia there may be a modification in the gastric chemistry or the sensation of the stomach may be involved. Clinically, this is best studied in hysterical anorexia. Assimilation appears to improve when hunger returns, and the feeling of hunger reappears only with the restoration of the sensation of the stomach. The anæsthesia may involve only the superficial parts of the mucous membrane, or penetrate deeper when the digestive troubles are more marked. The author refers to a superficial cutaneous anæsthesia corresponding to the region of the stomach. If the mechanical functions are also involved there may be gastric atony. The same condition of the stomach is noted in melancholia and hypochondriasis. When the treatment is directed to the nervous system these cases improve rapidly without any special regulation of diet.

Insanity in the Medical Profession.—It is not scientifically unwarrantable or unreasonable, from a common-sense point of view, to maintain that the doctor should be judged by the effect his physic has upon himself, and the parson by the character which his religion produces in himself. We ought to admit that an unhealthy medical man is an evidence of unsoundness either in the medical theories of the times, or in the use to which he himself puts them. (*The Hospital.*) This is but fair, and if it be considered rather a transcendental position to take up at the present moment, one can hardly doubt that it will be regarded as a common-

place in the more cultured and rational times which lie in the womb of the centuries that are before us. Looking at certain aspects of medical insanity from the stand-point of high mental detachment, we cannot feel altogether happy at the figure cut by our profession in the lunacy returns of recent years. Lunacy varies with callings, as the recent and previous reports of the commissioners amply prove. Theoretically, there ought to be proportionately fewer lunatics among doctors than among any other class, because doctors know so well the causes and the means of prevention of lunacy. But what are the facts? The facts are that the medical profession ranks higher in the production of lunatics than all other classes except two. Costermongers and pedlers rank highest of all, and then follow woolstaplers and cloth merchants. The very next in order are physicians, surgeons, and general practitioners. The actual figures are even more striking than the bald statement of the fact. Thus, in every thousand costermongers and pedlers there were 20.1 lunatics in the quinquennium ending with 1893. In the same quinquennium there were 18.2 lunatics among woolstaplers and cloth merchants, and 15.8 among physicians, surgeons, and general practitioners. In marked contrast to these damaging figures are the figures relating to railway laborers, navvies, and miners. Those sturdy sons of toil only furnished 4.4 of their numbers to the ranks of lunacy in the quinquennium. We hold that as science advances, especially medical science, lunacy should diminish, not increase; and that the sanest and soundest of all classes should be doctors, whose business is "health." So far the facts are against us. But if we are to continue in the front ranks of practical science we must, without delay, find some means of so conducting our own profession as to at least preserve our sanity as well as our health and life. "Physician, heal thyself!" is a very significant dictum indeed.

A Severe Case.—Two weeks ago I was summoned to the bedside of Djoahnne Sdtleometzhler. The involute and labyrinthinate tangle of his symptoms made me suspect at first that he had absorbed his own name. But further examination convinced me that he was the victim of typhomalariopneumophthisicotrychinotetanoataxionephreticosplenitis. Owing to the ubiquity of pathogenic bacilli, antiseptics are always indicated, so I exhibited calcium betanaphtholalphamononosulphonate. As the patient suffered from severe non-localized pain I gave orthooxyethylanamonobenzoylamidoquinoline combined with salicylaldehydmethylphenylhydrazine. For his insomnia I gave trichloraldehydphenyldimethylpyrazolene.

His wife asked me what ailed him, and what I was giving him. I told her, and she said "yes," and turned very pale.

Upon examining him on the next morning I became convinced that the vital forces had misconstrued the remedies, and that a congerie of retro-absorptions had resulted. I then wrote out the following prescription:

> Tetrahydrobetanaphtholamine,
> Sodium thioparatoluidinesulphonate,
> Orthosulphamidobenzoic anhydride,
> Amidoacetoparaphenetidine..... ...āā ʒ j.
> M. Sig.: A teaspoonful every hour.

When the wife presented the prescription to the druggist he instantly dropped dead! The patient is up and about, but something is wrong with his Broca's convolution—he mutters in a multi-syllabic lingo that is intelligible only to modern pharmacal chemists. I am in hiding where the spiral melody of the woodbine that twineth blendeth ever sweet, low, soothing, murmurous quadrisyllabic rhythmic rune of the gentle polygonum punctatum.—*Medical Gleaner.*

Chyle Cysts of the Mesentery.—Dr. W. H. Wenning says that the origin of these cysts is very uncertain. In some instances undoubtedly rupture of a lymphatic, in consequence of an accident or unusual exertion, may lead to the formation of a cyst. Here, in all probability, the fluid effused between the layers of the mesentery causes some irritation and the formation continues to separate the layers from each other. In other instances a rupture may lead to effusion of chyle into the free abdominal cavity. Single cysts might very easily arise in the first-mentioned manner. When there are multiple cysts, however, the origin is more probably due to stenosis of the thoracic duct. Mendes de Leon thinks that, although a stricture of this nature might cause widening at the bottom of the duct, it does not sufficiently explain the formation of a cyst. Besides this, in cases of stenosis, collateral channels for the conveyance of chyle into the blood have been observed. Virchow, Rokitansky, and Kilian have demonstrated the fact that the entire closure of the thoracic duct may give rise to considerable enlargement and crowding up of the chyle vessels. From the nature of the conditions found in my case I am inclined to believe that stenosis and obliteration of the thoracic duct was the cause of the formation of these numerous cysts. Drs. Jones and Cleveland, who made an autopsy immediately after death, were unable to find the thoracic duct. There were no cysts, in the true sense of the word, if we look upon the sac as an adventitious structure, for the chyle seemed to be surrounded by the walls of the mesentery alone. When this membrane was pierced, or, as I have shown above, simply touched, it would collapse. There was, however, evidence of considerable inflammation of the serous membrane.—*Lancet-Clinic.*

Honey in Erysipelas.—Dr. C. E. Hayward, of Cropsey, Ill., writes: "Several years ago, while treating some bad cases of erysipelas, a lady asked me why I did not use the remedy they used in Montana. I asked her what that was; she said honey. I did use it and found it very effective, and since then have used it in every case of erysipelas on any part of the body. My first treatment is the external application of honey. I shave the head and face if necessary, spread the honey thickly on cloth, cut holes for the eyes if the face is the part affected, and change the application every three or four hours. I have never had it fail to relieve the pain, heart swelling, and nausea, and to shorten very much the attack. I also give internally the usual remedies for reducing the fever and stimulating the emunctories. Three or four days usually suffice to bring about convalescence under this treatment. I could report numerous cases, but would rather every physician would give it a trial, and I am sure he would find a practical addition to his armamentarium."

An Anti-vivisectionist and the Queen of Italy.—While the king and queen of Italy were returning from some ceremony in connection with the celebration of the occupation of Rome, an officer of the Sicilian infantry tried to mount the steps of the royal carriage, at the same time addressing some words to the queen. It was thought that he was appealing for amnesty for the leaders of the Sicilian riots, whom the king had refused to pardon. The officer was arrested and taken to the barracks, where he was closely questioned and declared himself to be an anti-vivisectionist, saying that his sole object in addressing the queen was to beg her to use her influence in prohibiting vivisection. The man was an epileptic.

In Pre-vaccination Days.—A contemporary points out that at the time of the announcement of vaccination by Jenner, small pox caused more than one-tenth of all the deaths of the human race. It may be added that 50,000,000 people died in Europe from small-pox during the eighteenth century. In the sixteenth century the disease appeared in Mexico, and 3,500,000 of the population yielded up their lives in a few years, leaving some provinces almost depopulated. In 1707, in Iceland, 28,000 died in one year, the entire popula-

tion being but 50,000. Seventy per cent. of the people of Greenland died of small-pox in 1734. Macaulay, the historian, observed that the disease was always present, filling the churchyards with corpses, and leaving on those whose lives it spared the hideous traces of its virulence. "If a modern traveller," said one observer, "could be transported to London in the early part of the present century, no peculiarities of architecture, dress, or behavior would be so conspicuous as the enormous number of pock-marked faces he would encounter at every turn." Neither high nor low, rich nor poor, escaped the ravages of small-pox in the prevaccination days.—*The Medical Press.*

Literature for Malingerers.—The Rev. Harry Jones tells a story drawn from Portland Prison which is worth reproducing. On going into the library Mr. Jones asked what were the favorite books of the prisoners, and was told, to his surprise, that Buchan's "Domestic Medicine" was more frequently asked for than any other. As there was a surgeon always ready to attend to the ailments of the convicts, the reason for this searching after medical knowledge was difficult to find; but he afterward learned that the description of the symptoms of illness was carefully studied by the inmates of the prison as a scientific guide in the shamming of sickness. A successful malingerer was relieved of his tasks, and obtained the coveted idle time on sick leave.—*British Medical Journal.*

The Rights of Inebriates.—The report of the Scottish Departmental Committee appointed to inquire as to the further legislation necessary to deal with habitual inebriates, holds that they should be regarded as wholly irresponsible. It denies the inebriate's right to administer his property, says he ought not to be allowed to discipline his family, and recommends legislation for him based upon the assumption that he is a lunatic who ought to be placed under restraint, whether he likes it or not. The report classes the victims of opium and other drugs as habitual drunkards, and proposes to give their relatives the power of putting them under restraint. Gold-cures and other alleged specifics are summarily denounced, and their use will be prohibited if the recommendation of the committee be accepted and made a law by Parliament.

Dr. Kitasato is not only the most brilliant scientific investigator in Japan, but one of the most original biologists of the present day of any nation. He worked for many years with Koch at Berlin; and last year, when the plague was devastating Hong Kong, he and Dr. Aoyana discovered the bacterial cause of the plague, and were thereby instrumental in arresting its ravages. He has been extremely successful in carrying out the antitoxin treatment of diphtheria, and out of 34 cases treated by him 31 have recovered. He is at present engaged in carrying out a series of experiments on leprosy with the most satisfactory results. If it is a fact that Dr. Kitasato is on the road to discovering not only the cause, but the cure, of leprosy, he will confer an immense benefit on a long-suffering section of the human race. Japan has always been celebrated for generously acknowledging the services of her men of genius in art and literature, and it is gratifying to learn that Dr. Kitasato's discoveries are looked upon as contributing to the national glory, and that the government has unanimously voted him a sum of money to be devoted to the laboratory superintended by him.—*British Medical Journal.*

Circulatory Lesions in Influenza.—Those of the profession who have seen any considerable number of cases of influenza cannot fail to have been struck with the comparative frequency of alarming cardiac complications, often occurring during convalescence. Dr. Cathomas refers to these circulatory lesions, and mentions the following varieties met with: Venous thrombosis, due to phlebitis, four cases of arterial embolism, all fatal, and involving respectively the popliteal, femoral, brachial, and Sylvian arteries. Arterio-thrombosis occurred in seven cases, exclusive of several in which the Sylvian artery was involved. One patient, aged sixty-four, in hospital for extensive eczema, developed influenza and was seized, during the attack, with difficulty of breathing and later with severe pain in the right arm; the axillary artery was obstructed and no pulse could be felt in the right radial artery. After death an adherent clot was found in the axillary artery, and a second one in the aorta at the origin of the innominate. In conclusion, the author is of opinion that vascular obstruction may occur in influenza as in other infective diseases; and that it may be due to embolism of arteries or veins. Arterio-thrombosis is, happily, a rare complication of influenza, and may begin suddenly like embolism, while the differential diagnosis between embolism and thrombosis may be very difficult.—*Medical Times and Gazette.*

Water-borne Cholera.—In the Annual Report of the Chemical Examiner and Bacteriologist to the Government of India for 1894, Dr. Hankin refers to a remarkable instance of exemption of one company in a regiment suffering from cholera. The East Lancashire Regiment consisted of companies A, C, E, F, G, H. When the cholera broke out in the cantonments the regiment was transferred to the Kokrail Cholera Camp. Throughout the epidemic the E company remained immune from attack, though the conditions of life were identical with those of other companies, and their barracks were almost surrounded by those of companies who suffered severely from cholera. At first no possible explanation of this escape of one company could be found. "On cross-examining the color-sergeant of this company," says Dr. Hankin, "the mystery at first seemed to deepen, for he roundly asserted that the men of his company had exactly the same supplies of food and water as the men of other companies. But on his being pressed as to how he knew that the water-supply was the same as that of other companies he replied that he ought to know, if anybody, as *he boiled it himself!* It is needless to say that on making inquiries we found that this sanitary precaution had not been taken by the color-sergeants of other companies."

"**Successful Cancer Institute.**"—The following curious reading notice appeared recently in the editorial columns of a medical contemporary: "From several reports that we have seen recently in our exchanges it seems that Dr. ——, who has an institute at ——, is having remarkable success in the treatment of cancer and malignant growths. He does not resort to knife or other surgical means, but treats entirely locally and constitutionally."

The Cocada is a measure of distance employed by the Peruvian Indians. It is the distance that an Indian cargo-bearer can walk under the stimulating effect of the coca-leaf. He finds that the nervous excitation begins in eight to ten minutes after introducing a fresh quid of leaves into the mouth, and lasts from thirty-five to forty minutes. In this time the Indian will pass over three kilometres on a level road, and two kilometres on ascending ground. At the end of each cocada the Indian stops to rest and regale himself with a fresh chew of coca. Along the Peruvian highways are definite resting-places, established by this custom, also called cocadas.

Ocular Headaches.—Dr. Landman describes the characters and peculiarities of the forms of headache which depend upon uncorrected errors of refraction. Migraine is rarely caused by such errors, even when it accompanies them, and the headaches caused by ocular defects are usually continuous. They are more frequent in women than in men, and can generally be localized, a diffused, continuous headache being usu-

ally due to some other cause. If the patient complains of headache about the eyes, or of a pain extending from the eyes to the occiput, or around the eyes after work with them, or at the "back of the eyes," or of throbbing, increasing toward evening, or of any of these diminished by rest, it is probable that the eyes are in fault. The author regards the headache as due to errors of refraction, and not to want of equilibrium of the motor muscles. Two hundred cases of ocular headache presented the following localization: over the brows, 41 per cent.; on the vertex, 20 per cent.; occipital, 12 per cent.; occipito-frontal, 8 per cent.; temporal, 8 per cent. In only one case was the pain general. The forehead and the vertex, the occiput and the vertex, were each the seat of pain in thirteen cases, and the occipital headaches were often attended by stiffness of the neck.—*American Journal of Ophthalmology.*

"Successfully Confined."—A correspondent, writing to the *British Medical Journal*, says: "While we amuse ourselves with the detection of peculiarities of speech among our American friends, they no less take unto themselves comfort, and feel superior, when they detect in us such departures from the narrow path of dictionary English as we may find convenient for the short expression of ideas, and these developments of language they call 'Briticisms.' Mr. Brander Matthews having, as it seems, collected a few recent developments in this direction, Mr. Andrew Lang has taken up the cudgels on behalf of England's right to modify the English tongue. Some of the new phrases he defends on the ground of their inherent usefulness; some, he suggests, are really of American origin; while some, being only culled from advertisements, he dismisses from consideration; and then, on the *tu quoque* principle, he fires off as a parting shot his last culled specimen of an Americanism, freshly gathered from the New York *Herald*. Here it is: 'Mrs. —— has been successfully confined.' Now, I venture to doubt whether this is really an Americanism; in any case it is a necessary and perfectly correct form of speech. To be confined means to be shut up, and as applied to a pregnant woman means to be shut up for purposes of childbirth. If, then, she has been safely delivered of a living child, the object for which she has been shut up has been successfully accomplished, and she has been successfully confined. To say that she has been successfully delivered would be quite another matter. A woman may be successfully delivered of a dead child, or after she had been quite successfully delivered of the child the afterbirth may remain, or even she herself may die, but in neither of these cases is she successfully confined; this covers the whole process for the sake of accomplishing which she went into confinement. Certainly if the Americans devised the phrase, they deserve credit for their invention; but I doubt its trans-Atlantic origin."

Commencement Days.—Letters of father to son. No. 1. "My Dear Son—I am so glad to learn that you are starting in your noble profession with the idea that there is something higher and grander than the simple procuring of a livelihood. I am glad to see that you appreciate the opportunity which opens before you for doing good, without thought of the sordid gold which so often defiles those who handle it. Let this be your motto: 'He went about doing good.'"

No. 2. (One year later.) "My Dear Son—You cannot expect me to give you a thorough education and then supply you with means afterward. You should now be able to earn your living, it seems to me. Have you tried hard to collect some of your bills? I will not see you suffer, you know, but do not let the people get the idea you are going to do their work for nothing. Enclosed you will find a portion of what you request. 'The laborer is worthy of his hire.'"—*The National Medical Review.*

The Dangers of Cycling may be avoided in great measure, says Dr. George Herschell, by, 1, The use of a low gear; 2, the upright position in riding; the stooping position prevents proper expansion of the lungs and interferes with the proper aeration of the blood; 3, adequate food when riding, and the avoidance of muscle poisons, such as beef tea—the digestive power of the stomach is inhibited while riding; 4, the avoidance of kola and coca preparations; these, by benumbing the sense of fatigue, cause more work to be done than is judicious; 5, on no account should the cyclist continue riding after he has commenced to feel short of breath, or when there is the slightest sensation of uneasiness in the chest.

Triplets.—Dr. T. W. Basinger reports, in the *Southern Medical Record* for August, 1895, a case of triple birth, one boy and two girls. The boy was delivered first. The first girl was the largest of the three, weighing five pounds, the boy and second girl weighing four pounds each. The first and last were breech presentations. There were three amniotic sacs, but only two placentæ. The first two children delivered were nourished by one placenta. The placentæ were removed with considerable difficulty, the one supporting the last born (which was the smaller of the two) was adherent to the left side of the uterus. The mother was forty-one years of age, and had given birth to twelve children, having been twice delivered of twins.

Surgical Prevention of Hypertrophied Prostate.—In conclusion, I will reiterate my belief regarding the surgery of the prostate, that the radical operations of prostatomy and prostatectomy at an early period of the disease are not performed with sufficient frequency. If patients of middle age were given to understand distinctly that their prostatic disease is bound to grow worse instead of better, and an operation was suggested at an earlier period, we would hear less of the incurability of prostatic hypertrophy.—Dr. G. F. Lydston, in the Chicago *Medical Recorder.*

The Plague in China.—In his last report to the Foreign Office, Mr. Brenan, the British consul at Canton, speaking of the plague in 1894, says that it is quite impossible to form a correct estimate of the number of victims of the bubonic plague. The Chinese have no office like that of registrar of births, deaths, and marriages, nor is a medical certificate of the cause of death required. There are no sanitary boards or other official bodies concerned with the public health, and the occurrence of an epidemic or an infectious disease becomes known only when its ravages attract attention. At best only a guess at the number of victims could be made. Between fifty thousand and one hundred thousand are supposed to have died in Canton and the suburbs. The only means of obtaining information was by making inquiries at the coffin-shops, at the benevolent institutions which provide burials for the poor, at the hospitals especially erected for the treatment of plague patients, and at an establishment maintained by charity, where all the year round dying persons are received who wish to pass away in peace. The city authorities did absolutely nothing to prevent the epidemic spreading; it died away as mysteriously as it came. Nor were any sanitary measures taken to prevent a recurrence.

A Medical Disciple of Tolstoi.—A young doctor, named Skarpan, serving his second half year of enforced service in the Austrian army, a few weeks before the expiration of his term, wrote a letter to the commander, declaring himself a disciple of Count Tolstoi and that his principles now forbade him to serve any longer in the army. It was at first believed that Skarpan was disturbed in intellect, and the matter was treated as if nothing had taken place. But Dr. Skarpan persisted in his declaration, on which the commander found it necessary to have him arrested. He was placed in the gar-

rison hospital and observed for eight weeks; he himself kept the journal of observation, which he filled with articles on Socialism. Afterward he was examined by a major-auditor several times, and then sent to the military hospital in Vienna, when, after six weeks, he was again taken, as perfectly sound of intellect and responsible, to imprisonment at Kashan. After three weeks the sentence was pronounced and ran: "The imperial medical assistant, Dr. Bela Skarpan, who refused to serve in the army and acknowledged subversive ideas, is sentenced to the loss of his rank, to three months' strict imprisonment, to serve all the lost serving time, and to the loss of his medical diploma. He cannot practise in the Austro-Hungarian kingdom, or in any other state in alliance with that kingdom."

A Test for Incipient Diabetes.—Professor V. Noorden says he has discovered a new means of diagnosing diabetes in its very earliest stage, or even a hereditary tendency thereto. He gives the patient 100 grains of grape sugar, which in the normal subject has no effect, but in the incipient diabetic produces glycosuria. If this prove correct it will be most useful in gaining for the diabetic the earliest possible treatment.

Medical Insurance.—*The Lancet* says that there is now under consideration in Australia the details of an insurance scheme, according to which every medical man will be expected to take measures entitling him to an annuity of £40, commencing on the attainment of his sixtieth year. From this obligation those medical men will be exempted who hold appointments giving them a claim to a pension amounting to the above sum, as well as those who are above forty years of age or are already insured. A fund is also to be founded for the benefit of the widows and orphans of medical men; the widows' pensions are to be £40 a year and the orphans' pensions £4 a year for each child.

Leprosy in Norway.—According to recent statistics furnished by Dr. E. Kaurin, of Molde, leprosy is gradually disappearing in Norway. In 1856 there were about 3,000 lepers in that country; at the end of 1892, there were not over 800 or 900, half of whom were inmates of the leper asylums. Since then the number has so much decreased that it is proposed very soon to close two of the five asylums in the country. The author's opinion is that leprosy is an exclusively contagious infection, and that heredity is not to be regarded as a predisposing cause. Strict segregation of lepers is, he believes, absolutely necessary in order to stamp out the disease.—*Journal of the American Medical Association.*

Treatment of Cord in Hernial Operations.—The problem is to close durably a rent in the abdominal wall and to provide for the safe transmission of the spermatic cord. The cord is the first cause of the hernia and the ultimate obstacle to its cure. If we could ignore the cord, the solution of the problem would be comparatively easy. The larger the cord the greater the liability to a recurrence of the hernia. The size of the cord depends chiefly upon the veins. Then why not reduce the size of the cord by excising such veins as may be superfluous? By this procedure the cord may usually be reduced to less than one-third, and sometimes to one-fifth or one-sixth of its original size. Two quite distinct sets of veins accompany the vas deferens. When the tunica vaginalis propria funiculi spermatici has been divided and the elements of the cord are gently spread out by the fingers the larger superfluous bundle of veins lies at some distance from the vas deferens. A few very delicate veins hug the vas deferens closely. The veins which we designate as "superfluous" are those which I regularly excise in operations for varicocele. We have not thus far seen atrophy of the testicle follow excision of these veins. Our cases have been observed with especial reference to this point. I think that there can be little doubt as to the advisability of reducing the size of the cord by excising these veins when they form a large bundle.—HALSTED.

Acute Coryza in Nurslings.—It is not often that the acute rhinitis which nurslings occasionally suffer from, both in summer heat and winter cold, requires treatment; sometimes, however, it may, to some extent, prevent suckling, and remedial measures are required. Lewy, in such cases, advises the administration of terpin hydrate in doses of 5 centigrammes for children under one year of age, and double that amount for those above that age. For the prevention of eczema of the upper lip from the alkaline nasal mucus, vaseline, with which a little boric acid has been incorporated, should be used freely. When, as may happen, nasal obstruction from swelling of the nasal mucous membrane is so severe as to prevent nursing, it can be reduced either by swabbing with a five per cent. solution of cocaine which requires constant attention, or by introducing into the nostrils cottonwool cylinders dipped in one per cent. cocaine solution. In our own practice, however, we should not care to risk the use of cocaine with infants. In purulent rhinitis Lewy irrigates the nose with tepid water, and insufflates with a powder containing 1 part of nitrate of silver to 20 of powdered talc or zinc stearate.—*Medical Times and Hospital Gazette.*

NEW BOOKS RECEIVED.

While the MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

SOME PHYSIOLOGICAL FACTORS OF THE NEUROSES OF CHILDHOOD. By Dr. B. K. Rachford, M.D. 12mo, 130 pages. Price, $1.00. Published by The Robert Clarke Company, Cincinnati, O.

THE THEORY AND PRACTICE OF COUNTER-IRRITATION. By Dr. Cameron Gillies. 8vo. 234 pages. Price, $2.50. Published by Macmillan & Co., New York.

THE PRACTICE OF MASSAGE. Its Physiological Effects and Therapeutic Uses. By A. Symons Eccles, M.B. Aberd. 8vo. 368 pages. Price, $2.50. Published by Macmillan & Co., New York.

TRANSACTIONS OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK FOR THE YEAR 1895. 8vo, 510 pages. Published by the Society.

THE CLIMATES AND BATHS OF GREAT BRITAIN. Being the Report of a Committee on the Royal Medical and Chirurgical Society of London. W. M. Ord, M.D., Chairman; A. E. Garrod, M.D., Hon. Secretary. Vol. I. 8vo, 640 pages. Illustrated. Price, $6.50. Published by Macmillan & Co., New York City.

A GUIDE TO SYSTEMATIC READINGS IN THE ENCYCLOPÆDIA BRITANNICA. By James Baldwin, Ph.D. 8vo, 316 pages. Published by the Werner Company, New York and Chicago.

A MANUAL OF OBSTETRICS. By A. F. A. King, M.D. 8vo, 533 pages. Illustrated (Sixth Edition.) Published by Lea Brothers & Co., Philadelphia, Pa.

A MANUAL OF ORGANIC MATERIA MEDICA. Being a Guide to Materia Medica of the Vegetable and Animal Kingdoms, for the use of Students, Druggists, Pharmacists, and Physicians. (Sixth Edition.) By John M. Maisch, Ph.Q., Phar. D. 8vo, 526 pages. Illustrated. Published by Lea Bros. & Company, Philadelphia, Pa.

PERSONAL REMINISCENCES AND RECOLLECTIONS OF FORTY-SIX YEARS' MEMBERSHIP IN THE MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA, and Residence in this city, with Biographical Sketches of Many of the Deceased Members. By Dr. Samuel C. Busey. 8vo, 373 Pages. Published at Washington, D. C., U.S.A.

TRANSACTIONS OF THE SEMI-CENTENNIAL MEETING OF THE OHIO STATE MEDICAL SOCIETY. Held at Columbus, May 15, 16, and 17, 1895. 8vo, 479 pages. Published at Toledo, O.

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Original Articles.

A PRELIMINARY REPORT ON THE USE OF OXYGEN GAS WITH ETHER FOR ANÆSTHESIA.

BY CARTER S. COLE, M.D.,

INSTRUCTOR IN SURGERY, NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.

IN compliance with the solicitations of a number of gentlemen who have seen ether-oxygen anæsthesia, and in order to facilitate the introduction of what seems to promise some interesting and useful advantages in ether narcosis, by giving the methods which have so far proved successful and satisfactory in our own hands, I am led to offer this preliminary report on the observations made thus far in a very small number of cases.

The idea of employing oxygen was suggested by Mr. J. Preston Carson, a chemist, who had never seen an ether narcosis. The occasion arose a short time since when he heard a friend speak of the "bluing" that had attended an etherization he had witnessed. The details of its use have been worked out independently by Dr. Markoe and myself. Dr. Francis H. Markoe was approached on the subject and consented to give the matter a trial. It was after the latter had used ether with oxygen in three cases, none of which I saw, that Mr. Carson mentioned the matter to me and asked me to experiment on similar lines. This I readily agreed to do, the first thing that was necessary being some proper apparatus for the administration; and to the task of devising the same I immediately applied myself, with the result herein related.

The cone is a simple tin box (Fig. 1), shaped like a coffee can. In the middle of the top a tin tube three inches long is obliquely inserted, half remaining outside. Two rubber tubes leave the bottle, four-fifths full of ether, one of which fits on the

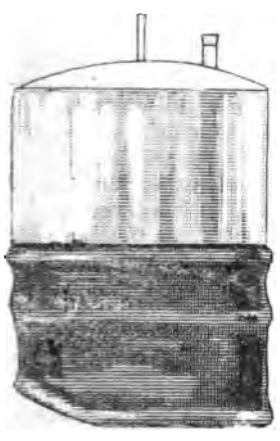

FIG. 1.

FIG. 2.

FIG. 3.

tube in the top of the cone, the other on the oxygen tank. The bottle used has been the "wash" bottle ordinarily employed in giving oxygen gas. An additional opening in the top of the cone which is stoppered by a cork provides for the addition of ether without removing the cone from the face. A perforated platform (Fig. 2) held in place by a removable wire frame (Fig. 3) keeps the gauze and cotton away from the patient's mouth, and a rubber mouthpiece that fits the cone and the patient's face completes the apparatus (Fig. 4). The method first tried was to pass the oxygen through the regular wash bottle, then through the ether itself in another bottle, and thence through a tube to the cone, into which gauze and cotton moistened with ether had been placed. Later the wash bottle was omitted and the tube run from the oxygen tank to the bottle of ether, and the other tube direct to the cone, the gauze and cotton still being kept in the cone. Next the gauze and cotton were left out of the cone and the oxygenized ether passed into the

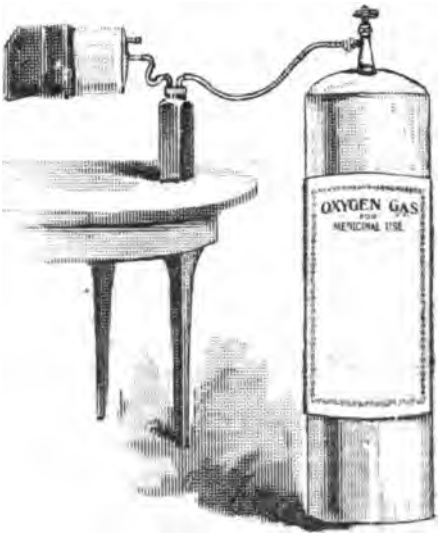

FIG. 4.

cone. In some cases ether was added several times to the gauze in the cone during the anæsthesia; in some none was added. The history of each case gives the details of the variations of methods.

The amount of gas used has probably averaged about a gallon a minute, although it has been impossible to secure the gauge for a number of the cases. The amount of ether used has for an adult averaged about six ounces an hour, and half this quantity for a child. In the case of one child less than three ounces of ether was used for over an hour's etherization (Case IX.). In the case of one man (Case VIII.) less than seven ounces for an hour and a half's etherization.

The longest time for complete anæsthesia in any of my own cases has been fifteen minutes; the shortest a little less than three minutes. The time of recovery has been from fifteen to fifty minutes. Salivation that necessitated a cleansing out of the pharynx has occurred in only one case. Vomiting has not been serious or troublesome in any cases, and in the large majority not even nausea has attended the etherization or the recovery. The effect of increasing the flow of oxygen has been to increase the rapidity of the heart's action and *vice versa*. Respiration has been easy and comfortable, and no struggling nor suffocation has been present. The stage of excitement has been moderate and never troublesome. The color has been uniformly excellent, and not in a single instance has any "bluing" been observed. In the cases in which the temperature has been taken no change has been noted. The largest amount of ether used in any one case has been eight ounces (Case IV.); the smallest less than three ounces for an hour's narcosis.

These then are the facts that have been thus far observed. If each operator will compare the amount of ether used, the time required for narcosis, the frequent absence of suffocating, salivation, struggling, nausea, and vomiting with the conditions that now attend his etherization, he will then be able to draw a conclusion as to the value of the method.

For hospital work a slight increase in the cost as compared with regular ether narcosis may be an important factor in delaying the routine use of such a combination; if the apparent advantages obtain in the experience of others it will be difficult to administer ether to private patients without oxygen. At least it will take but a short time for others to test the matter, and the results of their experience will be of great service, whatever be the outcome.

I subjoin a report of the cases in which I have so far been enabled, by the courtesy of the gentlemen named, to experiment with the method. Dr. Markoe has kindly furnished through one of his house-staff at St. Luke's Hospital, Dr. Squier, a record of his cases to be published with my own, and they are also given.

These then are the paraphernalia: a pure oxygen and a good ether. A tube not more than two feet, leading from the cone to the bottle of ether, and another from the same, as long or short as may be desirable, leading to the tank of oxygen.

A cone that receives and retains the vapor and that fits fairly snugly over patient's face, and so arranged that at a little distance from patient's mouth gauze or cotton or both can be retained, moistened with ether; that ether can be added if necessary without removing the cone, and yet it is not difficult to produce the anæsthesia with only the oxygenized ether, and it is probable that the gauze and cotton will be abandoned. In this report I have endeavored to confine myself to facts—not to offer opinions. In a fuller report, later, I hope to be able to harmonize with the facts the explanation of the same.

Case I.—Dr. Tull, Cancer Hospital. Female, aged about forty, weight about 150 pounds; amputation of cervix. Etherization begun at 9 A.M.; primary anæsthesia, 9.04; full anæsthesia, 9.08; operation begun, 9.13; operation completed, 9.35. Ether used, four ounces; oxygen, twenty-five gallons. No struggling, no suffocation, no gagging or vomiting, except when patient was being wheeled out of the room, then a mouthful of fluid. Recovery without vomiting, without nausea, without headache, in thirty minutes. Color excellent throughout; pulse increased or decreased, by a corresponding use of oxygen; blood noticeably fresh and bright throughout whole operation. Temperature unaffected. Anæsthesia profound; no anæsthetic added to cone or bottle. Gauze used in cone, and wash bottle used.

Case II.—Dr. Tull, Cancer Hospital. Female, aged about thirty, weight about 140 pounds; lacerated cervix. Etherization begun at 9.48 A.M.; primary anæsthesia, 9.50; complete anæsthesia, 9.52; operation begun, 9.58; operation completed, 10.45. Ether, five ounces; oxygen, thirty gallons. Anæsthesia complete throughout. Water was siphoned into ether bottle at outset, but did not seem to influence unfavorably the method of administration. No ether was added to cone or bottle. No struggling, nor nausea, nor frothing. Recovery in thirty minutes, without nausea, headache, or vomiting. Cone not removed from beginning to end of anæsthesia. No vomiting at any time. Color pure throughout. Gauze in cone and wash bottle used.

Case III.—Dr. Cole, Post-Graduate Hospital. Boy, twelve years of age; weight, 80 pounds; circumcision. Objected to being anæsthetized, and struggled at outset. Primary anæsthesia inside of two minutes; operation begun. Complete anæsthesia inside of four minutes, although patient did not remain fully anæsthetized. Operation lasted about fifteen minutes; recovery took as much more. Some nausea, but no vomiting; patient within an hour or a little more took food. Four ounces of ether used. Wash bottle used; no gauze used in cone.

Case IV.—Dr. Guiteras, Columbus Hospital. Man, about forty-five years of age; weight, about 220 pounds. Displaced testicle. A big truckman, a difficult subject for ether anæsthesia. Complained for two or three minutes of feeling of suffocation, though continued breathing without trouble. Primary anæsthesia in nine minutes; full anæsthesia in thirteen minutes; operation lasted one hour and fifteen minutes. Eight ounces of ether used. Gauze in cone and wash bottle used. Ether added to cone several times during anæsthesia.

Case V.—Dr. Cole, Post-Graduate Hospital. Child, male, aged twenty-six months; hydrocele cord. Primary anæsthesia, two minutes; complete anæsthesia, four minutes; duration, thirty minutes. Ether used, two ounces. Usual fright at beginning anæsthetic, otherwise quiet throughout. Cone not kept constantly over face. Vomited a few minutes after operation was completed, but not again. Recovery in about twenty minutes. Oxygen passed through ether directly, and no gauze used in cone. Wash bottle discontinued from this case through the series.

Case VI.—Dr. A. M. Phelps, Post-Graduate Hospital. Woman, aged about thirty-five; weight, 175 pounds; ununited fracture of both bones of forearm. Anæsthesia begun, 4.30 P.M.; primary anæsthesia, 4.38; full anæsthesia, 4.42; anæsthetic stopped, 5.35. Ether, seven ounces. Patient said at previous operation she had taken three cans of ether. Went under nicely, without struggling or suffocation or vomiting. While being transferred to operating-table she vomited mucus, and again once or twice during operation when cone had been removed a few minutes. No wash bottle used, but gauze saturated with ether put in cone; refreshed two or three times during operation. Anæsthesia so profound that cone was kept off face about a fourth of the time and oxygen stopped. Color was always fresh and excellent, even in deepest anæsthesia. Patient conscious and able to speak distinctly in twenty minutes after cone was removed. Pure oxygen was given for three or four minutes after ether was stopped.

Case VII.—Dr. Dowd, Cancer Hospital. Male, weight about 150 pounds. Necrosis rib. Anæsthesia begun, 2.46 P.M.; primary anæsthesia, 2.53; complete anæsthesia, 2.57; operation begun, 3.02; anæsthetic discontinued, 3.27; patient conscious, 3.35. Ether, five and a half ounces. No vomiting nor struggling. Considerable accumulation of mucus during anæsthesia, necessitating removal of cone and cleaning out of fauces. Pure oxygen given for four or five minutes after anæsthetic was discontinued. At previous etherization (several months before) patient suffered considerably from effects of ether, and took a large quantity of the anæsthetic. Later report from patient that only slight nausea and no vomiting followed anæsthesia, and recovery was in a third of the time as compared with the previous anæsthetization. Gauze used in cone, but no wash bottle.

Case VIII.—Dr. Willy Meyer, German Hospital. Man; gastro-enterostomy for malignant growth. Primary anæsthesia in six minutes; complete in twelve minutes. Anæsthetic given carefully and not pushed. Patient under anæsthesia one hour and a half; six and a half ounces of ether used; absolutely no struggling; no vomiting; no gagging; and not once did mucus or saliva have to be wiped off his mouth. Color and pulse excellent throughout. Recovery in forty minutes, without vomiting or distress. Gauze used in cone. Ether added several times during operation, about a drachm each time.

Case IX.—Dr. Willy Meyer, German Hospital. Child; sarcoma of kidney. Primary anæsthesia not noted, but full anæsthesia in three minutes. Anæsthetic administered one hour and five minutes, no gauze

in cone, and total ether used two and one-half ounces. Color excellent, no salivation, gagging, or vomiting.

CASE X.—Dr. Cole, Post-Graduate Hospital. Man; epithelioma, floor of mouth. In anticipation of a difficulty in deglutition, I determined to use no gauze and cotton in the cone, in order to reduce as much as possible the saliva to be swallowed, and to give the minimum of trouble in respiration. Primary anæsthesia was quiet and easy, but secondary anæsthesia did not follow in a reasonable time; no gauze or cotton moistened with ether were put in the cone. My reasoning as to interference, of which the physicians present were advised at the outset, proved soon to have been well founded; and the increased irritation from the ether produced some increase in saliva and secretions, which, instead of being swallowed, accumulated and interfered materially with respiration; so that the anæsthetic was discontinued, and the operation rapidly done under partial anæsthesia. Strange to say, even when respiration was exceedingly imperfect, the color remained good; and it was with considerable satisfaction, even in the face of my first partial failure with ether-oxygen anæsthesia, that I reflected how fortunate for the patient that ether alone had not been essayed. A later conversation with the patient developed the fact that he suffered no pain, and was not aware that anything had been done; in short his anæsthesia, which appeared very imperfect, was at least attended by unconsciousness of pain during the operation. Only three ounces of ether were used; no nausea nor vomiting.

Fig. 5.

CASE XI.—Dr. Bryant, Bellevue Hospital. Woman, about fifty years of age; weight about 165 pounds. Tumor of breast; anæsthesia primary in eight minutes; secondary in fifteen minutes; anæsthetic administered for fifty minutes; four ounces of ether given. Patient came out in about fifteen minutes. Was restive during early part of operation, but absolutely passive the remainder. Gauze and cotton moistened with ether used in cone; wash bottle has been abandoned for several cases. Recovery without vomiting, and anæsthesia not accompanied by gagging or salivation. Ether added to gauze in cone several times.

It is by the courtesy of Dr. Francis H. Markoe that the following cases in which ether with oxygen has been employed are reported.

The method of administration has consisted in passing oxygen from a cylinder through two wash bottles, the first containing water, the second ether, into a cone, the cone being so arranged that ether may be added directly to it if necessary.

While it is to be regretted that, the method still being in its infancy, more definite results cannot be furnished, yet the majority of cases upon which it has been used have shown: 1. An absence of the so called stage of excitement. 2. No cyanosis nor respiratory disturbances during anæsthesia. 3. A tendency to regain consciousness more quickly when etherization is discontinued than after the usual methods. 4. No nausea or vomiting subsequent to etherization. 5. The amount of ether consumed to be considerably less than formerly.

CASE I.—Female, aged fifty-seven. Diagnosis, carcinoma of stomach. Operation, exploratory cœliotomy. Patient greatly emaciated; lungs, negative; heart, action very feeble; systolic murmur of pulmonic area; ether and oxygen administered slowly; no attempt at rapid anæsthetization; no primary laryngeal spasm or period of excitement.

Patient's pulse, respiration, and color remained excellent until middle of operation, when ether was given alone. Almost immediately the pulse and respiration became very rapid, and patient grew cyanotic.

On resuming oxygen, patient's condition improved at once and remained so until close of operation. After etherization there was no nausea or vomiting for twenty-four hours. This is interesting from the fact that before operation the patient vomited every two or three hours, and that nothing was done at time of operation to alleviate local condition, the walls of the stomach being so extensively involved that gastro-intestinal anastomosis was impossible.

CASE II.—Female, aged fifty. Stout, plethoric patient; heart and lungs negative. Operation for lacerated perineum, extensive rectocele, and hemorrhoids; patient fully anæsthetized in four minutes; etherization lasted two and one-half hours, during which time pulse and respiration continued the same as before operation. There was no stage of excitement or after-gastric disturbance.

CASE III.—Male, aged about fifty-seven. Diagnosis, enlarged prostate. Operation, castration. Patient fairly well nourished. Heart, systolic murmur over apex, transmitted to left. Lungs, emphysematous. Some very slight struggling at commencement of anæsthesia. Color of patient during operation ruddy, although the anæsthetic was clouded. Respiration

normal. Recovered from ether without nausea or vomiting, and was fully conscious in twenty-five minutes.

CASE IV.—Female, aged forty-seven. Operation, excision of irritable urethral carbuncle. Patient's physical condition very poor. Well-marked tubercular changes at both apices. Heart negative.

In this case patient succumbed to anæsthetic as if simply going to sleep. There was no disturbance of respiration during operation, and no cyanosis. Unpleasant after-effects absent.

CASE V.—Boy, aged about thirteen. Diagnosis, tubercular knee-joint. Operation, incision and drainage. Patient very poorly nourished. Heart, systolic murmur heard along left border of sternum, also over pulmonic area. Lungs, negative. Pulse, rapid, poor force, regular. Anæsthesia commenced by use of ether alone. Primary stage of excitement present. After fifteen minutes of etherization patient's pulse became very weak, rapid, and irregular. He lost all color and the breathing was bad. Oxygen and ether was now substituted for ether. In a short time the pulse had improved in force (although it remained rapid). Color returned to patient, and breathing regained more of its normal character. No nausea nor vomiting followed administration of the anæsthetic. Other stimulation than the oxygen was not employed when patient's condition was precarious.

CASE VI.—Female, aged forty-three. Diagnosis, adeno-fibro-sarcoma of breast. Operation, excision of breast and axillary contents. Patient in good physical condition; heart and lungs, negative; anæsthetized readily. No excitement. Pulse regular throughout operation. Blood never lost its bright arterial hue. Twelve hours after operation patient vomited once, but this after taking some brandy and milk. There was no feeling of nausea directly following etherization.

CASE VII.—Male, aged twenty. Diagnosis, varicocele. Operation, excision. Patient strong and robust; heart, systolic murmur over apex; action irregular; lungs, negative. Marked alcoholic habit. Patient took anæsthetic very easily; no stage of excitation. Complete anæsthesia in six minutes. Respiration and circulation very good during operation. It took rather longer than usual for patient to regain consciousness (fifty minutes), and both nausea and vomiting occurred after discontinuance of anæsthetic.

CASE VIII.—Male, aged twenty-seven. Diagnosis, tubercular arthritis of shoulder-joint. Operation, atypical resection. Patient fairly well nourished. Lungs, tubercular signs at left apex well advanced. Heart, negative. Period of excitement present. Patient slightly cyanotic during anæsthesia. Nausea and vomiting present after etherization. Patient conscious after one hour.

CASE IX.—Male, aged fifty-three. Diagnosis, cystitis. Pyelo-nephritis. Operation, median perineal cystotomy. Patient intensely emaciated; condition almost uræmic. Heart and lungs, negative; pulse and respiration, rapid and irregular. Only five minutes required to anæsthetize patient. Patient in such a weak state that inhalations of pure oxygen were given alternately with the oxygen and ether. By these means he stood the anæsthetic well, although he looked to be in extremis throughout the operation. No nausea nor vomiting subsequent to etherization.

CASE X.—Male, aged about fifty years. Diagnosis, cellulitis of neck. Operation, incision and drainage. Patient in good condition; heart and lungs, negative; breathing difficult on account of abscess in neck pressing against trachea. Anæsthesia produced slowly from the above fact. Slight excitement; no cyanosis, even though trachea was obstructed. Pulse regular, good force during operation. Recovered from ether without gastric irritability.

The intense thirst so often present after etherization has been greatly moderated in every instance, and the feeling of suffocation less marked. Albumen and casts have appeared in the urine with about the same percentage of frequency as when ether is administered by other methods. The atmosphere of the operating room has remained almost free from the odor of ether.

In concluding this report I may add that it will be interesting to experiment with compressed air similarly used, and possibly other gases; but for the present we will content ourselves with recording the cases and facts as we have observed them, and of submitting the report of Dr. Markoe's cases from Dr. Squier, as we received it. The illustrations are of the simple apparatus which I have devised and used.

101 WEST SEVENTY-FOURTH STREET.

THE PROOFS OF PROGRESS.[1]

BY GEORGE M. STERNBERG, M.D., LL.D.,

SURGEON-GENERAL UNITED STATES ARMY.

THE great obstacle to the advancement of medical science in the past has been respect for authority and the acceptance of theories and supposed facts without submitting them to the test of experimental verification.

The humoral pathology which Galen (born A.D. 130) developed from the previous teachings of Hippocrates controlled medical thought and influenced medical practice for 1500 years. But we have been emancipated from the trammels of theory and superstition, and the medicine of to-day is largely based upon exact observation and experimental demonstration. In other words, we may now properly speak of medical science, for, while our knowledge in many directions is far from being complete, it is founded upon a scientific basis of observation and experiment and is being rapidly extended by scientific methods.

The unthinking and unscientific are very ready to believe that not knowing is due to ignorance on the part of the individual, when in reality it is the brief statement by a well-informed man that the matter referred to has not been determined, and that no one can give the desired information. Under the same circumstances an ignoramus or a charlatan, instead of confessing ignorance, would perhaps gain great credit by a positive assertion with reference to a matter of which he could not possibly know anything. But science teaches that a confession of ignorance is the first step toward the attainment of knowledge. When the anxious mother says: "Doctor, is it diphtheria?" and receives the answer "I don't know; there is a somewhat suspicious deposit upon the tonsils, and I will at once make a microscopical examination and a culture which will enable me to determine the matter within twenty-four hours," she will probably not be as well satisfied with her medical attendant when she receives the assurance after such an examination, that "it is not diphtheria," as she would have been with the non-scientific doctor, who claims to recognize diphtheria at a glance, announces his diagnosis at once, and "cures" the patient within a day or two. The latter has earned the mother's lasting gratitude, and she will not fail to recommend him to her friends as competent to cure any ailment to which humanity is liable. But our scientific doctor will make his way in the end. He will enjoy the confidence of his fellow-practitioners, and his patients will learn after a time that when he says he knows a certain thing he really knows it, and when he says he don't know, he will do his best to find out, if the question can be solved by reference to the medical works in his library, or by an experimental investigation which it is practicable for him to make personally, or which can be made for him in a laboratory devoted to scientific research. He does not make a snap judgment, but waits until all the evidence is in. It is evident that the opinion of a man of this type is of value. His diagnosis, his prognosis, and his advice

[1] Extracts from an address delivered at the Georgetown Medical College, September 1, 1895.

as to treatment are based upon a careful investigation of the case in hand, a full knowledge of the literature relating to similar cases, and a precise appreciation of the indications to be met by the treatment prescribed.

The conservatism which makes the scientific physician willing to confess ignorance is a very different conservatism from that of the pretentious charlatan and quack, who gives an emphatic denial to facts that are well established upon evidence with which he is not familiar, or which his intellect is not capable of appreciating. I have protested against calling the graduates of our leading medical colleges "old-school" doctors, but it must be admitted that there are still some very old-school doctors among the former graduates of regular medical colleges. In the ranks of the medical profession, as elsewhere, there are men who have been left behind in the rapid development of our knowledge, and who protest against the acceptance of facts which have been established by the most unimpeachable experimental evidence. By such protest they simply reveal their own ignorance. But as their opinions are often stated in good and forcible English, other persons, equally ignorant of the evidence, frequently accept them, or quote the old saying—"When doctors disagree, who shall decide?"

As examples of this conservatism of ignorance I submit the following quotations from two recently published papers, having the names of regular graduates in medicine attached to them. In a report to a State Medical Society, signed by a reputable physician, among other conclusions formulated I find the following:

(2.) "That the etiology of infectious diseases is as yet *sub judice*, and that therapeutic methods based upon the assumption that infectious diseases are caused by specific micro-organisms are unscientific."

Another medical writer concludes a popular magazine article as follows:

"We are brought, therefore, to the conclusion inevitably: The germ theory is an assumption of causes, of the existence of which we have no evidence, to account for effects which they by no means explain."

The training which the medical student of the present day receives in the laboratory is essential for other reasons than because of the scientific spirit, which is developed by personal verification of the facts which are recorded in his text-books of chemistry, histology, bacteriology, etc. Not only does this personal verification impress the facts upon his memory, but he obtains that technical skill in the use of instruments and methods which can only be acquired by practice. In the chemical laboratory he learns to detect poisons, to determine the nature of impurities in water or air, to examine urine, etc. His practical course in histology makes him familiar with the use of the microscope and with the minute anatomy of healthy tissues. In the pathological laboratory he learns to recognize the results of different morbid processes and the presence of parasitic micro-organisms in the blood or tissues, to distinguish between malignant and innocent growths, etc. By cultivating the principal pathogenic bacteria and examining them under the microscope, after treatment with various staining agents, he becomes familiar with their biological and morphological characters and is able to recognize them wherever they may be encountered. In short, he obtains a practical knowledge of many things, which it is essential for him to know in order that he may be a skilful physician. The knowledge to be obtained from books, which enables the student to pass a creditable examination, does not make him a chemist, a pathologist, a skilful diagnostician, a surgeon or a physician any more than the knowledge to be obtained by reading books on agriculture makes a man a farmer, or than the study of books on navigation would enable a man without practical experience to take command of a trans-Atlantic steamer. It is in recognition of this fact that the Medical Faculty of the University of Georgetown has, as already stated, decided to extend the hours of instruction "so that more time may be given to practical work in laboratories and hospitals." Every physician of experience will approve of this decision. It is true that but few of the prominent physicians of the present day enjoyed such advantages as it is proposed to give to their successors. It is also true that a majority of these prominent physicians were very imperfectly prepared for the duties and responsibilities of a general practitioner when they received their medical degree. This fact has long been recognized within the ranks of the profession, and it is for this reason that hospital appointments have been so eagerly sought by those having a proper professional ambition. In the hospital the young doctor learns to apply his knowledge and to meet emergencies with composure and professional skill. His books have taught him what to look for, what to listen for, and what to feel for, but practice alone can give him the trained eye, the trained ear, and the *tactus eruditus* of the accomplished physician.

It is in the laboratory that the student acquires deftness in delicate manipulations required in his chemical, histological, and bacteriological studies; here he learns to measure and weigh with accuracy, to appreciate the slight differences in color-reaction, in form or in structure, upon which he must often depend for the recognition of toxic agents, pathogenic germs, or abnormal growths; his eye becomes trained to recognize the malarial plasmodium, the tubercle bacillus, and other micro-organisms, which are only revealed to us by the highest powers of the microscope, under proper illumination, and in skilfully mounted preparations; and it is here that conditions are most favorable for the development of that spirit of doubt and inquiry which is so essential for the progress of scientific medicine. Where there is no doubt there will be no investigation. The farmer who accepts the traditional belief that certain seed must be planted in the light of the moon, in order to obtain the best results, would consider it a waste of time to make a comparative experiment. But it is by means of comparative experiments that we arrive at definite conclusions in the laboratory, and the great diversity of opinions with reference to the curative action of drugs is largely due to a failure to apply the same methods in practice. This failure has been partly due to want of appreciation of the necessity for a control-experiment in judging of the results supposed to follow a certain course of treatment, and partly to the difficulty of making such a control-experiment in clinical medicine. The unscientific mind jumps at conclusions that are entirely unjustified by the facts. The warts upon the child's hand are rubbed with a piece of meat which is thrown over the left shoulder, etc., and they subsequently disappear; a horse-chestnut or a potato is carried in the pocket for years and the individual does not suffer from rheumatism during the entire time. The child has a high fever at bed-time, the mother gives it a sugar pill and the next morning the fever has entirely disappeared, and so on *ad infinitum*. *Post hoc ergo propter hoc!* But the man of science asks: What would have happened if the warts had not been rubbed with meat, or saliva, or whatever may have been the particular fetich employed? Would the man have had rheumatism if he had left the horse-chestnut on the tree or the potato in the ground? Would the child's fever have disappeared if the mother had failed to give it the sugar pill? To determine this a comparative experiment is evidently required. Take the case of the child, for example. To determine whether the disappearance of the fever was in fact due to the administration of the sugar pill we should have another exactly similar case—a child of the same age, under similar conditions and suffering from an elevation of temperature due to the same cause. One child should have the pill and the other should have nothing. Even then the result would

not be conclusive. Science demands that the experiment should be repeated several times. There are so many chances that the conditions may not, after all, have been exactly identical. No truly scientific man would venture to announce a fact as established upon the basis of a single successful experiment. And, having in view the fallability of human judgment, the tendency to draw conclusions favorable to the prejudices or desires of the individual, and the frequency with which erroneous conclusions are published upon what appears to be a substantial experimental basis, science demands verification of reported results by two or more independent investigators before finally accepting these results as demonstrated facts. All this is so far away from the ordinary methods of arriving at conclusions, that the conservatism of the scientific physician meets with little sympathy on the part of the general public. The man with a horse-chestnut in his pocket is not only convinced by his individual experience that this is a sovereign cure for rheumatism, but he is apt to resent your non-acceptance of his experiment as conclusive. We, on the other hand, know that medical literature abounds in instances of the ultimate failure of therapeutic agents and methods of treatment, which have for a time been lauded as specific, and have been endorsed by prominent physicians. We are therefore becoming more and more exacting in our demands as regards proof, and as a result medical science is making rapid progress. How great this progress has been is not fully appreciated by the non-medical public.

While we justly pride ourselves upon the rapid development of our knowledge during the last half of the present century, we must not forget that in some directions the foundations of scientific medicine were substantially laid by the illustrious physicians of the past. The time at my disposal will not permit me to give an extended review of the development of medical knowledge, but a brief reference to some of the more important events which have marked this progress will perhaps be useful, as showing the extent of the field and the advantages which the physician of to-day has over his predecessors.

Hippocrates and his illustrious successors, Celsus, Galen, and others, were certainly the peers of modern physicians in their powers of observation, and we are indebted to them for a mass of recorded facts relating to disease, which have been verified and added to by subsequent observers. But observation, in the absence of the instruments and methods of modern science, goes but a short distance in the direction of unveiling truth, and often leads to erroneous conclusions. Observation led the ancient philosophers to believe that the sun goes around the earth, and that water and air are elements. The experimental methods of modern science have revealed to us the constant presence of three elementary gases in the atmosphere, one of which is also a constituent of water, while one—argon—has only just been revealed to us by the researches of Professor Ramsey and Lord Reyleigh. One of the first lessons to be learned by the student of medicine is not to trust implicitly to the evidences of his senses. This is the fundamental error of ignorant persons, and the foundation of demonology and superstitions of all kinds. The eye tells us that water from the well is perfectly pure, but the microscope shows us that it swarms with living organisms. The touch tells us that the patient has a high fever, but the clinical thermometer says no—the sensation received was due to the comparatively low temperature of our own hand at the time of making the observation, etc.

The anatomical knowledge of "the father of medicine" was very imperfect, because it was not obtained by the dissection of the human body. The Greek physicians Herophilus and Erasistratus, of the Alexandrian school of medicine, who lived about 300 B.C., are believed to have been the first to study anatomy in this way, and from that time our knowledge in this essential department of medicine has steadily increased, until at present it is perhaps more nearly complete than in any other branch. The medical student of to-day is expected not only to acquire an accurate knowledge of anatomy in the dissecting room, but he must study the minute anatomy of the tissues by means of the microscope and the methods of investigation, which he will learn in the histological laboratory. He is also expected to have at least an outline knowledge of comparative anatomy, a branch of scientific research which dates back to the time of Aristotle (384 B.C.) and which has been greatly developed during the present century. Our knowledge of minute anatomy has been largely acquired during the past sixty years, as a result of the improvements in the compound microscope made about 1830. The perfecting of this invaluable instrument of research has also led to vast additions to our knowledge in the department of general biology, of which it is important that the medical student should possess at least an outline. A knowledge of the structure and development of lower organisms is justly regarded as a proper introduction to the study of human anatomy and physiology. Embryology, a branch of science which may almost be said to have had its birth in the present century, must not be neglected by the student of medicine. It is true that Galen made observations upon the development of the incubated egg, and that Harvey, in the seventeenth century, made some important observations in the same line of investigation, but the minute and accurate knowledge of the present day depends upon the comparatively recent improvements in the compound microscope just referred to.

Progress in physiology, as in other branches of medical science, has resulted from the application of the experimental method to the problems to be solved. Galen made an important addition to human knowledge when he demonstrated that urine is secreted by the kidneys, a fact which, apparent as it seems to us to be, had not previously been recognized. It was nearly fifteen hundred years later that Harvey (1628) demonstrated the circulation of the blood, a discovery which is justly considered one of the most notable events in the history of medicine. The subsequent explanation of the process of respiration by Lavosier (1783), the experiments upon gastric digestion by Beaumont (1834), and the discovery of the function of the vaso-motor nervous system by Claude Bernard, opened the way to a fertile field of research which is still being vigorously prosecuted in physiological laboratories; and the results attained constitute an essential part of a medical education. The progress of our knowledge of physiology has necessarily been secondary to the advancement of chemistry. Indeed, physics and chemistry constitute the foundation of medical science. We, therefore, place Priestley's discovery of oxygen (1783) among the epoch-making events in the history of medicine. It is due to chemistry that we are able to use the active principles of various drugs of demonstrated value, instead of the crude material—leaf, root, or bark; and the chemists have recently made many valuable additions to the list of approved therapeutic agents—principally from the series of coal-tar products.

The importance of carefully studying the results of morbid processes in the post-mortem room and in the pathological laboratory is now generally recognized, and the medical student will find that since Morgagai (1682–1771) led the way in the study of morbid anatomy, an enormous amount of work has been done in this field of investigation. He will be required to make himself familiar not only with the facts developed, but with the methods of research and the microscopical and gross appearances of tissues, which have undergone the changes due to disease. Important as these studies are, the results obtained, from a practical point of view, are eclipsed by the brilliant discoveries which

have been made during the past twenty years with reference to the etiology of infectious diseases, which to a considerable extent have been prosecuted in laboratories devoted to pathological research. These discoveries, like others heretofore referred to, depend primarily upon the improvements which have been made in the compound microscope, especially in high power objectives and means of illumination; and upon methods of research devised by the pioneers in this field of investigation, among whom the names of the French chemist Pasteur, and the German physician Koch are pre-eminent.

The development of our knowledge relating to the bacteria dates from the controversy relating to spontaneous generation, which was finally settled by the experimental demonstration made by Pasteur (1860), that no development of micro-organisms occurs in organic infusions which have been sterilized by boiling; and that fermentation and putrefaction depend upon the introduction of living germs into such infusions. The distinguished French physician Davaine first demonstrated the etiological relation of a micro-organism of this class to a specific infectious disease. The anthrax bacillus had been seen in the blood of animals dying from this disease by Pollender in 1849, and by Davaine himself in 1851, but it was not until 1863 that the last-named observer felt justified in asserting, as a result of inoculation-experiments, that the bacillus was the essential etiological factor in the production of anthrax.

In 1873 the German physician Obermeyer discovered the spirillum of relapsing fever in the blood of patients suffering from that disease. The typhoid bacillus was discovered by Eberth, and independently by Koch in 1880. The same year the present speaker discovered the pathogenic micrococcus, which is now recognized as the cause of croupous pneumonia. In 1882 Koch published his discovery of the tubercle bacillus. The glanders bacillus was discovered by Loeffler and Shutz in 1882; the bacillus of diphtheria by Loeffler in 1884; the bacillus of tetanus by Nicolaier in the same year. It was also in this eventful year that Koch published the discovery of the cholera spirillum. Since these important discoveries our knowledge of the pathogenic bacteria has rapidly increased, and it is now demonstrated that erysipelas, septicæmia, puerperal fever, wound infections, boils and abscesses, peritonitis, pleurisy, etc., are due to general or local infection with germs of this class.

Evidently the medical student of the present day must be made familiar with these recent additions to our knowledge of disease, and his acquaintance with these microscopic foes of the human race should be of that practical character which can only be obtained in the laboratory.

I have already occupied so much time that I can refer but briefly to the advancement in clinical medicine, which depends largely upon additions to our knowledge already referred to. The use of the stethoscope, the clinical thermometer, the laryngoscope, the ophthalmoscope, and other aids to diagnosis has introduced certainty in place of uncertainty, science in place of guess-work. Our knowledge of the pathogenic bacteria tells us not only where to find them, but how to destroy them when they are accessible to the action of physical or chemical agents. This knowledge has undoubtedly resulted in the saving of thousands of valuable lives. This has been accomplished by means of antiseptic or aseptic methods in surgical and obstetrical practice, and by the intelligent use of disinfectants for the destruction of infectious material, wherever it may be found. As a result of such procedures we have during recent years escaped any devastating epidemic of cholera or yellow fever, although the first-mentioned disease has twice been introduced into the harbor of our principal seaport, and yellow fever prevails annually in the cities of Havana and Vera Cruz, with which we have close commercial relations.

The medical student is expected to prepare himself for continuing the work of his predecessors in preventive medicine, although this work has a constant tendency to diminish the demand for his services. To the credit of our profession be it said that this selfish point of view has never controlled its action, and it is largely to the efforts of physicians that existing laws and regulations have been enacted for the prevention of the extension of infectious diseases, the maintenance of a pure water supply for towns and cities, and general sanitary supervision exercised by local and State boards of health.

The most notable recent additions to our therapeutic resources are the antitoxins of diphtheria and of tetanus, and the use of thyroid extract for the cure of myxœdema. But I cannot dwell upon the possibilities in the way of specific medication, which are suggested by these recent achievements of scientific medicine. Certainly, I have said enough to indicate to the young man who contemplates entering upon the study of medicine, that his best energies will be needed to master all the important details in the various branches to which reference has been made; and to justify the Medical Faculty of the University of Georgetown in extending the hours for instruction and in requiring that students shall take the practical laboratory courses, which have been arranged for, as announced in the recent "Circular of Information" already referred to.

Having attempted to give you some idea of the present status of scientific medicine, I desire briefly to call your attention to certain matters which are extremely discouraging for the truly scientific physician, although he seldom refers to them, and, perhaps wisely, trusts to time and the diffusion of knowledge to remedy the evils to which I shall refer.

Hand in hand with the progress of medical science we see an army of pseudo-scientific quacks who trade upon the imperfect knowledge of the masses, and by plausibly written advertisements convince many, even of the educated classes, that their particular method of treatment is based upon the latest scientific discoveries. A Priestley discovers oxygen; the physiologists show that this gas is essential to life, and that the maintenance of a full degree of vital activity depends upon the possession of healthy lungs of ample capacity and the respiration of pure air; the scientific physician discovers defects in the respiratory apparatus, and under certain circumstances prescribes oxygen for the relief of symptoms resulting from a deficient supply of this life-sustaining gas. But the pseudo-scientist extols oxygen as a cure-all for pulmonary complaints, or invents an apparatus, which may be held in the hand or carried in the pocket, by which oxygen will be absorbed in some mysterious way, and without difficulty obtains numerous certificates as to the marvellous cures effected by his method. A Franklin draws lightning from the clouds; a Galvani shows that an electrical current may be developed by the contact of metals and that such a current causes muscular contraction; and innumerable patient investigators add to our knowledge of electricity. The scientific physician avails himself of this potent agent for the treatment of certain ailments, in which it appears to be indicated, but admits that he meets with many disappointments in his clinical experiments. The pseudo-scientific quack writes, or has written, advertisements in which fact and fiction are so commingled that even educated persons may be deceived, and having aroused interest in the alleged therapeutic value of this mysterious agent offers his electric belt, or finger-ring, made of two metals, or pocket battery, as a sure cure for certain specified ailments; or, if less modest and more certain of the credulity of the public, as a cure for all of the diseases to which man is subject. Again, a Pasteur proves that the disease of sheep and cattle known as

anthrax is due to a microscopic organism found in the blood; an Obermeyer discovers a different micro-organism in the blood of relapsing fever patients, and numerous patient workers in laboratories rapidly add to our knowledge of pathogenic bacteria. Then comes the man with the microbe-killer. He tells you that all diseases are due to germs in the blood and that his fluid kills them without fail. Science has demonstrated that comparatively few of the infectious diseases of man are due to the presence of pathogenic bacteria in the blood, and that the microbe-killer has but little germicidal value; but a credulous public accepts the interested statements which appear to have a scientific basis, and swallows the microbe-killer with impunity, if not with benefit. And so it goes, science establishes the value of thyroid extract for the cure of myxœdema, and immediately the public are called upon to swallow extracts of brain for cerebral troubles; of heart, for cardiac disease, etc. Even the Chinese pulse-doctors obtain a large *clientele* on the Pacific coast. Their solemn looks and pretentious claims impose upon the ignorant, and it is said that educated people not infrequently consult them. It is true that in China, as elsewhere, there are two classes of physicians. Those who are educated and who are familiar with the medical classics of their country, and the itinerant quacks, who are not only ignorant but unprincipled. No doubt, the regular practitioner in China believes in his own pseudo-science. According to a recent author,[1] "the learned Chinese doctor is not ignorant in the sense that he has not studied, as from early youth he has been subjected to a degree of cramming and of learning by rote, such as would discourage and wear out the less patient and less toiling Caucasian. He has been obliged to learn stacks of sacred precepts taken from their most ancient sages; and the admixture of intricate and bewildering astronomy, meteorological signs, and endless physical complication of concurrent signs, appearances and detached disturbances, that he has been compelled to learn by heart, is simply appalling. Anatomy and physiology cut no figure in these studies and they are considered wholly unnecessary, as disease is a matter depending on good or bad vapors, and is either of divine or diabolical origin. In spite of their most elaborate treatises upon the pulse, from which they profess to be able to perform the most skilful diagnosis, they are even unacquainted with the existence of the circulation."

The time at my disposal will only admit of a brief reference to the Chinese theories relating to disease and its treatment. As was the custom among the more enlightened Occidental nations, until a comparatively recent period, their prescriptions often contain twenty or more ingredients, apparently given with a vague idea that one out of the number may prove to be the right remedy. These ingredients are obtained from all imaginable sources and include all kinds of nastiness, in the way of excretions, desiccated animal tissues, etc. With them the color of a medicine is an essential character: red medicines being suitable for diseases of the heart; white, for pulmonary complaints; black, for diseases of the kidneys; green, for those of the liver; and yellow, for those of the stomach. In the use of remedies from the vegetable kingdom the leaves and branches are most appropriate for diseases of the extremities, the bark should be used for skin diseases, the pith for derangements of internal parts of the body, etc.

In conclusion, I desire to emphasize the fact that learning does not enable a man to distinguish between science and pseudo-science. The learned disciples of Confucius in the Orient, and classical scholars of the pre-scientific epoch in Occidental countries, formerly failed to distinguish between the fact of astronomy and the fancies of astrology. And, at the present day, eminence as a classical scholar, or as a theologian, or as a jurist, or as a metaphysician, in the absence of a knowledge of the methods and results of modern scientific investigation, does not enable a man to distinguish between science and pseudo-science in medical practice. This kind of learning is therefore not essential for the physician; but, as we insisted at the outset, he should not enter upon the study of medicine without having at least a thorough knowledge of his own language and of those branches of study pursued in the high schools of our large cities; we now add that a reading knowledge of the French and German will be very desirable, if he wishes to keep entirely *au courant* with the progress of medical science.

[1] Dr. P. C. Remondino, of San Diego, Cal.

A CASE OF EXTENSIVE TRAUMATIC BRAIN LESION WITH VERY MEAGRE OBJECTIVE SYMPTOMS.

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It is almost inconceivable how, in the light of our present knowledge of brain functions and their localization, extensive brain lesions may exist with objective and even subjective signs of them almost wanting. Can ounces of the most important of tissues be destroyed without it having an effect on the system in general? Should we obey simply our reason and logic, this would appear impossible; it would seem that the deficiency of symptoms is not due to their absence, but rather to their strange and subtile nature, that evades our poor means of investigation. Gross experience, however, and especially such illustrations as the following, would seem to sustain the former conclusion.

The case reported here has been from the first to the last day under my steady, more or less direct, observation; mine was also the post-mortem examination, and these causes, combined with rareness and general interest of the case will, I hope, authorize its somewhat extended report.

The case is that of a young Scotchman, aged twenty-eight, who acquired gonorrhœa, followed by orchitis, lost work on this account, got depressed, and, on July 18, 1894, shot himself. Dr. Swartout, of Port Jervis Hospital, under whose care the suicide was committed, informs me of the following:

W. D—— was admitted to our hospital July 18, 1894, at 10.30 P.M., with a pistol-shot wound of the abdomen and of the head just back of the right ear. He was a coachman at Glen Spey, N. Y., twelve miles distant, and was transferred here in a carriage, having received the wounds the forenoon of the same day. On examining the case we deemed it not a case for operation, dressed the wounds antiseptically, and treated him on the expectant plan, thinking it would be only a few days before he would die. On removing the temporary dressing from the head about one-half ounce of brain matter exuded. He remained in a semi-comatose, and at times wandering, condition, until about August 2d or 3d, when he became thoroughly insane, and so noisy that he disturbed the rest of our patients, and on August 4th he was transferred to the Middletown State Hospital. He was thought to have suffered with temporary melancholia before inflicting on himself the wound.

On August 4th the patient was admitted to the Middletown State Hospital in the following condition: Temperature, 98.8° F.; pulse, 90, soft; tongue clean; pupils dilated; bowels and urine normal; appetite fair; heart feeble. No paresis. Would not speak. (Committing certificate speaks of some facial paralysis, which cannot be detected.) Wound, situated in the

right lower part of the abdomen, almost healed; the one behind the ear open and slightly discharging. Bed-sores over sacrum. Acknowledges that he shot himself. Hearing on the right side deficient. The temperature on the second day rose to 100.6° F.; but did not again exceed 100° F. The pulse varied between 60 and 84.

In a general way the patient became very sensitive, and often complains of pain in the head on least motion. At times appears to be in a kind of stupor and does not clearly comprehend then what is said. Sleeps and eats well.

August 10th and 11th.—No discharge from the wound on the head; bed-sores improving; mentally much brighter; anxious to get well.

August 19th.—Wound begun to discharge little thick, yellow pus.

September.—Doing very well; slightly costive.

October 13th.—Mental improvement continuous. Complains occasionally of "clicking" in his head; little hypochondric at times.

October 29th.—Two convulsive attacks, at 10.30 A.M. and 12.5 P.M. respectively. The convulsions came unexpected, and were general in character. After the second the patient slept three hours; no recollection, on waking, of any attack. No disturbance of any of the special senses.

November.—Nothing abnormal.

December 17th.—A convulsion, similar to the two previous, at 3 P. M.; sleep nil night after.

January 1, 1895.—Another convulsive attack this A.M.; fell out of bed during it without warning.

January 5th.—Another fit; nearly kicked off his left big toe-nail.

January 10th, A.M.—Vomited, and had a rapid rise of temperature to 101.2° F., and an almost equally sharp decline to normal the following day.

January 12th. — Coming and going pains in the head.

January 16th.—Head aches all over.

January 21st.—Irritable, unreasonable.

January 31st.—Splitting headache.

February 2d.—Very weak; depressed; refuses to eat; stubborn, fault-finding.

February 3d.—A sharp pain in the right temple over the eye.

February 19th.—A bit of triangular bone removed from the wound.

March 1st.—Headache; groaning; sullen; sleepy; did not eat breakfast; complains of continuous pain through the head in the region of the wound; considerable nausea. Hearing on right still deficient.

March 3d.—Headache terrible, shooting, splitting.

March 5th.—Headache continuing; the patient reasonable, desires an operation. His wish was complied with. An exploratory incision was made, and three large fragments of the inner table, all loose and pressing on the brain, were removed. Patient stood the operation very well, and after it slept quietly. His general condition improved markedly, and remained so until the 10th, when he grew again restless and begun to complain of renewed headache. From this day until the 17th his condition was as favorable as could be wished. He had no more convulsions since the operation. Never complained of any disturbance of sight.

March 17th.—Wound in good condition; incision healed by first intention. The patient looks, acts, and talks better than he has for weeks. Says his head feels easy. At 4 P.M., while the wound was being redressed the patient vomited and became temporarily weak and dull. At 8.15 P.M. began suddenly having convulsions, general, almost continuous, but not very severe. Convulsions stopped at 9.30; breathing begun to assume stertorous character; unconsciousness set in; temperature rose to 103½° F.; pulse, 76; respiration, 30; pupils dilated; *exitus lethalis* at 11.55 P.M.

Autopsy, March 18th, 10 A.M. *Inspection.*—Body moderately nourished, symmetrical, face very anæmic. Rigor mortis very marked. Scrotum loosely pending, discolored, brownish. A drop of pus in urethra.

Signs of Injuries.—A pouch-like healed scar on the right side of the abdomen, two inches above the anterior superior spine in McBurney's line. A round with extruding tissues filled opening on the right side in the skull, an inch and a half above the tip of the mastoid process, and two-thirds of an inch behind the junction of the exterior ear with the scalp. From this, leading upward and forward, an irregularly healed cicatrix (incision).

Section.—Scalp thick, well nourished. In the immediate vicinity of the wound and upward, along the incision line, subcutaneous tissues thickened, discolored light brown, and slightly soaked with thick pus. Discoloration of the scalp tissues all over the occiput on the right and below. At the lower edge of the wound, under the skin, is lodged a shell of a bullet. On removing the periosteum the opening in the skull is found to be almost regularly circular, of almost half an

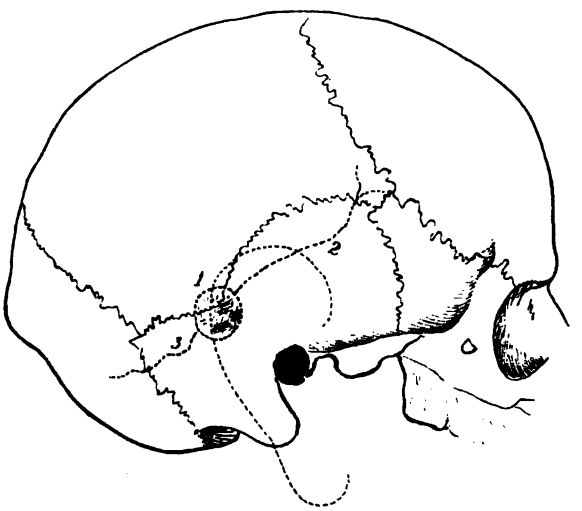


FIG. 1.—1, External wound; 2, anterior fracture; 3, posterior fracture.

inch in diameter. The edges are slightly serrated, but thin and dull. Running upward and forward for two and a half inches is a fracture of the skull, with both ends healed and the middle so open that it admits the tip of the scalpel easily. Running backward and downward, in almost the opposite direction from the first, is a second fracture, all healed, and traceable for about one inch distance. Through the opening itself protrude, like a bunch, some velvety, tough tissues. Skull-cap very thin, but mostly compact. Ethmoidal rostrum very high (three-fourths inch). No adhesions to the bone, no further signs of injury. The opening presents the same characteristic from inside as it did from outside. Dura hyperæmic; through it loom greatly congested vessels of the pia. Meningeal fluids diminished. Adhesions, moderate, along the margin of both hemispheres in the median line, from the first frontal to the first occipital convolutions. Surface of the brain uniformly discolored dull yellow; consistency augmented. Right temporo-sphenoidal lobe soft; when partially lifted up it is found surrounded with a small quantity of pus, which is similar in character to that found on the outside of the skull. Around the wound, to the extent of three inches vertically, and two antero-posteriorly, all the meninges are firmly adherent together and thus to the brain substance, which appears here dark yellow. On trying to extract the brain with these adhered membranes, a light tension induces a rupture in the brain substance of the temporo-sphenoidal lobe, and from this opening wells out about an ounce and a half of thin, greenish, odorless, flatulent pus, and with it another small shell of a bullet. On closer examination

almost the whole temporo-sphenoidal lobe is found destroyed, what is not pus being softened. In the direction of the wound, and slightly upward, the finger detects some hard, irregular, firmly embedded body. The whole encephalon, minus the pus escaped, is found to weigh fifty-six ounces. Base of both brains hyperæmic. Left half of the pons larger than the right.

The brain was taken to the hospital for further examination, which revealed the following: On cutting down to the hard body another, double cavity, as it later proved, was opened, and from it escaped about twelve drachms of thick, also odorless, grass, or rather malachite-green, pus. These cavities occupied the position between the termination of the fissure of Sylvius, gyri supramarginal and angular, and sulcus occipital anterior, and above the sulci temporalis super and occipital lateral; they just reached to the internal capsule in front, and did not communicate with the lateral ventricle. The wound itself was situated in the first temporal convolution, underneath and behind the lower termination of fistula Sylvii, and extended for an inch and a quarter into the brain substance. The course of the wound was filled up with tough connective tissue;

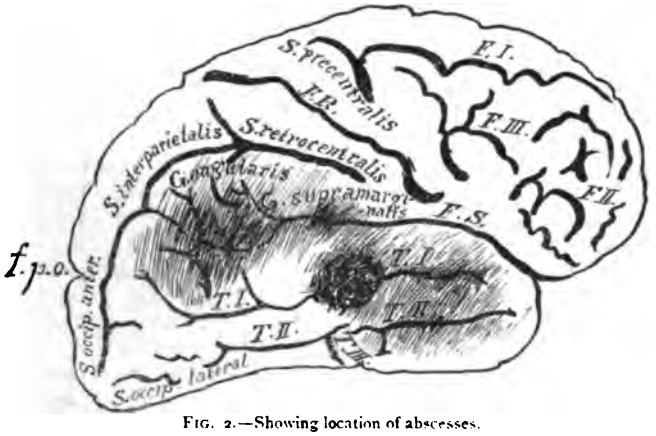


FIG. 2.—Showing location of abscesses.

at its inner termination were lodged, also surrounded by fibrous tissue, four small fragments of the skull, and the lower crushed half of a pistol-bullet, No. 32. Gray matter of the cerebrum was found pale-yellowish, rather thin. Ventricles filled with clear fluid. Puncta vasculosa abundant throughout the white matter. Basal ganglia, medulla, and cerebellum normal.

Thoracic Organs.—Lungs free, congested, especially the left; pleural cavity contains about a pint of sanguinolent, dark, odorless fluid. Heart and great blood-vessels normal.

Abdominal Organs.—The scar in the right hypogastrium extends straight down through the muscles and peritoneum, presenting in its whole course a dark discoloration. The internal mark of it lies right over the head of the cæcum, but nor this, nor the underlying very long appendix, nor any of the intestines or structures in the neighborhood show the slightest signs of injury, nor could the bullet be found after the most careful examination. Stomach, liver, and pancreas normal; spleen large, dark (weight fifteen ounces); kidneys both congested, right larger; intestines normal; bladder very full; testicles in a state of subacute inflammation.

On resuming, we find the following points of interest in this case: 1, Temporary paralysis of the facial muscles; 2, prolonged subnormal respiration, pulse, and even temperature; 3, no interference with assimilation and sleep; 4, absence of paresis, normal pupils; 5, some mental excitement, followed by mental clearing, and ending on the day of death, with unusual brightness and ease; 6, after four months the appearance of convulsions bearing epileptic character; their probable disappearing after the operation; 7, considerable loss of hearing on the wounded side, but no disturbance whatever of any other of the special senses.

To the end, let it be added, that the patient's mental condition was always much nearer simple hypochondria than insanity, and also, that his intelligence was rather above the average, so that no symptoms could have been lost through one or the other of these reasons.

A SUBSTITUTE FOR THE TRACHÈA TUBE.

BY W. N. MACARTNEY, M.D.,

FORT COVINGTON, N. Y.

ON several occasions during the past few years I have used, in the operation of tracheotomy, a little appliance—I can hardly dignify it by the name of instrument—as a substitute for a trachea tube, and it has invariably given me such perfect satisfaction that it has seemed to me proper to give a description of it in the hope that it may render others an equal service.

The appliance is simply a wish-bone-shaped piece of wire, intended to keep the edges of the tracheal wound sufficiently retracted to permit easy respiration and to be self-retaining.

It has some essentially practical advantages in certain cases over the trachea tube: in its adaptability, for it can be made to answer the purpose nicely in almost any conceivable case of tracheotomy or laryngotomy; in its availability, for it can be made at almost any time and at any place at a moment's notice; in its economy, for it costs absolutely nothing, which is certainly more than can be said of the trachea tube.

Of late years the use of O'Dwyer's tubes has materially diminished the number of cases in which tracheotomy is necessary, but there yet remains a large class of cases of laryngeal stenosis from various causes, for which intubation is either not adapted, or for other reasons cannot be performed, so that the operation of tracheotomy is destined to hold a legitimate and useful place.

For instance, the country practitioner finds himself miles from home, perhaps leagues from a brother practitioner, and confronted with a severe case of laryngeal obstruction. It may easily happen that, not knowing the nature of the case when called, he finds himself without the proper appliances for its relief. The case is urgent, perhaps very urgent. He must operate at once or let the patient die. There is no time to send to the city for a surgeon, who might possibly arrive in time for the funeral sermon, or for that matter, to send home for a trachea tube.

Again, take the practising physician in the city. He also has an urgent case. His patient is cyanosed, or perhaps when he has reached the bedside respiration has just ceased. Will he delay to call in capable assistants, to procure a set of O'Dwyer's tubes, to secure a tracheal cannula of proper size and correct curve, to have everything on hand which may possibly be required, and to take every precaution in regard to antisepsis, or will he operate at once?

It is true that these are emergency cases, but they are not overdrawn. I have had to operate more than once under similar circumstances, and it has been my fortune to see others operate at a moment's notice. I have seen Dr. Stuart Douglas, then resident physician to the insane at Bellevue, open the trachea at midnight with a penknife. He did not practise surgery ordinarily. I have no doubt he would have preferred daylight and a scalpel, but there was not a moment to lose and he had the courage of his convictions.

I recall a similar instance happening shortly after where the operation was done in much the same way. There was no lack of instruments in a neighboring ward, but there was not a second to waste. Then again I saw a man suffering from a severe case of Ludwig's angina or submaxillary cellulitis. The swelling was immense, increased rapidly, the cellular tissue in the

floor of the mouth was gangrenous. He could not swallow, could not open his mouth, and respiration was extremely difficult. He finally became cyanosed, and immediate preparations were made for a tracheotomy by the attending surgeon, Dr. S. J. White, now of Franklin, N. Y. Before, however, the preparations were complete the man suddenly ceased to breathe, became pulseless, and to all appearances was dead. Dr. White seized a scalpel and with two rapid but sure strokes of the knife had the trachea open. Five minutes later, respiration having been established by the usual means, he was sitting up in bed with a good pulse and breathing easily.

Another case in point: I was hurriedly called to a case of deep-seated abscess of the throat. The patient was breathing with great difficulty. Ether was given, I evacuated the abscess, which contained about half a pint of pus, but respiration became rapidly worse, and before I had laid the knife aside he ceased to breathe and became pulseless. Artificial respiration and other measures failed. A hurried examination showed œdema of the glottis. I could have procured an intubation set or a trachea tube in three minutes. But I could open the trachea and save two minutes and three-quarters, and I did. The patient never found any fault with me for doing it hurriedly, though he has had some years of good health in which to think it over.

These are merely illustrative cases. Instances of this kind have occurred and may occur at any time to any of us. I could cite others from my own personal knowledge, but it is unnecessary.

It is an axiom that every practising physician, no matter what branch or specialty he may follow, should be able to open a trachea properly and rapidly in an emergency. He may be called upon to do it on short notice, in the absence of skilled assistants, and without all the instruments which he might desire. Perhaps he has not an intubation set; he may not have even a trachea tube, and it may even be that none of his brother practitioners within easy reach has one. Probably he has a tube or two, but not one of the proper size or shape for the particular case in hand. In such a case will he wait for the mails to bring him one from the instrument-maker?

If tracheotomy is necessary, and a trachea tube of the proper curve, calibre, and construction is not at hand, what must he do? Theoretically he should open the trachea at once. But to use a quotation now worn threadbare, "It is a condition, not a theory, which confronts us." Does the average rank-and-file practitioner not specially skilled in surgery do this? I am not aware that there are any statistics bearing on this particular point. It is to the credit of the profession that so many physicians do operate under the most adverse circumstances. But others find excuses. I know of one case at least in point. The doctor had no instruments with him for the case. He was not sure of his operative skill. He was not sure that the patient would live if he operated. He was reasonably—very reasonably—sure that she would die if he did not operate. So he informed the friends only of that which he was "reasonably" sure of. Good logic, but poor practice.

It seems to me therefore that any suggestion which will facilitate the performance of tracheotomy may not be wholly without value. The operation in itself is not difficult under ordinary circumstances. For the deliberate operation the trachea tube is well suited; but for the emergency cases this little wire substitute serves an excellent purpose, in that an instrument always at hand is worth at least two in the shop. It can be made in a moment and a tube can be sent for if needed at the doctor's leisure.

Another case of a different type: A man, while engaged in his trade as blacksmith, was kicked by a horse, the toe cork striking his larynx. When I first saw him he was enormously swollen with emphysema from the lower edge of the sternum to the crown of his head. His neck was nearly as large as his body, and the inside of his mouth and throat was emphysematous. He was deeply cyanosed and breathing with extreme difficulty. A diagnosis of fracture of the larynx was made and his windpipe was opened with some difficulty owing to the extravasated blood and the enormous depth of tissue which covered the trachea. No tube could be found to reach the tracheal cut, although several sizes were tried; a substitute was used and later an extra long tube was made purposely at an instrument store. He had an attack of pneumonia, but recovered, and the tube was removed after some weeks.

These are the cases where our most skilful and well-equipped surgeons find themselves at a disadvantage occasionally. I have in my office several extra long tubes which were made for such cases as the above, and for cases of inoperable tumors of the neck. In one case of the latter kind we could not find in New York City a tube long enough to reach and used a large silver catheter for the time, which proved a serviceable but extremely awkward arrangement. Then there are cases of submaxillary cellulitis, where the jaw is temporarily but firmly closed, and therefore an intubation tube cannot be used. The swelling in the tissues of the neck is often so great that an ordinary trachea tube will not reach. These are cases also where this little substitute is applicable and in which it fulfils an excellent purpose.

Laryngotomy also calls for a special tube flattened from above downward. With this little retractor in the larynx one can wait for a suitable tube by mail, or by freight for that matter.

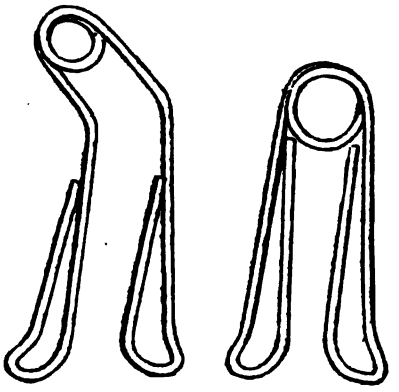
The first time I used this modest little substitute was in a case of foreign body in the windpipe. It had been in for some weeks, and the consulting surgeons opened the trachea and made a thorough but unsuccessful search for it. This failing, nothing remained but to trust to its natural expulsion. Several trachea tubes were tried, but it was very evident that the foreign body was much too large to escape through any of them. To meet the necessities of the case it occurred to me that a wire retractor could be constructed, and this little affair was the result. It opened the trachea widely and answered the purpose so satisfactorily that I have used it since then.

A very good method of handling these cases—the so-called operation without tubes—is to introduce a suture into each side of the trachea and fasten with an elastic band behind the neck. Yet there are some cases where this procedure will not work well; and it is, simple as it seems, frequently very difficult of performance, particularly in those very cases of emergency for which it seems so well adapted and for which this same procedure is recommended. It appears easy, and yet, with a poor light, with great swelling of the tissues in front of the trachea, with a thick-necked patient, in the cases of children, with a shuttle-like trachea moving rapidly up and down, and in the absence of a properly curved needle and a suitable needle-holder, I have found it wholly out of the question.

The retractor which I have used has always answered every purpose. It reduces the number of necessary and essential instruments to one—a knife. It does away with all excuses. It is practically always on hand, in any place, at any time. If a tracheotomy must be done at a moment's notice, the handle of a scalpel, a pair of forceps, a hair-pin, will keep the trachea open long enough for one to be constructed.

Stove-pipe wire will do, or better, the stiffer tinned wire from the stub of an old broom, or from the stylet of an English catheter. If your patient has neither stove nor broom in the house, and there are none in the neighborhood, it will be a pretty poor country to live in any way. But in this emergency a probe from your pocket-case or a hair-pin may be bent up properly—any straight piece of wire, or even a crooked piece—which will give

him a chance to see a change of administration. Bend the wire up in the shape of a wish-bone. Give a turn in the centre or joint of the wish-bone around a lead-pencil



or a thermometer-case, to give it the necessary spring. If stove-pipe or other soft wire is used give it two or three turns. Bring the sides parallel. Bend up the ends of the wire so as to form broad fenestrated blades or loops. Give these blades a slight outward bend at the ends to make it self-retaining. You can do all this with your fingers if you have no pliers or artery clamps handy. Close the blades and insert into the tracheal slit. Release the blades and it retracts the edges of the tracheal wound and retains itself. You can make one of nickelled wire the next day if you choose. In the meantime you can go to bed.

To summarize and recapitulate, this simple tracheal retractor is the best device with which I am acquainted in cases of tracheotomy for foreign bodies in the trachea or bronchi, where a trachea tube is worse than useless. The retractor acting as a speculum gives a free and unobstructed view of the interior of the trachea, dilating the opening to its fullest extent, and unlike the trachea tube, which furnishes an obstacle to the escape of the foreign body, it affords every facility for its expulsion during one of the coughing spells.

It can be adapted to any case of tracheotomy or of laryngotomy by making the blades long or short, curved or straight. Extra expansile strength where the trachea is rigid and resistant can be secured by making the coil at the centre smaller, by doubling the wire, or by using heavier wire.

It is useful as a retractor before the trachea is open, when in the absence of help one is compelled to do the operation unaided, in retracting the skin while the trachea is being steadied for the incision.

It has never caused irritation or discomfort, and patients on whom it is used do not complain of it. I have often seen ulceration of the trachea caused by the trachea tube. I have never seen it occur with this. In fact I do not see how it can occur to any extent if the retractor is properly made.

It has no tendency to slip out or in. It can only get partially displaced by swinging round at right angles to its proper position, when the blades would then lie in the angles of the wound. This is immaterial, inasmuch as it will even then keep the trachea as well open as before.

It will not clog with mucus in the absence of the doctor, and thus endanger the patient's life as tubular arrangements are prone to do.

It is eminently the appliance in emergency cases, being always available, and, lastly, it costs absolutely nothing.

One objection to its use might be in certain cases the presence of severe hemorrhage when the trachea is opened. In practice I have never found it so. By inserting the retractor and turning the patient on the side, or sitting him up leaning slightly forward, the blood will not run into the trachea, and any bleeding vessels can be readily caught and ligated if need be with the retractor *in situ*.

ROUTINE MEDICATION IN ASYLUM PRACTICE.

By W. A. McCLAIN, M.D.,

ATHENS, O.

A STRENUOUS effort is being made in many States of the Union to divorce the public institutions of charity from the control of political organizations, and place them under the control of non-partisan boards of supervision. This is certainly a praiseworthy effort and will meet the hearty approval of all right-minded citizens, especially among those in the profession of medicine. I desire more particularly to point out the pernicious results of political preferment in connection with the various hospitals for the insane throughout the country. For it is in the peculiar, I might say special, work of these institutions that incompetency may not only result in loss to the patient of the necessary intelligent treatment they demand, but it may entail upon them needless suffering by the unscientific application of means at hand, and a baneful routine system of medication by unskilled physicians.

The fact is patent and undeniable that of all classes of patients none call for a more intelligent and scientific acquaintance on the part of the physician with the principles of medicine and their application to the morbid conditions of mankind, than do the unfortunate insane. That they do not always receive this, may be easily ascertained by an investigation of the methods pursued in most any of the institutions of the land.

In the *American Journal of Insanity* for October, 1894, appeared a criticism on Dr. Weir Mitchell's address to the Medico-Psychological Association, by Dr. Channing, in which he disagrees with Dr. Mitchell in the latter's Utopian views of what an institution for the insane should be, and how conducted. While we admit that the criticism in the main is just, yet Dr. Mitchell certainly struck the right chord in directing attention to the fact that a much-needed reform in asylum work is a crying need. Where this fault lies, and upon whom the blame rests for such faults, I shall endeavor to point out in this paper.

Having visited the hospitals for the insane in many States of the Union, and having studied the reports from the majority in both the United States and Europe, I am more than ever convinced that a vast amount of routine treatment, so far as medication goes, is the rule, and the absence of it the exception in these institutions; while all alienists will admit that the greatest benefit derived from these institutions is not from any course of medication, but from gentle restraint, pleasant surroundings, change of environment, which the patients enjoy, and the regular life to which they are subjected.

From these sources we look for the greatest good. While these conditions in the vast majority of cases produce marvellous results, yet they cannot take the place of careful medication in many singular morbid conditions to be met with among the insane. To illustrate, let us take the ward physicians in most any of our hospitals for the insane. They are mostly young men who have had little or no experience in general practice. They have treated some of the more familiar diseases, some of the epidemic diseases of childhood, have read some text-book on practice, and have a very hazy idea of the subject after all. If a patient is able to describe to him all his aches and pains, and lay before him a complete history of his case, then, according to rule 1, 2, or 3, he may pronounce the case one of asthma, whether caused from reflex nervous trouble or heart disease, he is not quite certain which. The various valvular lesions of the heart he has never had any clinical experience to enable him to distinguish, and the curious murmurs and turbulent sounds convey to his intelligence nothing of diagnostic value.

And perchance it may be lung trouble; here again

the average ward physician is all at sea. The sounds he hears may be all right or all wrong, but he could not be qualified to determine. In fact, if one-half the physicians who place their ear to the chest in such a knowing way were asked by a scientific clinician to state what they heard, expected to hear, and what it all signified, they would stand speechless with doubt and ashamed of their own pretences to knowledge.

Again, when we come into the domain of the diseases peculiar to women, how very far from the truth are their professions and practices. In no class of practice are these diseases so wantonly neglected as in asylum work, and no class of cases demands so careful and painstaking knowledge as do the manifold diseases of women. Owing to the complicated and extensive nervous mechanism of the organs of reproduction in women, any disturbance in this region must necessarily affect the general nervous system very profoundly, and calls for a critical examination to discover the cause that its removal may be possible.

But what do we find when we look in this direction? While nearly all the State hospitals for the insane are thoroughly equipped with all the instruments needed for careful examination and operation, yet the uterine sound, the speculum, and the curette are seldom or never used. Why this dereliction of duty? The reason is plain again. What have these young and inexperienced physicians learned of the diseases of the uterus and its appendages? Their knowledge is usually so indefinite in regard to these conditions, that anything they may do would be done blindly and misguidedly. They remember having seen at the free clinics, when they went to college, some application made to the uterus by means of a pledget of cotton, saturated in some astringent solution. They go through the same manœuvre, but just what results they expect from this treatment they are not able to state. And yet I have known poor deluded patients who submitted to this for months, under the impression they were being treated for womb disease. No amount of glycerine and tannin applied to the neck of the womb would ever, in the least degree, arrest or mitigate a diseased process of the tubes. And yet this is the routine work.

I recall one instance in a certain asylum, in a Western State, where a patient was permitted to go home to die from some unknown disease, and yet there was every evidence of an enlarged uterus many times its normal size. An examination in this case had never been made. Another case was entered on the books as "acute melancholia," due to domestic trouble and worry. The patient had not menstruated for six months, and yet there were no indications of pregnancy. She was sent back to the ward, and the usual routine medicines were administered to produce sleep. The patient did not improve, and her family took her home, where she fell into the hands of a specialist in diseases of women. He dilated the neck of the uterus and curetted its cavity, and placed the patient on permanganate of potash and laxatives. The menstrual function was re-established and her mind improved from that moment. To trace the exact cause and connecting links in this case were difficult indeed, but it is evident it was not organic brain disease alone. These patients cannot, as a rule, tell their troubles and ailments in an intelligent manner. Nor will they usually answer any questions put to them by the physician, and in such cases the medical attendant's duty is plain and should not be shrunk from—a careful and thorough examination of every organ of the body so far as practicable. The insane are subject to all the other diseases one meets with in general practice, and it is seldom, indeed, that we meet with a mental disorder independently of other and organic trouble, if we could only know how and where to look for the lesion. One other instance occurs to my mind: A young man was arrested for attempted homicide. While in jail he showed marked symptoms of insanity. A physician was called, the patient was probated and sent to an asylum. His case was entered on the books as "acute mania." He was put in the back ward. Of course the young man was insane, but why? This was not asked, but large doses of duboisine and morphia were given to produce sleep and quiet. No careful examination was made; the case grew worse, and in about ten days the patient suddenly died. On post-mortem it was found the cause of death was due to an abscess in the mastoid region, and the insanity to the meningeal inflammation. An early recognition of this condition, and a minor operation in surgery, would in all probability have saved the individual's life. These are but a few of the many cases of routine medication which prevails in most of our hospitals for the insane.

It is so easy to fall into the habit of thinking that all insane persons are suffering from some mysterious affection of that still more mysterious and intangible something called mind, and inasmuch as they know but little of the nature of mind, and the normal processes of thought and feeling, how can it be possible for them to conceive of any method of treating that which they do not understand and thus fail to recognize?

Mental disease cannot exist in a perfectly sound physical organization. That this is at variance with the views expressed by some authors on metaphysics, I am well aware, but to assume otherwise is certainly contrary to all we know of the pathology of mind, and the advanced writers on mental science no longer speak of the relation of mind and brain as the "player and the instrument." Simply because we fail to discover the pathological condition of nerve cells in these cases is no evidence that it does not exist. Our knowledge of the minute anatomy of the brain and its complex physiology is at present very imperfect. Moreover, the pathological condition which underlies insanity—the deep substrata—may exist in any other organ of the body aside from the brain.

If we but apprehend clearly that the relation between the supreme nervous centres and the blood is but the same as exists between the blood and other parts of the body, and that the disordered mental phenomena are but the functional exponent of morbid organic action—when we grasp this just conclusion, then we will look for physical causes and seek to destroy the tree of insanity by killing its roots and not by lopping its branches. A delusion, in the minds of most physicians, is some terrible octopus which settles over the brain like a canopy and obstructs all the avenues for the exit of healthy, rational thought, when, in fact, a delusion is nothing more than the belief in an hallucination, which, in turn, is but sensations of subjective origin interpreted objectively, just as persons who are victims of vertigo are suffering from motor hallucinations.

Mind and matter are not two separate entities, neither are they to be thought of and studied as such. Mind is no more apart from brain than sound is from the organ of hearing, and any philosophy which would teach that the mind is anything other than a function of the brain is fallacious, and leads only to mysticism.

One other organ, the diseased action of which may cause a morbid condition of mental processes, must not be overlooked, and that is the stomach or digestive tract. Even in epilepsy it has been observed that laxative medicines, like calomel, when administered, will defer the threatened epileptic seizure, by clearing out the alimentary canal and by increasing the secretion of the various digestive juices, and by some unknown alterative effect upon the nervous centres. The stomach's relation to the system of the great sympathetic is marvellous.

No single organ of the body exerts a more decided influence upon the mind than the stomach. The myriad symptoms of uneasiness and nervous perturbations, the morbid appetite, the impulsive nature and irascible temper, are a few of the symptoms due to dis-

ordered digestion, especially that caused by chronic malarial poisoning, and not infrequently these conditions result in a form of mild melancholia, or at least are the exciting causes.

That dream-life is closely associated with the condition in some forms of insanity is recognized by all psychologists, and what uncanny dreams and inexplicable nightmares possess those who suffer from indigestion! If this be true of dream-life, why may it not be true of waking existence? For it is only a matter of degree in the diseased condition, yet in the wards of most hospitals for the insane are many patients who receive no medication whatever, and who are suffering from stomach or intestinal indigestion—and there is no diseased condition which places an individual in the hands of the demon of unrest as does intestinal indigestion. If a patient should call on the ward for medicine and speak of some pain or uneasiness, the ward physician, in the majority of instances, would set it down as a delusion or whimsical demand, and it goes unheeded. I am fully conscious of the many difficulties to be encountered in an attempt to fully understand the exact mental condition of any person. Insanity is not a condition to be diagnosed by the aid of the stethoscope or thermometer, but its diagnosis rests upon the skilled judgment of those who have made the phenomena of mind a careful study, and in addition to this have studied the insane and are familiar with all the hidden springs of their actions, and have traced every impulse to the secret founts of their being. Such are able to interpret much which to the unskilled would be only meaningless and purposeless acts, or the silly mutterings of delirium.

I am aware that many who read this article will not admit the justice of the criticism, but all who have had extensive facilities for studying the subject and of verifying the truth of the statements must have already noticed the same.

Now, if these conditions exist, where rests the blame, and how may it be remedied? First let me say that all this is no fault of the superintendent, and inefficient ward physicians is no wish of his. The arduous and exacting duties of his position render it impossible for him to give any special study to each individual case. A superintendent's qualifications should be more of an executive nature than of a skilled pathologist; the medication must rest with the ward physicians.

And so long as these institutions are subject to political caprice of the dominant party, just so long will the ward physician be selected from a class of physicians who by nature and education are unfitted for the position, and who from the very nature of their requirements must fall into a routine system of medication. And so prone is the human mind to be satisfied with its own work that it soon becomes blinded to those higher lifts of sky and broader reaches of horizon in the realms of research which lie out and beyond. And as the "fire-fly only shines while on the wing, so with the mind when at rest—it darkens."

Walking Backward Cure for Headache.—An apostle of physical culture says that an excellent and never-failing cure for nervous headache is the simple act of walking backward. Ten minutes is as long as is usually necessary to promenade. It sometimes, however, requires more than ten minutes to walk at all, if one is very "nervous." But it is not understood that it is necessary to walk a chalkline. Any kind of walking will do, provided it is backward. It is well to get in a long, narrow room, where the windows are high, and walk very slowly, placing first the ball of the foot on the floor, and then the heel. Besides curing the headache, this exercise promotes a graceful carriage. A half hour's walk backward every day will do wonders toward producing a graceful gait.

SOME OF THE DISADVANTAGES OF SPECIALISM.

By WOODS HUTCHINSON, A.M., M.D.,

DES MOINES, IOWA.

The microscope is a wonderful instrument, but it has its limitations. Inability to see anything half an inch beyond its own objective, for instance. It will detect a bacillus anthracis, but fail to see a panther or a trolley-car. And the knowledge of the specialist is liable to similar defects. The more completely he concentrates his attention upon one thing the blinder he becomes to all surrounding objects.

Probably there is nothing of which we, as a profession, are prouder than the remarkable division "of labor" which has taken place among us. It is a mark and a means of progress, and plays the same *rôle* as in other departments of civilization. The specialist has arrived and we bow down before him, for through him alone comes accurate and scientific knowledge (and superb fees). Nay, more, we are, most of us, one of him ourselves, or trying to be, for the pure and intellectual joy of possessing the knowledge aforesaid, of course. The advantages of specialization and the advances due to it are, of course, unquestionable and glorious, but are we not in danger of overdoing it? As to the injuriousness of one of its prevailing tendencies there can be little doubt, and that is the alarming fact that few or none of our present medical students are qualifying themselves (in intuition) for general practitioners; they are all going to be "specialists;" some for the glory of the thing, others for the pay, and others because "there are no night-calls to make." All of which is about as rational as if a "kindergartner" should announce his intention to confine his attention to the Italian verb as soon as he had learned to write. It ought to be actively discouraged by both medical teachers and the profession, and at least two to five years of general practice insisted upon as a proper part of the preparation for any special work.

A specialty should be drifted into by a sort of natural selection, after a man has tried his strength and ascertained his tastes by years of general practice. No man can hope to properly understand any single region or organ of the body or class of diseases who does not first thoroughly understand the whole body and its variations, both in health and disease. The bouquet-maker may get along with a knowledge of the blossom alone, but the horticulturist, the botanist, must know the whole plant-family from rootlet to seed-capsule, their needs, their habits, everything about them, in fact. But the undesirable consequences to which we specially refer are those to the specialist himself and to the profession at large. Specialization in essence is limiting, narrowing of one's interest to a single subject or group of subjects, and unfortunately this narrowing, while necessary, may be highly injurious to the general mental development of the student. So much so in some cases as to actually defeat its own ends, just as a high degree of myopia may interfere with a man's reading even German brevier at six inches. The specialist is in peculiar danger of seeing the whole world through his own particular spectacles. To the gynecologist woman becomes simply a uterus and its appendages, and every disturbance of her nutrition must originate in these organs. The rhinologist traces everything from asthma to insanity to hypertrophy of the turbinated bodies, while the proctologist is sure that the true view of most diseases can only be obtained through a rectal speculum. To such an extent does this biassing of view extend as to actually blind him in many cases to the fact that some diseases he is called upon to treat may be merely extensions of general pathological changes of the whole system into his particular preserve. For instance, we recently heard of a case of rapidly developing double cataract in a young adult

who had consulted two ophthalmologists, and been advised by both to have them extracted. A general examination revealed sugar in the urine and well-marked symptoms, both local and general, of diabetes. Some of the most distressing mistakes we have ever seen in practice have been made, not by obscure country doctors, but by specialists of skill and wide reputation, whose ciliary mechanism had become permanently "accommodated" to the range of their particular hobby only.

Perhaps for the advance of medicine as a science, the more minute the specialization the better, but for its practice as an art, almost the reverse is true. No organ has as yet succeeded in existing by itself alone, and the average human being will insist upon having a full set of all the mechanisms belonging to the species, so that complications are liable to occur at any moment. And we must be prepared for any and all of them. As the human frame is at present constructed no man can hope to practise any specialty with comfort (to his patient, at least) and credit, without a fairly thorough working-knowledge of the structure and diseases of all its parts. In short, the man who knows only his specialty, does not know even that as he ought to. He suffers from mental myopia, so to speak. Another undesirable effect of specialization is the temptation it affords to multiply refinements, distinctions, and divisions with corresponding technical terms at portentous length and appalling sound. So far has this been carried of late, that the papers read in many of the sections of our medical gatherings are wellnigh unintelligible to the average general practitioner from the technicality of their language, and their subject-matter so absolutely divested of all relation to or bearing upon anything else under heaven, as to be utterly uninteresting and valueless to all but a chosen few. More than this, the very fact that our chosen field is small renders us even more liable than usual to that common human delusion, that we know all there is in it. We are sometimes even proud of our ignorance of other departments of the healing art. And this is unfortunate, for diseases are most inconsiderate, and often absolutely decline to limit their action to any given region or organ. Two or three of them will even mix themselves up in the same subject. For instance, if an ophthalmologist were called to treat the primary conjunctivitis of measles, he would be under the painful necessity of calling in a laryngologist to attend to the naso-pharyngeal complications, a chest specialist for the cough, and a dermatologist for the eruption, which would be somewhat fatiguing for the patient—as well as expensive.

If the present rate of progress continues, the neurologist in charge of a case of locomotor ataxia will have to call in a genito-urinary specialist when cystitis develops. It has gone almost to that extent already, for as Hughlings Jackson not long ago remarked at a medical gathering where it had been stated that every organ in the body had hospitals specially devoted to its treatment except the umbilicus, "You forget, gentlemen, there is, in this very city, a *naval* hospital." And any physician who can treat only a fraction of the body is very apt to become only a fraction of a doctor himself. Far more valuable than mere knowledge of facts to the consultant is judgment, ability to balance probabilities, and this can never be developed by the hemocytometer or the cystoscope alone. Indeed, the more canvas of mere special information that an expert carries in proportion to his beam of broad culture and his ballast of common-sense, the more unsteady his course is likely to be. Not only a thorough knowledge of all human medicine, but a fair acquaintance with some of the allied natural sciences, is really requisite for the soundest judgment and the clearest insight, and this not merely for his own, but also for his patients' sake. Such a man will make fewer mistakes and be more likely to assist nature, instead of hindering her, than many a mere technical expert, even in the latter's own domain.

One of the most strikingly unfavorable results at specialism is the extraordinary impetus which it has given to our natural tendency to run after professional fads. The air has fairly echoed for the past fifteen years with superb trumpetings of wonderful discoveries from one expert quarter after another, followed by a wild stampede of the profession in that direction. Now a shout goes up that the chief cause of neurasthenia and hysteria is an elongated cervix uteri, and the cure is to split it; five years later another authority has the floor and is equally certain that all these things are due to a lacerated cervix, and all that have been split have to be repaired again. Again, the ophthalmologist gains the professional ear, and all forms of backward cerebral development short of idiocy are to be relieved by correcting the refraction, and a host of nervous disturbances, from neurasthenia to epilepsy, are to be cured by graduated tenotomies of the recti muscles.

Next, the bacteriologist takes the rostrum, and, according to him, nearly every form of diseased action, from coryza to hydrophobia, is due to the pernicious activity of some germ. The only thing that is needed is to identify your germ, administer an appropriate germicide, and the thing is done. The cells of the body are mere clay in the hands of the potter before the dread bacterium. The only thing that has prevented this particular craze from absolutely revolutionizing therapeutics has been the impossibility of finding any antiseptic that would not kill the patient long before it could the germ. This, of course, matters little in Germany, but it is a serious drawback here.

Next, the cerebral surgeon gets in the saddle and announces his intention of preventing idiocy in the future by cutting slices out of the thick skull, which alone prevents the brain from growing. If this line of argument be followed out we should all be more intellectual without any skulls at all, simply protecting our surging brains by a steel-ribbed hat of some sort, through which we could talk to our hearts' content—just like these craniotomists did.

Last, and worst of all, is the gynecological brass band which is in full blast at present, whose Wagnerian *Leit Motif* is that the most dangerous and deadly thing which a woman can have concealed about her person is an ovary. I say worst because its echoes penetrate everywhere, and the county-seat doctor with any pretensions to surgery who has not done a dozen celiotomies is positively ashamed of himself.

However, a healthy reaction against such crazes is setting in at last. The specialist is beginning to acknowledge his dependence upon the practising physician. The oculist is finding out that many of his cases of asthenopia need iron and sunlight rather than lenses. The rhinologist finds that he obtains more permanent results in "catarrh" by attending to the skin, the circulation, and the muscles of his patient. The bacteriologist has already come to see that the fluids of the bodies of certain animals contain sozins and alexines which are even more deadly to bacteria than mercuric chloride, and may even admit the same to be true of human nuclei before long. As for the gynecologist, his own excesses are proving his ruin, for he is rapidly approaching the point where he will have to be tolerated as a nuisance. Even the inaccessible and haughty neurologist is compelled to admit that several of his choicest and most elaborate diseases are due to ordinary intestinal ptomaine-absorption or common every-day syphilis. The humble general practitioner is the real "Iron sides" of the army of medical science.

Medical Ethics.—The *Columbus Medical Journal* states that out West it is not considered ethical for a doctor to have an office in two different villages.

Progress of Medical Science.

The Hygiene of the Kidney.—Dr. J. Henry C. Simes calls attention to the relation between the skin and the kidneys, and observes if the skin is not in healthy condition the kidneys have an extra volume of work to perform. The importance of a healthy action of the kidneys is manifested by the fact that serious trouble may arise in other organs, as heart, lungs, brain, and nervous system, when the excretory work of the kidneys is imperfectly done. In watching the action of these organs many factors must be taken into consideration, such as the nature of the diet, the amount of liquids consumed, the nature of the exercise and activity of perspiration. Then again, as the urine varies so much, a correct examination cannot be made unless the entire amount voided in twenty-four hours be collected, and a specimen taken from this. The quantity of urine varies greatly with the amount of liquids holding the solid constituents of the food in solution. When it is remembered that nine hundred and fifty parts of every thousand of the urine are water, the importance of this element in the dietary becomes evident. On this point, the author is strongly of the opinion that the majority of men eat too well and do not drink enough water. As a result of this, there is deposited in the tissues many effete products that should be carried off by the kidneys. The work done by those organs is in this way interfered with ; and in time organic disease often comes on. It is owing to the large amount of water that much of the benefit from a milk diet arises. In advocating the use of abundance of water with the solids, the author again calls attention to the danger of washing down the food with it, and taking time to masticate properly. While water is of prime importance, it cannot take the place of the saliva. The benefit derived from a sojourn at a mineral spring is almost entirely due to the flushing out the system gets. Waste products are dissolved and washed away by the kidneys. The opinion is expressed that pure water drank for a lengthy period would have as good an effect. This of course applies to cases where there is no organic lesion, and efforts are directed against the ill effects of a sedentary life and over-eating. In advocating the use of water, its excessive use must be guarded against. The habit of taking too much water may be indulged in. This is the other extreme, and may result in harm. The effect of water is to make the kidneys act, and by over-drinking, these organs may be overworked. The abuse, therefore, of water may prove the reverse of "in aqua sanitas." In the cold season, warm clothing is of much value, as tending to prevent congestion of the kidneys. Should such happen, it must be relieved by acting upon the skin and bowels. Judicious bathing is useful, as tending to maintain the healthy action of the skin, and thereby avoid congestion of the kidneys. If many people drank more water, and used less solid food, kidney diseases would not be so common as they are at present.—*Dietetic Gazette.*

A New Method of Abdominal Hysterectomy.—According to the Paris correspondent of *The Lancet*, M. Richelot has devised an original and improved method of performing this operation. He claims for his procedure great advantages over the current methods, which are long and laborious, and the quicker methods sometimes employed, which are frequently attended with danger. The principal advantage of M. Richelot's manner of operating lies in the complete absence of ligatures and sutures, forci-pressure only being used. A scalpel, a dissecting forceps, a long and a short hæmostatic forceps, and finally two long Richelot's forceps provided with a long "bite"—this is the only armamentarium necessary. The patient is placed on her back and the operator takes his station between the separated limbs. The vagina is first thoroughly disinfected, for in the course of the operation the surgeon's hand passes alternately into that canal and the abdomen. The usual abdominal incision being made, the uterus is enucleated and laid on the abdomen, covering the lower angle of the operation wound. [When fibromata occupy the lower segment of the organ the usual fragmentation is at once practised ; when, however, they are interstitial they are left untouched, and the operation is proceeded with as follows.] An anterior peritoneal flap is fashioned by means of an incision across the anterior surface of the uterus, extending from one broad ligament to the other. The broad ligaments are thus liberated and thrown downward over the bladder. The left index-finger is introduced into the vagina, and the anterior cul-de-sac is incised with a large pair of scissors, the discission of the vagina being pushed nearly as far as the sides of the os. Then leaving the uterus *in situ*, the broad ligament on one side is seized by the hand quite close to the uterus, an opening in the posterior cul-de-sac is made with the point of the scissors, and through this orifice is passed, *per vaginam*, the posterior limb of Richelot's forceps, the anterior limb being thrust through the corresponding hole in the anterior cul-de-sac. The forceps is then thrust from the vagina from below upward and, guided by the hand holding the broad ligament, is placed on that ligament. The same manœuvre is practised the other side by means of the second pair of Richelot's forceps. Both ligaments being seized by the forceps, they are liberated from their extreme attachments. The uterus now hangs only to the posterior cul-de-sac, which is in its turn divided with a few snips of the scissors. But as this section gives rise to hemorrhage, three hæmostatic forceps are here placed. A plug of iodoform gauze is inserted into the upper part of the vagina, none being placed in the abdomen. The abdominal incision is sutured and the operation is over. Of five hysterectomies thus practised by M. Richelot, four being for fibromata and one for cancer, the four first mentioned were successful. The duration of the operation varies from thirty to thirty-five minutes, and no complications need be feared during the healing process. M. Richelot gives to his method of operating the somewhat cumbrous name, "hysterectomie par pinces vaginales d'emblée sans ligature ni sutures."

The Etiology of Locomotor Ataxy.—Dr. Pitres, of Bordeaux, has made extensive investigations in the hope of throwing light upon the still doubtful points in the etiology of this disease. His first results were published in a thesis by Dr. Bereni and comprised 225 cases. The influence of syphilis was found to be great, but not overwhelming, and was by no means in keeping with recent ideas on the subject (*The Lancet*). In considering those cases in which the etiology was certain, there were 125 out of 225—*i.e.*, 55.5 per cent.—and even in many of these cases the syphilis was associated with other cases of tabes dorsalis as hereditary joint affections, alcoholism, sexual excess, etc., so that the exact percentage which could safely be attributed to syphilis was reduced to 22.33 per cent. Of the other patients about 33.44 per cent. had no sign of previous syphilis, and twice during his experience Dr. Pitres has seen tabetic symptoms precede syphilitic manifestations, so that these statistics tend to show that though syphilis is a cause it is not by any means the only one, but that many other conditions also play their part in setting up the disease. There is also in Dr. Bereni's work a chapter on the investigation of the heredity of tabes, but no direct tendency to inheritance was found.

Anthelmintic against Tapeworm.—For this purpose, an ounce and a half of ether may be administered at once, followed in two hours by a full dose of castor-oil. —BOURDIER AND HORTET.

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THE ADULTERATION OF DRUGS.

WE are in receipt of an address delivered before the Brooklyn Institute, by Professor Willis G. Tucker, upon the adulteration of drugs. Dr. Tucker is professor of chemistry in the Albany Medical College, and director of the New York State Health Board Laboratory. His remarks upon the subject of adulteration, therefore, should carry with them much weight. We have already made some criticism of the results obtained by the State Board of Health through their investigations as to drug adulteration. Dr. Tucker's present address, however, is in some sense supplementary to the report in question.

During the years 1891–94, inclusive, 8,305 samples of drugs were examined. Of the total number, not one-half could be rated as of good quality; about fifteen per cent. were of fair quality; and about thirty per cent. were of inferior quality. Of course, many of these drugs were substances not commonly used or substances of no very great importance. There were, however, a number of useful drugs to the adulteration of which Dr. Tucker called special attention. It is his belief that many of the old-fashioned remedies have gone out of use, not because better substitutes have been found, but because they are so generally of inferior quality as sold in the stores. Thus, out of 607 samples of Hoffman's Anodyne, only 153, or a little more than one-quarter, were found to be of satisfactory quality. Ordinary Hoffman's Anodyne, as usually furnished to physicians, is simply a mixture of alcohol, ether, and water, without any of the ethereal oil on which the virtue of the original preparation was based.

Sweet spirits of nitre is another of the old-fashioned drugs which is seldom found of good quality. Chloroform was found to be impure in 26 out of 123 samples. Precipitated sulphur was found to be impure in three-quarters of the 248 samples examined. Cream of tartar (potassium bitartrate) was of fairly good quality when purchased at drug stores, but at the retail grocery stores fully one-half were found to be impure specimens. Among other articles of an inferior quality are mentioned the bromides of potassium, sodium, and ammonium, and the iodide of potassium.

There is another class of drugs which become more or less deteriorated as a result of age or exposure. Carbonate of ammonia, aqua ammonii, magnesia, and lime-water are the four drugs especially mentioned by Dr. Tucker.

Among articles which are likely to be of inferior strength or short weight are the dilute acids of the Pharmacopœia. Hydrocyanic acid is particularly mentioned. Reduced iron is found to be rarely full strength, and Seidlitz powders are frequently of inferior quality. Among drugs substituted there are mentioned saffron, ether, creosote, distilled water, sulphur, and solutions of citrate of magnesium.

THE DISINFECTION OF ROOMS AFTER INFECTIOUS DISEASES.

THE absolute disinfection and sterilization of a room in which a patient with an acute infectious disease has been treated, is considered at present extremely difficult, if not impossible. We refer, of course, to rooms in ordinary houses which cannot be washed down with large amounts of strong antiseptic solutions. The usual procedure of burning quantities of sulphur, of washing the walls and removing all movable pieces of furniture, is considered to be all that is practically possible. Dr. G. Barnet has been working, in co-operation with Dr. Trillat, for the purpose of determining whether a better method cannot be found for the disinfection of infected rooms, and he claims to have obtained successful results. The substance which he used is a solution of formaldehyde in alcohol. He has devised an apparatus by which the vapors of this substance are diffused through a room, and he says that with it he can disinfect with absolute certainty in six hours three hundred cubic metres of air. Cultures of various specific micro-organisms placed in the room are rendered absolutely sterile by this process. The vapors of this formaldehyde have no injurious action upon the furniture of the room, and they disappear rapidly after a few hours of airing. The process suggested and the apparatus devised appear to us to be rather expensive, but if they do all that Dr. Barnet claims, they will prove a very useful addition to our methods of fighting disease.

THE HEART IN THE PHTHISICAL.

THE necessity of a proper "soil" for the development of tuberculosis under ordinary conditions of infection is recognized by all. In what this "soil" consists, however, we do not definitely know. A "hereditary weakness of constitution" expresses about all that science has as yet determined, though to this many would add, perhaps, certain defects in the configuration of the chest and a feebleness of lymphatic and systemic circulation.

Dr. K. Oppenheimer, of Munich, has, perhaps, given one certain factor in the tubercular diathesis. He made a study of the relative weights of the organs of young people who had died of tuberculosis (*Münch. med. Wochensch.*). The number of cases studied was three hundred and five. The conclusion which he reaches is, that of all the bodily organs the heart develops less with increasing growth, and that the heart of the phthisical patient after the time or puberty is

relatively too small. Previously to that time it is relatively large. For example: In the second year of life, in the normal individual, there is 5.3 gr. of heart to 1000.9 of body; in the phthisical the relation is 3.6 to 1000. In the thirteenth year the relation is changed and becomes 5.5 to 1000 in the normal, to 5.0 to 1000 in the phthisical. This relative smallness of the heart continues until the twenty-fifth year.

The inference from these figures is, that those children who are predisposed to tuberculosis should be made to follow exercises that will cause some hypertrophy of the heart.

PENSIONS TO MEDICAL MEN.

In a recent speech by Mr. Balfour at a dinner given by the Royal Medical Benevolent College, many things in praise of medicine and medical men were uttered. Mr. Balfour kindly sets the seal of his approval upon us, for which we are duly grateful. He recognizes the great amount of time and skill which is expended by physicians gratuitously, and he has a further and practical suggestion to make in connection with it. He suggests that there should be established by the subscriptions of philanthropists, or perhaps with the help of the municipalities, funds by which the widows and orphans, and even the old age, of medical men may be provided for. We thank Mr. Balfour for his suggestion, but we do not believe that in this country it would be taken kindly. Medical men do not wish to be treated as persons who have not sufficient foresight or ability to take care of themselves. They do not belong to the indigent class, and aside from this feeling of independence which medical men, in this country at least, possess, we believe that they are as a body opposed to the socialistic tendencies which the attempt to pension the professional class would lead to. We do not know of anything which would take away the stimulus for effort more certainly than the feeling that, whatever happens, whether one be idle or industrious, evil or virtuous, there will be a provision for himself and his family.

A NEW INDEPENDENT ORDER.

There is in the *Medical Mirror* for September, 1895, a valuable historical description of the rise, development, and final effective organization of the Order of "Chutmucks," a social body connected with the workings and speakings of the Mississippi Valley Medical Association. The Chutmucks, so far as we can learn from the bibliography and history of the Order, as given in the monograph referred to, consists of persons "who know, and know that they know." The credentials or insignia of the Order are the four B's, one B standing for the Brains which direct the Chutmuck, the second for the Backbone which sustains him, the third for the Blood which pours plethorically through his vessels, and the fourth for Beauty which radiates from him. There should, we fancy, be a fifth B, which would stand for the buzzing of the wheels in the Chutmuck's head, but this is not an official portion of the insignia. At the meeting of the Mississippi Valley Medical Association, recently, the loyal braves of the Chutmuck clan presented to the President, Dr. I. N. Love, a watch, in testimony of their loyalty and affection. The purposes of the Order of the Chutmucks seem to be to encourage kindliness of heart, breadth of sympathy, optimism in judgment, healthfulness of body, and a happy combination of boastful modesty with an aggressive and inconspicuous self-depreciation. We wish the Chutmucks long life and happiness.

FORMALINE.

From the frequent references to the successful use of formaline and its preparations in the laboratory and the operating-room, it seems as if this substance were likely to take a permanent place among the useful additions to the physician's armamentarium. Formaline, formaldehyde, and formal are synonymous terms. Their chemical formation has been referred to already several times in these columns. Formaline is, we believe, the proprietary name given to a forty per cent. solution of formaldehyde, while, if we remember correctly, formal is a still weaker proprietary solution of the same substance. "It is the general opinion," says Dr. Squibb in his *Ephemeris*, "that formaline is superior to corrosive sublimate in its germicidal action and is far less toxic." Drs. Gegner and Hauser have made experiments in testing its antiseptic value, and similar work in this line has been done by Messrs. Slater and Rideal, of London. Formaline has been found to be an excellent preservative of pathological specimens, and it has largely taken the place of alcohol for many purposes in the laboratory. Formaline in two per cent. solutions is said to preserve the brain in excellent condition, as well as other tissues of the body. In the June number of the Canadian *Practitioner* Dr. Cullen, of the Johns Hopkins Hospital, describes a rapid method of staining fresh tissues by the aid of formaline. By its use a piece of tumor from the operating-room can be examined and stained within fifteen minutes. His method is said also to be very useful for the examination of uterine scrapings. The method of using formaline and its products, in the disinfection of rooms and in surgery, has been referred to before in the Medical Record, and we call attention to the subject again because it seems to us that the substance has a practical value in many directions, and that medical men should be familiar with it.

Deaths from Chloroform Anæsthesia.—Dr. J. W. Keiser, of Reading, Pa., writes to the *University Medical Magazine* that in that neighborhood a large number of the physicians are favorably disposed to the use of chloroform. Five years ago Dr. Keiser reported two deaths from the use of chloroform, occurring in his locality, and since then, he states, there have been two more.

The Rush Monument Fund.—The total of contributions to this fund amounts, to date, to $3,357.39. Recent donations to the amount of $196 are acknowledged by the committee. Further contributions are earnestly desired, and may be sent to the secretary and treasurer, Dr. George H. Rohé, Baltimore, Md.

News of the Week.

No more Infectious School Slates.—The Health Board has approved a number of recommendations suggested by Professor Herman M. Biggs, the department bacteriologist, and ordered that a copy be sent to the Board of Education. Some of the recommendations are as follows: 1. The use of slates, slate-pencils, and sponges shall be discontinued in all the public schools. 2. According to requirement pupils shall be supplied with pencils and penholders, each pupil to retain those received in a box provided for the purpose, such box to be marked with the pupil's name. Pencils and penholders shall not be transferred from one pupil to another without suitable disinfection. 3. All school property left in the school building by a child sick with any contagious disease, and all such property found in an apartment occupied by a family in which a case of small-pox, typhus fever, diphtheria, scarlet fever, or measles has occurred, shall be taken by the Health Department for disinfection or destruction. 4. Books which are taken home by pupils shall be covered regularly once each month with brown manilla paper. 5. Places for drinking-water on the ground floors of the school buildings shall be discontinued, and a covered pitcher provided for each class-room, in which fresh water shall be placed before every session. A numbered cup, to be kept in the class-room, shall be issued to each pupil. No interchange of cups shall be allowed. Provision is proposed for the exclusion of children in whose homes there may be cases of contagious disease and for a report by teachers to the Board of Health of all cases of sickness among pupils. Finally, the recommendations provide for more closet-room for hanging clothes, and prohibit principals and teachers from sending one pupil to the house of another for any reason.

An Army Medical Examining Board will be in session at Washington City, D. C., during October, 1895, for the examination of candidates for appointment to the Medical Corps of the United States Army, to fill existing vacancies. Persons desiring to present themselves for examination by the Board will make application to the Secretary of War, before October 8th, for the necessary invitation, giving the date and place of birth, the place and State of permanent residence, the fact of American citizenship, the name of the medical college from which they were graduated, and a record of service in hospital, if any, from the authorities thereof. The application should be accompanied by certificates based on personal acquaintance, from at least two reputable persons, as to his citizenship, character, and habits. The candidate must be between twenty-two and twenty-nine years of age, and a graduate from a regular medical college, as evidence of which his diploma must be submitted to the Board. Further information regarding the examinations may be obtained by addressing the Surgeon-General, United States Army, Washington, D. C.

Pasteur's Funeral.—The funeral of Pasteur took place on October 5th with great state. The President of the Republic and many civic and military authorities were present. The procession following the hearse was a mile long. The Minister of Public Instruction delivered the funeral oration.

Hydrophobia from a Cat Bite.—A boy in this city, sixteen years of age, was bitten by a cat six weeks ago. He died on October 5th, at Gouverneur Hospital. The official certificate of death states that the cause was hydrophobia. The brain and spinal cord are being examined by the pathologist of the New York Hospital.

The Illinois Medical Journal is the name of a new journal published in DeKalb, Ill., under the editorial management of Dr. H. Edward Dunlop. If it be permitted to judge from the first number, that for September, we may predict for our young contemporary a long and successful career. In the first issue, among other interesting articles, is a plea for modern Greek as an international language, by Dr. Rose, of this city. Dr. Dunlop also endorses the suggestion in an editorial note.

A New Pathological Building.—The Massachusetts General Hospital is to have a new pathological building costing about $22,000.

Diphtheria in the New York Juvenile Asylum.—The New York Juvenile Asylum has been quarantined for some time on account of an outbreak of diphtheria. In two months about fifty cases have occurred.

Prevention of Diphtheria by the Use of Antitoxin.—At a meeting of the Practitioners' Society, October 4th, Professor H. M. Biggs read a report, based on a large number of statistics, and tending to prove that by means of injections of the diphtheritic antitoxin immunity against diphtheria can be secured.

A Hair from the Dog that Bit.—The old idea that a hair from the dog that bit was good for the person who was bitten, seems to present directly the converse of the truth, as established by modern science, which is to the effect that a dose of the venom, taken under proper conditions, before the bite, will prevent the fatal consequences of the bite. Dr. G. Ranking, in the *Indian Medical Gazette*, collects a number of facts to show that in ancient times people were accustomed to secure immunity against snake-bites by taking certain substances, in which the active ingredient was the venom itself. In particular they used a celebrated Persian snake antidote, the composition of which is ascribed to one of the Persian kings. The essential ingredient, he shows was the flesh or the venom of the snake.

Inoculations against Cholera.—The results of Professor Haffkine's system of inoculation against cholera, covering another year's trial in India, have been presented. On the whole, it seems that the inoculation method does have some protective value, although the facts supporting this view are not yet complete and satisfactory. It is probable that more frequent and perhaps multiple inoculations will be necessary to make the method practically useful; at any rate, enough has been done to justify those in charge of the

matter in urging a further grant of 10,000 rupees for the further prosecution of the work.

Carlsbad.—"To those who have it shall be given." This seems to be particularly true of Carlsbad, which, having got a certain reputation for its waters, and having worked this reputation most industriously and commercially, is now perhaps one of the most prosperous of the German cities which thrive upon invalid visitors. We are told that the total number of patients registered at this resort during the last season was forty thousand. We have as good springs and as good climate in America as at Carlsbad, but the method of life and the system of treatment are the outgrowth of years, and are not so easily imitated.

Perfect Types of Women.—An English surgeon, Mr. Frederick J. Gant, has written a novel called "Perfect Womanhood," in which types of perfect modern womanhood are described. To his mind they appear to be shown in the characters of a trained nurse, a deaconess associate, a female medical missionary, a ritualistic maiden, and a few others. We see no mention of the bicycle girl.

Free Medicine and a Pound of Tea.—There is an enterprising firm in London which offers to its customers groceries and other material comforts, for money, while medical opinions are thrown in for nothing. This, we had supposed, was a distinctly Chicago idea. At any rate, it is rumored that we shall have in this city before long a grand bazaar, run by a Chicago firm, where all kinds of goods will be sold, and where medical men will be in attendance to give free advice to the customers.

Posture in Cycling.—Many physicians prescribe the bicycle, and when prescribing it, give, we have no doubt, the best advice within their light, as to the amount of exercise, the adjustment of the wheel, and the method of riding. A correspondent of the *British Medical Journal*, who claims to be a medical man and a cyclist of twenty-five years' experience, gives the following description of the posture, and the arrangement of the seat and handle bars necessary to correct and healthful riding: "With the laudable intention of gaining an upright posture many riders raise the handles until they are above the level of the seat, or even of the hips, while the seat is placed so low that the knees are never extended. This is a most inefficient and comfortless posture; all control is lost over the machine, and no pulling power obtained for the arms. The arms must be straight and the handles so placed that pulling with the arms shall aid the thrust of the leg without disarranging the steering or shifting the rider on the seat. The seat must be far enough back to maintain a steady hold of the driving (hind) wheel on the road and to place little weight on the front wheel. The following rules apply to normal individuals: The seat should be placed over a point about half-way between the hub and front rim of the hind wheel. The height of the seat should be such that the pedal at its lowest point can be easily reached with the ball of the foot, the foot being horizontal; this means full ankle play. The handles should be as far back as a line passing through the main axle of the driving cog (bottom bracket), the handle bar must be wide enough to clear the thighs freely and to carry the arms clear of the sides. The handles should be at the level of the seat, or at least in such a position that the arms shall be straight downward and only slightly in advance of the body. The point of the handles should reach halfway up the thigh when the pedal is at its highest point, but wide enough to avoid fouling the thighs in steering. The only alteration needed to any modern safety cycle in order to secure these positions is that the handle bar should be some inches longer than the general make. The weight of the body should fall exactly upon the tuberosities of the ischia on the centre of the pads of the seat (Burgess's or similar seat), the thigh not falling to a perpendicular position at the lowest point of the stroke, so that there may be no tendency to slip off the seat forward; the pads of the seat should be well cupped and not tightly inflated. Long experience shows that these points constitute the most efficient, comfortable, and healthy posture in ordinary road cycling. To the racing man or the "road scorcher" no advice is offered.

Translations from the Russian.—We are glad to know that some of our naval officers do good work in addition to their routine service. Surgeon F. B. Stephenson, U. S. N., has lately finished translations from several Russian publications about the gypsy moth, for the State Board of Agriculture of Massachusetts. During a recent cruise on the Asiatic station, Dr. Stephenson made use of his opportunities to advantage in gaining a practical knowledge of the language of this nation, so rapidly growing in strength and influence.—*Army and Navy Journal.*

The Morals of a Surgeon.—What a man does is the proof to the world of what a man is. Many good people fear that the advance of science will bring about the retrogression of morals and religion. We do not agree with them. But if they cannot accept our judgment, let them weigh well a fact like this: Mr. Jonathan Hutchinson, F.R.S., and ex-president of the Royal College of Surgeons, addressed his professional brethren assembled in annual congress the other day, and he thus spoke: "I bore with such equanimity as I could the discovery that I could not compete with my friend in the ratio of successes obtained" (in operations for ovariotomy), "and, acting on the rule of conduct that I would never keep a patient in my own hands if I believed that someone else could do what was needed with greater prospect of success, I gave up doing ovariotomies, both in public and in private, and used to transfer my patients from the London to the Samaritan Hospital." Here is a rule of conduct which has never been excelled in moral worth in any department of professional life or private behavior. A most far-reaching and truly noble rule is this of Mr. Jonathan Hutchinson's; and the fact that he announced it toward the close of his career in the hearing of hundreds of his professional brethren, who are almost as familiar as he is himself with the conduct of his professional life, is proof that he spoke mere truth. If these are the morals of men of science, may we not say of men of all professions and callings, *O si sic omnes!*—*The Hospital.*

Society Reports.

THE AMERICAN DERMATOLOGICAL ASSOCIATION.

Nineteenth Annual Meeting, held at the Windsor Hotel, Montreal, Canada, September 17, 18, and 19, 1895.

The President's Address.—The Association was called to order by the President, DR. S. SHERWELL, of Brooklyn, N. Y., who in a brief address welcomed the members from so many distant points of the continent, and congratulated them upon the certain success of the meeting, as promised by the length of programme and number in attendance. He spoke of the limitations of the microscope in settling many dermatological problems, and of the great importance of considering the science of dermatology no less from a clinical and empirical standpoint. He would regard the Association, as it were, a supreme court in disposing of mooted questions affecting the specialist in this country, and would suggest that its most proper work was in the consideration of matters of high scientific interest, rational, academic, and polemic.

A review was made of the speaker's statistical researches into the disparity and excess of the alien element applying for relief at the various clinics of our large cities. The question of constitutional treatment in skin diseases was then discussed. He would not rely upon it wholly, but thought in most cases it was to be employed as coincident treatment along with local measures.

Angiokeratoma of the Scrotum was the title of a paper by DR. FORDYCE, of New York. He described a patient sixty years of age, and showed a colored picture of a scrotum the seat of a great number of dark purple spherical tumors arranged in a somewhat linear manner. They vary in size from a pin's head to several times that size. Pressure causes disappearance of the color in most of the tumors, which are slightly elevated above the surface. Some are covered with a slightly thickened horny layer. No subjective symptoms.

In cases reported chilblains have usually preceded, and the feet and hands have been the parts implicated. Many photo-micrographs were passed showing the histological appearances. The lesions seem to consist of lacunar spaces filled with blood, occupying the papillary portion of the derma. The atrophy of the scrotal skin removing the normal support to the vessels, together with tendency to vascular dilatation as shown by a condition of varicocele present, may, the author thinks, have had an influence in the causation of the tumors. The author's investigations lead him to believe that the primary change is vascular. He upholds Pringle's view that the blood-spaces in the rete Malpighii are caused by a down growth of the cells of the layer, producing a constriction of the terminal loops and their resultant distention. The histological appearances correspond closely with classical cases of angiokeratoma reported by Mabelli and Pringle.

Raynaud's Disease of the Ears was described in another paper by the same author. A man, thirty-nine years of age, with presumable specific history, noticed that the ears became suddenly cold and blue on a warm day and remained so for several hours, gradually resuming the normal color. Such attacks were frequent for about six months, when a portion of the ears remained bluish-black and are so still. The ears feel numb and cold, and sometimes there is a burning pain in them. A gangrenous area formed, having a diameter of half an inch. Cicatrization followed, and the blue color disappeared. Syphilis is suggested as a possible etiological factor; implication of the arterial coats leading to obstruction in the blood-supply, especially when an element of vascular spasm due to cold, etc., is added.

DR. ZEISLER said the clinical picture of angiokeratoma had hitherto not been complete; additional features might be discovered. His own case, which it seemed to him corresponded in every particular with the typical pictures of Mabelli, would seem to differ in features pointed out by Dr. Fordyce. At the same time it seemed to him that Dr. White's criticism is not entirely justified, although he would like to see a little stronger development of the horny layer to deserve that name. It does not seem to him unreasonable that the scrotum should be the seat of keratoma. He believes it may be seen often in cases of varicocele. Wherever the element which favors stagnation of the blood exists, we have an etiological reason for the production of keratoma. The horny layer is so enormously enlarged in every typical case of keratoma, that he believes it to be an essential factor. If he compares a similar case with that of Dr. Fordyce, he thinks in his case the horny layer was five or six times as extensive. That the clinical picture in angiokeratoma is by no means complete, he had another instance within the last two weeks. A man, aged about sixty-seven, called at his clinic. The lesions were on various parts of the body, on the extremities as well as the trunk. They were flat and somewhat elongated angiectoides. During the last few days he had examined the soles of the feet, and on one sole he found two distinct angiokeratomata, corresponding very distinctly with what he had seen before. There was no evidence of the previous existence of angioma. Keratoma should be the essential feature in angiokeratoma, otherwise the title is not entirely appropriate.

DR. HYDE wished to join Dr. Bowen in congratulating Dr. Fordyce on the excellence of the two photographs. He wished to know if there was any linear arrangement of the lesions on the scrotum, and whether he had any reason to suppose there was any relation between the vitiligo present and the distribution of the lesions on the scrotum.

DR. FORDYCE did not think there was any relation. The linear arrangement, it seemed, followed the course of the vessels of the part.

DR. SHEPHERD asked if there was any difference between this and the ordinary varicosity without the keratoma. He had seen a good many cases of varicosity of the scrotum, and in a large proportion of them he had noticed this enormous vascularity of the skin of the part, the veins of which seemed to be generally dilated.

DR. FORDYCE replied that the horny layer of the scrotum is naturally thinner than on the hands, and as this layer is stimulated to new growth by some form of irritation or traumatism, the hypertrophy reaches a greater height in the hands than in the scrotum. The essential condition on which stress is laid by all previous observers is the existence of blood-spaces in the epidermis. He did not think it can be compared to a varix condition of the veins; it was rather a varicose condition of the papillary capillaries. In some tumors the base is cut off entirely, and you have a condition similar to that found in an aneurism, where there is coagulation, deposit of fibrin, etc., in the spaces.

DR. WHITE said, with regard to the localities here affected, he thinks these do not preclude the idea of Raynaud's disease. He had seen a case of this disease affecting the fingers and precisely this locality in both ears. He, however, had never seen any such affection of the ears alone.

DR. SHERWELL thought that in most of the cases which had come under his observation a history of syphilis was present. He mentioned a very distinct and typical case, which recovered under antisyphilitic treatment, but where the disease recurs from time to time, especially during the colder months, local anæsthesia and a very slight tendency to gangrene on the

tips of the fingers existed, and was aggravated by the cold, and at times the ears were disposed to show similar phenomena.

DR. FORDYCE said Raynaud's original monograph did not discuss the pathological, but simply the clinical, aspect of the cases. Of course, in the speaker's cases there were changes in the arterial coats; but there are many cases of the disease reported by Raynaud himself in which the extremities were free from gangrene. Raynaud's disease, in fact, is a general term, including endarteritis and many other pathological conditions.

DR. HYDE spoke of a case of lupus erythematosus upon the cheeks of a woman, which rapidly disappeared under ordinary treatment. Almost immediately a typical lichen planus developed upon the extremities. He thought we must enlarge the conditions to which we apply the term lupus erythematosus.

DR. FORDYCE also thought many different conditions had been included under lupus erythematosus. Some were mere localized hyperæmias, some cases disappear spontaneously, while others cannot be made to go away.

Hydroa Æstivale.—DR. GRAHAM, of Toronto, read a paper upon this subject. Two cases were reported of this peculiar and rare affection occurring after exposure to sunlight. In the first a few small red spots appeared upon the face and hands of a young girl. These recurred as soon as she began to go out of the house, and the lesions became vesicular and pustular. These became black in the centre and umbilicated, followed by crusting and subsequent scarring. No spots appeared on the hands when gloves were worn. At times the face was much swollen.

In the second case a young blond female suffered from burning sensations, swelling, and vesicular eruptions when exposed for twenty minutes or more to the sun's direct rays. Malaise, coryza, sleeplessness, and anorexia accompanied the attacks. In this case, sitting near an open window produced the eruption on any exposed part of the body. On account of the affection the patient has been virtually a prisoner in the house for fourteen years. The skin is at times fissured and scaly as in a chronic eczema.

The term hydroa vacciniforme does not apply to all cases. The author believes that it is not only the ultra-violet rays but also the heat rays of the sun which play a part in producing the affection. The question is how they produce such a deep effect. This is hard to explain without the intervention of the vaso-motor nerves. The inflammation is thought then to be of reflex character. The sun's rays seem capable of producing a dermatitis of variable intensity. The amount of necrosis and subsequent cicatrization will depend upon the vulnerability of the tissues and the amount of exposure. Unlike xeroderma pigmentosum, it does not seem to attack more than one member of a family. A covering to the skin which would exclude the light was almost always effectual.

DR. ZEISLER spoke of a case observed where the lesions recurred frequently on exposure to sunlight. The gentleman had first become aware of the trouble after horseback exercise. He thought the condition one of erythema multiforme and suggested the trial of atropia as a remedy.

DR. WHITE would also look upon it as a dermatitis rather than as a separate affection to which a particular designation was applicable. No absolute type of lesion is maintained in all attacks.

DR. BOWEN said he had been called upon to examine one such case histologically; the inflammation was here followed by necrosis; the lesions were umbilicated. The microscope showed that the necrosis extended down to the corium. This distinguishes it from erythema multiforme, which is never followed by scarring, as is here the case.

DR. HARTZELL had seen a case in warm weather where the lesions came in the absence of exposure to direct sunlight. The inflammation was not severe enough to produce necrosis. It differed from other cases only in degree of inflammation.

DR. PHILLIPS, of Toronto, had treated Dr. Graham's case, and on invitation spoke of his treatment, which had been mainly soothing and protective. He thought the ultra-violet rays of light those which produced the effect. He had intended to try their exclusion by covering the parts with bisulphate of quinine in bassorin paste, or to cover the face with some yellow-colored paste.

DR. JACKSON had had for several years a boy under his care at the Vanderbilt Clinic presenting lesions, pittings, and scars of this same affection. He suffered more in winter than summer. This was also the case in Alps-climbers, he believed, in which an English physician, Bowles, had made a successful use of such a brown ointment as actors use.

DR. SHEPHERD had within two weeks seen a young lady in Montreal with a dermatitis of three years' duration, which would appear on exposure out of doors, accompanied by swelling, bullous lesions, and subsequent scarring. He had seen it appear in a fellow-traveller in crossing the Alps.

DR. ALLEN remembered Dr. Jackson's case, and from having frequently seen the boy, could substantiate the fact of the eruption being at times severe in the winter. He had seen other cases in which the direct sunlight acted to produce lesions on face and hands. From his readings he came to believe the chemical rays responsible, and considered exclusion of light the only rational treatment.

DR. SHERWELL recommended that women so predisposed should always wear yellow veils, and that by so wrapping up the parts as to make virtual developing chambers the disease would be prevented.

DR. GRAHAM, in closing, said Dr. Bowen's investigations would exclude any idea of the condition being an erythema. He thought the degree of inflammation depended upon the individual rather than upon the length of exposure. Dermatitis solaris would, all things being considered, probably be the best name.

Lupus Erythematosus Disseminatus.—A case of this affection was related by Dr. Fordyce, in which lesions upon the hands and arms disappeared during pregnancy, leaving atrophic spots surrounded by a pigmented zone. In a second case the eruption likewise disappeared, but came back in an equally severe form after the confinement. A large number of photographs were exhibited.

In discussing these papers DR. BRONSON asked if there were sufficient reason for including the second case under Raynaud's disease. He had seen gangrene about the face which could not be accounted for. He always looked for a trace of syphilis.

DR. WHITE did not think the keratomatous element very marked in Case No. 1.

DR. FORDYCE answered that he would not have called it angiokeratoma if the angiomatous changes were not present. Changes in the epidermis are secondary and the result probably of hyperæmia due to irritation. The changes in the rete were marked.

DR. MORROW had seen two clinically identical cases during the year. He coincides with the reader's view that they should be called angiokeratoma.

Bromide Eruptions, with a Report of Two Cases.—This paper was read by DR. JACKSON, of New York. After taking bromide of potassium for several weeks the drug was stopped in a young woman, and shortly after this an eruption resembling chicken-pox appeared upon the forehead, whence it spread over the body. Under some of the crusts which formed, especially upon the scalp, there was found a raspberry-like appearance with bleeding points. The case was somewhat puzzling until a second similar case presented itself. The lesions here looked like impetigo conta-

giosa followed by the same wart-like lesions. On the legs the lesions broke down into indolent irregular ulcers. This case had been given bromide. The features of interest in the cases is the long period between the cessation of drug administration and the appearance of the eruption.

DR. HYDE believed that bromide eruptions of this pronounced type occurred chiefly in young subjects and those who were cachectic or below par, scarcely, if ever, being seen in healthy individuals. He had observed quite similar lesions from the iodides, and was prepared to believe that other drugs as well might produce these effects.

DR. MORROW said children were prone to vascular disorders, and the severe forms of bromide eruption were apt to be seen in them. All our knowledge of drug eruptions opposes the view that lesions continue to appear after the drug administration is stopped. It is difficult to explain why the effect should be prolonged.

DR. WHITE did not think the general health of the patient had much to do with the determination of a given eruption. It is the result of individual idiosyncrasy. He was not familiar with any other drugs which could produce the lesions described by Dr. Jackson.

DR. HARTZELL recalled the frequency with which valvular heart disease was associated with the severer forms of bromide and iodide eruptions.

DR. FOX said some syphilides in children resemble closely the bromide eruptions. Mistakes are likely to occur when bromides are being administered to children known to be syphilitic. The drug, too, may tend to bring out as it were the cutaneous syphilis.

DR. GRAHAM spoke of cases in which a history of bromide administration is hard to obtain, thus leading to doubt.

DR. ALLEN said that at times the large bullæ of iodide origin assumed a fungating appearance closely simulating the bromide. He had seen the eruption in an epileptic girl persist for weeks after the drug had been stopped. When an eruption follows a minute dose, as seen from quinine, nerve influence rather than skin irritation due to elimination is to be looked for.

DR. SHERWELL said that dermatological knowledge had advanced, for whereas some years ago such a case as described might be called yaws or something of the kind, now the true nature is generally recognized. Still, cases are seen by him now and then, surely due to the iodides, which are practically bromide eruptions. He had seen the eruption become intensified several weeks after the drug had been stopped.

DR. HYDE said he had no direct positive knowledge that other drugs would produce these same effects, but such had been reported to him by fellow-practitioners. He mentioned hydriotic acid as such a drug, and thought there might be others.

DR. MORROW could see no reason why an eruption due to a drug should continue to appear after the drug is withheld, and he considered the histories of cases in which this is reported as generally too vague. Long-continued administration is usually necessary to bring about the required changes of nutrition in the tissue.

DR. HYDE, while admitting that most drug effects upon the skin quickly subside on stopping the injurious agent, still this particular one did not and should be placed by itself. That children to whom bromides are given are usually in some way out of health, is shown by the very fact of the drug being required.

DR. JACKSON said he had seen bromide lesions persist for weeks after the drug was stopped in a patient he had treated since writing his paper. It was the old lesions which refused to disappear rather than the development of new.

Value and Limits of Usefulness of Electrolysis in Dermatology.—The afternoon session opened with a discussion on this subject. DR. ZEISLER being called upon, said he thought not much that was new could be said upon this subject, and probably the best form for the discussions to take was the recounting by the members of their individual experience. In hypertrichosis, electrolysis was of all means the best treatment; but he thought it was most useful in dealing with stiff hairs, and should not be employed for lanugo. His experience had caused him to look upon it with hesitation as a means of remedying congenital and angiomatous nævi. Its use here he considered limited to small nævi in infants. He mentioned a case of a lady with a nævus covering one side of her face—it was superficial, with the blood-vessels chiefly on the surface. After fifteen or twenty sittings it did not appear to the speaker that the results were very brilliant. He then requested the patient to desist for a few weeks, when the results were found to be very encouraging. Electrolysis was also useful in small growths of the nævi fibromatous types; here, however, a little more care should be taken in piercing with the needle, as scars are apt to remain. He thought the needle should be inserted in such a way that the action would not be too deep, as he preferred repeating the operation to running any risk of scarring. He used the electric needle also in xanthomata. He thought it one of the safest, but not the least painful, methods for this purpose, especially of operating near the eye. As to a local anæsthetic, he had not much faith in cocaine in such cases; the only way he used it was to impregnate the electrode with the drug and render the whole area anæsthetic.

DR. WHITE agreed in the main with Dr. Zeisler's remarks. He, however, did not recognize the impossibility of removing lanugo hairs; he had done so a number of times. As to the desirability of doing so, that was another matter. He had only operated on occasions where much pressure had been brought to bear upon him. He did not think electrolysis suitable for large nævi with hypertrophied vessels; you may be able to remove the latter, but the work is very tedious, requiring a great many sittings. As to port-wine mark, he had been very unsuccessful, save when the area affected was very small; and he thought it an operation that should only be undertaken under great pressure. Relative to anæsthesia, he had been using a twenty per cent. alcoholic solution of cocaine and he believed it helped to a certain extent. He did not believe there was much absorption by the skin, but a penetration of the drug into the hair-follicles. He did not claim that total anæsthesia followed; but he was satisfied that there was something more than the moral influence of the application to account for the lessened sensation.

DR. MORROW'S experience corresponded with that of the other two speakers. Relative to anæsthesia, he wished to say that some years ago he had experimented a good deal on the practicability of rendering certain limited areas of the skin anæsthetic, and he found the most thorough method to be that of kataphoresis. By saturating any porous material with cocaine an absolute anæsthesia might be obtained over an area corresponding to the surface of a small electrode covered with it. He found that, in those cases, by scratching the surface just enough to break the epidermis without causing exudation, the kataphoric action was very materially favored. He thought there could be no doubt whatsoever of the efficacy of this method.

DR. HYDE'S experience led him to believe that the attempt to remove the fine, downy hairs only stimulated these to greater activity of growth. He mentioned the class of young Jewish girls with heavy black eyebrows and abundant hair of the scalp as one in which he had often found this to be the case. Electrolysis he believed useful in spider-cancer, with small telangiectrodes, and in rosacea where the same condition exists. The operation was useful in the case of smaller vessels, but unsatisfactory in large. Although forced to employ cocaine and other drugs of that nature in cases of severe pain, he had a strong objection to doing so, as he found they had a tendency to cause dermatitis. As

to contagious mollusca he never used electricity, finding them much more easily swept away with the curette.

Dr. Fox thought there could be no doubt of the value of electrolysis in dermatology, the only question to consider was as to its limits. In hypertrichosis he thought it was not only the best but the only means for the permanent removal of hairs, although often a tedious operation. As to the finer hairs, he believes if they can be seen they can be removed; but it is astonishing how much worry a few scarcely perceptible hairs on the chin will give some women possessed of far more serious facial blemishes; and consequently he made a rule never to operate upon hairs that were not conspicuous. His opinion is that the effect of electrolysis, if it has any effect at all, is to lessen the growth of hair upon the face. He does not believe that anyone can prove that the removal, either by pulling out, by cutting, or by electrolysis, ever affected the growth of neighboring hairs. As to the painfulness of removing hairs by electrolysis, his experience leads him to believe it is not more painful than the filling of teeth, which, we know, is at most only uncomfortable. Of course if the needle were not properly introduced it might be very painful; it should never be jabbed into the follicle. As to the other uses of electrolysis he thought too many claims had been made. Excellent results might be obtained in nævus pilosus. In vascular nævi his results have not been satisfactory. In the very pinkish wine-mark he preferred dotting the surface with carbolic or nitric acid; but in the dark slate-colored wine marks he believed single or multiple electric needles the best. In xanthema he thought he had brilliant success with electrolysis, certainly better than could be obtained with the knife. He doubted if true keloid could be removed by electrolysis. In some cases resembling keloid, following syphilitic ulceration of the cervical glands, where large bunches existed, a very good-looking cicatrix was produced by the use of electrolysis. In angioma he thought it could be used with success, but not with more than that obtained from other methods. He recently removed from the forehead of a child an angioma the size of a chestnut by electrolysis. He used it in one case of epithelioma of the lip with good success. One should not attempt to use it as a cure in very many skin diseases.

Dr. Bronson thought that most of the members knew the advantages and disadvantages of the process; as to its limits, that was for time to decide. He thought its chief use was in cosmetic operations. The chief disadvantages are pain, the fact that the neighboring hairs sometimes appear to be stimulated, and the danger of producing scars. In some measure he thought these disadvantages might be overcome. Pain, he thought, rather insignificant. In his experience it was the physician, and not the patient, who was apt to cry "Hold, enough." As to the increased growth of the hair, he thought such undoubtedly occurred in many instances. Lanugo hairs he regarded as microscopic hairs, invisible to ordinary eyesight, and as such impossible to remove; but such was not the case with the finer downy hairs which, after removal of their darker and stiffer fellows, were apt to suddenly take on similar characters; and it was by the total removal of these, as well as the larger ones, which he believed insured the success of the first operation. Something should be done to avoid the resulting inflammation which rendered the patient so unsightly for a few days. He had been trying the paste recommended by Unna (ichthyol, gr. xx.; starch, gr. xx.; albumin, gr. j.; water, ℥ xxx.), which painted on at night seemed to limit the reaction. He found it succeeded in rosacea after the use of ichthyol, resorcin, and multiple scarifications had all failed. By making multiple punctures as close together as possible, after the removal of the hairs, a considerable blanching of the skin resulted from destruction of blood-vessels, and permanent benefit followed. He also found electrolysis useful in hypertrophied cicatrices.

Dr. Hertzell thought there was very little use in dermatology for electrolysis beyond its application to cosmetic operations, such as removing superfluous hairs, small telangiectodes, etc. He, however, agreed with Dr. Bronson in thinking it of value in rosacea, and believed that here it not only destroyed the larger vessels, but the cicatrices, following the multiple punctures by contracting, and served to drive the blood out of the part.

Dr. Jackson thought the question as to the cause of an increased growth of the hair a difficult one to decide. He looked upon the superficial facial hairs in young women as corresponding to the beards of young men, in whom fresh hairs keep appearing until adolescence, and it was only reasonable to expect the same condition in young women. There may be some increased growth after the operation, but these hairs would grow anyhow. Relative to scarring, he believed there were some women's faces where, do what one might, it was impossible to avoid it; and he consequently thought it a wise rule never to commit yourself to a strange case by promising that no such effect should ensue. It is especially apt to occur about the corner of the upper lip. The chief difficulty he found about the finer hairs was that of telling when they were really removed and not broken off. He had often noticed pigmentation follow the removal of hairs. As to the question of pain, when patients complained of it, he employed cocaine. Recently he had been dipping his needle in a lanolin preparation of cocaine before each puncture, and it seemed to help. He would be glad if someone could tell him how to reduce the reactionary inflammation. He used to try hot water, etc., but without much apparent benefit. In vascular nævi he found linear punctures with a single needle of value. Before commencing he takes a fine pen and dots the area he intends to operate on. There is no doubt about its efficacy in reducing the color; the art comes in in knowing when to stop, to avoid leaving a blanched instead of the red tint. Even in cavernous nævi he believes much good can be derived from this treatment; he has seen some of the large spaces shrink up into a fibrous nodule. In rosacea he thought there was a tendency for the vessels to reappear; in general redness of the skin he preferred linear scarification. He considered kataphoresis as a very painful method of inducing anæsthesia.

Dr. Morrow thought Dr. Jackson's experience with kataphoresis must have been due to his using currents of too great strength.

Dr. Wigglesworth admitted the truth of Dr. Jackson's remark concerning the futility of treating the large deep vessels in rosacea by electrolysis, he also found that such were pretty sure to grow again. In the case of superficial vessels, however, it is otherwise, and he had often succeeded admirably. In lupus erythematosus one will also get results quite as good as those obtained by incisions. He also found electrolysis successful in treating acne indurata. He thought the best way to use cocaine was in a ten per cent. alcoholic solution, which, lightly applied to the parts, gave the anæsthetic effect of the cocaine as well as the cooling and sedative effect of the evaporating lotion. He thinks it should not be rubbed in, as this made matters worse by increasing the blood-supply. He thinks port-wine marks are often aggravated by wrong treatment; one case in which a small mark had been made a very large one by the use of potash, under his care, yielded to electrolysis entirely at one sitting. The current used was ten cells, and the punctures were made around the entire surface. In these rapidly acquired conditions, the results were much better than in the old solidified port-wine marks of birth. As to scarring, he managed to avoid it by paying attention to the points already alluded to by previous speakers. The

mistakes made were in using too strong currents, not looking out for idiosyncrasies, such as a tendency to the formation of keloid, or to the development of pigmentation.

DR. GRAHAM wished to know if any of the members had ever used electrolysis for the removal of hairs in obstinate sycosis.

DR. ROBINSON'S experience was that the irritation caused by the introduction of the needle certainly produced an increased growth of the neighboring hairs. He instanced the case of chronic dermatitis of the scalp, accompanied by a great stimulation and exfoliation of the corneal layer of the epidermis; when cured this is followed by an abundant growth of hair. The same is seen in fracture of the tibia when the skin is near the broken bone; hairs develop in increased quantities. Shaving is another instance of irritation increasing the growth of hair. For these reasons he never used electrolysis on any part, such as the upper lip, where the hairs are close together; but he thought it was very useful in other parts of the face. Electrolysis is, he thought, the most satisfactory method we know of treating hairy nævus; it sometimes required a great number of sittings, but success is always the reward. In regard to the reactionary inflammation, he thought the method of using the needle had something to do with it; he found that if you go right into the follicle the irritation is less than if you go outside of it. He uses powerful spectacles, which enable him to see every follicle opening.

DR. ALLEN had seen quite a number of cases during the summer in which he used electrolysis, and had been using a flat needle with rather sharp edge, carrying it gradually from one side to another at the base of the growth, especially in moles and warts. He generally succeeded in removing these in a single sitting. This he found the nicest and neatest way to get rid of them, and preferable to leaving them after the operation to dry up and fall off. A ten per cent. watery solution of cocaine will render some warts a great deal less sensitive to the pain. He had removed several large moles lately with good results, and knew of no other method where they could be removed without scarring or with so little pain. Electrolysis was especially useful in removing hairs from the chin, and it was not so successful in those of the upper lip. He did not think it was wise to operate on every case that presented itself. Many of these women have morbid notions as to the extent of their disfigurement, and if one operated they might not find the improvement as marked as they expected. Many of these little abnormalities of the skin of the face really enhance the beauty of the individual, and by telling her so he found it possible to reconcile many ladies to their supposed blemishes. He gave an account of two such instances recently occurring in his practice. Electrolysis he had found useful in superficial varieties of port-wine mark, and in such he found the best results were obtained when the needle was used quite superficially. The lanugo hair follicles mentioned, it seemed to him, were scarcely to be spoken of as follicles, being merely superficial indentations of the skin, and care should be taken not to cause the needle to penetrate too deeply. He did not think it was so important to find the opening as to tell the exact direction the follicle took. Glasses would not help here. He did not think the deep effect of cocaine necessary, since it was only the entrance and exit of the needle that caused pain at the surface. For the reactionary inflammation he applied some sedative or used a benzoated collodion or protecting powder for this purpose, but never vaseline or ointments.

DR. FORDYCE had, during the past year, discarded batteries altogether in favor of Edison's current from the street, with which one can get a current as low as half a milliampère.

DR. WHITE called attention to the comparatively few years after Dr. Hardaway first brought this operation to our notice, that all its advantages and disadvantages were known. It seemed to him that they had stopped there, as there was nothing said to-day that was not known years ago.

DR. ZEISLER thought members should be more guarded in their statements about the increased growth of hairs; he did not think that was true so far as the development of new hairs was concerned. A little stimulation may assist hair already present to grow more rapidly, and he thought that was the most that could be said.

DR. HYDE, in answer to Dr. Zeisler's remarks, wished to mention a case in his experience which he felt sure could be corroborated by other members present. A man with an obstinate neuritis over one scapula which he had been blistering and stimulating continually for years, had over the affected region a growth of hair two and a half inches long, and nowhere else in that locality. A little downy hair can be produced on the scalp by irritation or stimulation, which, however, will soon be lost again.

DR. SHERWELL, while fully agreeing as to the propriety of using electrolysis in hairy moles, as a general remedy in dermatology, has been much disappointed in it. He has never seen much good following its use in serious angiomatous conditions; there, he found the galvano-cautery or the igneous puncture to give more satisfactory results. His practice was to scoop out small growths or make an elliptical incision, the cicatrix following which is small, often scarcely perceptible, and the result is usually good. As to the use of electrolysis in hypertrichosis, he thinks its achievement does not excel that of the American Indian in his practice of self-epilation. He is accustomed to extract the hairs from the face, and performs it most thoroughly. They keep their faces bare by simply pulling out the hairs. He has recommended a similar course to many people with hypertrichosis, and he has been well satisfied with the result. He believed the continual plucking finally destroyed the follicle.

The Epitrichial Layer of the Epidermis and its Relationship to Ichthyosis Congenita.—DR. BOWEN, of Boston, read the paper. Attention was called to a well-marked layer of cells in the epiderm of embryos, forming a distinct membrane covering the hairs, in certain lower animals. In man this layer has not received recognition. The reader's attention had been directed to the subject by the observation of Dr. C. S. Minot, that certain shreds of fœtal skin contained a layer of large polygonal cells, with a granular body in the centre, and within this a nucleolus. He thought these cells a part of the epitrichial layer described by Welcker in 1864, and since forgotten.

The reader of the paper has found that in embryos of from two to three months the epidermis has an outermost layer of large nucleated polygonal cells of peculiar shape. In the sixth month this layer has disappeared over most parts of the body. The resemblance of this layer of cells to the epitrichium covering the hairs and the epitrichial layer of certain animals makes the author conclude that they are homologous structures.

A case was related of a child born with a thin, perfectly smooth, membrane completely covering it, and closely adherent, suggesting a paraffine-paper envelope. This began to peel off after five weeks in large strips, leaving normal-looking skin. There were no fissures as in ichthyosis. This condition seemed to be due to the persistence of the epitrichial layer, and the author believes that similar cases reported by Hallopeau, Grass, and Török belong to the same category. Instead of gradually exfoliating and disappearing by the seventh fœtal month the epitrichial layer retains its integrity. The true horny layer underneath desquamates in small scales after this covering is removed.

DR. WHITE, referring to the desquamation of the early formed hairs which takes place in utero, wished

to know from Dr. Bowen if he had noticed whether or not they were connected with this epitrichial layer, or whether they penetrated deeper and were a part of the composition of the fœtus.

Dr. Bowen, in answer to Dr. White, said, in the animals experimented upon the hairs were all underneath the epitrichial membrane, which was situated outside them. In man the hairs do not appear until after this membrane was lost, at least not to any extent.

Statistical Report.—Dr. Hyde, of Chicago, reported for the Committee on Statistics that during the year the total number of skin cases reported by members was 24,321. No cases of scleroma neonatorum, rhinosclerma, pemphigus neonatorum, anthrax, myoma, pellagra, nor impetigo herpetiformis have been reported, while of eczema there were 6,270 instances. Syphilis gave 2,452, and acne 2,261. About one-eighth of all cases (3,107) were of the rarer cutaneous affections.

A Remarkable Case of Purpuric Eruption Ending in Gangrene and Apparently Caused by Sodium Salicylate.—Dr. Shepherd, of Montreal, presented a paper on this subject. A patient in the Montreal General Hospital suffering from a swelling of the knee, due to acute synovitis, was given three twenty-grain doses of salicylate of sodium, when an urticaria-like eruption appeared and soon became petechial. These lesions were followed by deep sloughing, leaving ulcerations slow to heal. The upper portion of the body, especially the region of the shoulders, was mostly affected. There was also an eruption in the pharynx and larynx leading to œdema and alarming symptoms. The eruption disappeared only after thirty days. In some instances the whole spot became dark from infiltrated blood, and at times the whole body was covered with coffee-colored spots; some disappeared, going through the various color-stages of a bruise. Local gangrene occurred, especially over the shoulders, but also in the mouth and pharynx. About the shoulders gangrenous areas, ranging in size from a fifty-cent piece to that of the palm were seen (these were well shown in the photographs). During the separation of the sloughs there was a rise of from two to three degrees of temperature. The patient was presented at the meeting and showed extensive red cicatrices in the regions where sloughing had taken place. A small ulcer on the right arm still remained.

Dr. Elliot thinks that it resulted from the administration of the sodium salicylate, and he does not think it a manifestation of peliosis rheumatica.

Dr. Buckley never remembered a lesion of peliosis rheumatica where the lesion broke down, whereas in drug eruptions we have sloughing. In the absence of any other explanation he inclines toward the opinion that it was artificial and produced by the sodium salicylate.

Dr. Bronson thought the diagnosis should be a composite one, partly peliosis rheumatica modified by the use of the drug salicylate of sodium. Peliosis rheumatica never, as far as he knows, causes gangrene.

Dr. Robinson was not prepared to state the cause, but does not think it a case of peliosis rheumatica, which he considers incapable of producing such a condition.

Dr. Graham thinks it may be of a rheumatic character. Although the germ has never been isolated, we know that rheumatism is an infectious disease. Some of the most extraordinary symptoms result from it, profound nervous trouble, hyperpyrexia, etc. It is therefore possible that some such condition as this might be produced; or in conjunction with the rheumatism we might have some other non-detected organism present as a cause.

Dr. White said we have to consider the affections it most closely approaches, not what it is. One might think of three affections in connection with these symptoms: 1. Peliosis rheumatica, but the distribution and outcome of the disease are entirely at variance with the affection. 2. Drug eruptions. As these have no bounds set to them, and our knowledge of them is at present very limited, it would be unwarrantable to conclude that they might be manifestations of salicylic-acid poisoning. Any of these cases of salicylic-acid irritation of the skin which he had seen, never approached anything like this in severity. 3. The next affection to be considered is rare: hemorrhagic form of dermatitis—dermatitis multiform or herpetiformis. The early urticarial nature of the lesion, the vesicular, bullous, and hemorrhagic varieties are all within the limits of this affection. The only objections against it are the gangrenous and necrotic condition at the end of the process. Were it not for the symptoms of synovitis, etc., preceding the exhibition of the drug, he would have been inclined to favor the drug as a cause of the eruption.

Dr. Morrow thought it impossible to determine the precise etiology of the eruptoin. He was inclined to look upon the sodium salicylate as the causal factor here, and the unusual character of the eruption as due to the peculiar constitution of the patient.

Dr. Allen had seen some severe cases of eruption after salicylates in rheumatic patients, but never anything equal to this; still he could hardly doubt the causal action of the drug.

Dr. Klotz did not see that the presence of gangrene should exclude the possibility of peliosis rheumatica; we have hemorrhage in the latter disease, and, given hemorrhage, it is only a question of intensity whether or not gangrene will follow.

Dr. Shepherd only began to doubt the sodium salicylate as a cause when he noticed crops of the eruption continuing to appear after the stoppage of the drug. Then the eruption was preceded by the rheumatic pains. Then the eruption seemed to be incompatible with such a small quantity of the drug as had been given (only four doses, amounting to about eighty grains). He had never seen a case of peliosis rheumatica become gangrenous, but he quite agrees as to its only being a matter of intensity. Hutchison reported a case of purpura thrombica which resembled this one.

Mycetoma of the Foot.—Dr. Hyde, of Chicago, read a contribution to the study of mycetoma of the foot as it occurs in the United States. The patient described was born in America, of Bohemian parents, and had never travelled out of his native State. The disorder began thirteen years ago, at the age of seven. He was in the habit of wading in the river near his home in Iowa. A hard nodule first appeared within the skin of the footsole, and gradually spread until the anterior third of the foot was extensively involved. The diagnosis—tuberculosis and sarcoma—had been made by various physicians. The feature was fungoid projections from irregular surfaces of infiltration. A central canal perforated the axis of each tubercle, often blocked by flabby granulation. Examination showed granulation tissue with a considerable number of giant-cells in the derma. Nothing resembling the "clubs" of other observers were found.

Madura foot is apparently a local disorder. The differences between the fungus of mycetoma and that of actinomycosis is that the latter grows readily in a hydrogen atmosphere and the former with much greater slowness. They differ also in the rapidity with which they take up aniline stain. There is no agreement as to what constitute the differences between the white, red, and black varieties. In some cases, where fish-roe-like particles have been surgically evacuated from sinuses existing in unquestioned subjects of madura foot, no fistulous tracts have opened externally to the outer surface of the skin.

The author concludes that there are clinical symptoms of mycetoma which are to be recognized in some cases and not in others. Unquestioned instances are on record where none of the usual features was exhibited. The constant symptoms are practically reduced

to a characteristic deformity of the affected part, prominently the foot, but also the hand, knee, and a few other regions. There is a history of slow involvement of tissues. There is a notable absence of pain and of complicating accidents, such as erysipelas, eczema, etc. The separate vegetable fungi are set in granulation or necrotic tissue, with a number of unusually large giant-cells, which seem to be exercising a phagocytic effect upon the intruder. In a well-marked case there is usually a central body, made up of semilunar or reniform bodies, traversed by a net-work of mycelium.

Conclusions.—There are clinical symptoms of mycetoma which are to be recognized in some forms and not in others. These may be termed non-essential features of the malady. They are: 1, The appearance of blackish or reddish granules of pigment, free and within the cells furnished by the secretion; 2, the discovery of particles resembling the roe of fish, either expelled from the sinuses or imprisoned within the unbroken surface of the skin; 3, the occurrence of sinuses leading from without inward as far as muscle, tendon, or blood-vessel. Cases of unquestioned mycetoma are on record where none of these features are exhibited.

DR. ELLIOT wished to know whether Dr. Hyde made an absolute distinction between the fungus that caused madura foot and that recognized as the cause of actinomycosis.

DR. HYDE, in reply, said he was not justified in drawing any conclusions from his observations on this case. But from Indian observations and his experience in this case combined, he was inclined to think that there were probably several varieties of the ray fungus, and that the variety causing madura foot was not identified with that causing actinomycosis. He thought there might be an American variety of the ray fungus which caused mycetoma.

An Etiological Puzzle.—DR. WHITE, of Boston, Mass., in this paper described a tuberculosis of the skin of the hand in a young girl who had been accustomed to wash the handkerchiefs of a parent who died of phthisis—the patient was beginning to develop the same disease herself. Another case came to the clinic with characteristic tuberculosis of the lobes of both ears gradually coming on for eight years. The ears had remained long inflamed after piercing for earrings and never healed. The woman who bored the ears died soon after of consumption; the sister who dressed the ears died also of the same disease. The operator may have wet her needle or end of the silk in the mouth, or subsequent dressings may have caused the infection, or bacilli may have entered through the medium of the air. The puzzle is which was the case.

DR. SHEPHERD thought the first explanation of wetting the fingers a correct one.

DR. FORDYCE'S last case of tuberculosis cutis was in the finger of a doctor who had used this finger when percussing. A couple of years previously bacilli were found in his lungs, and it was always a question to the speaker as to whether the bacilli were derived from the lungs or whether they appeared independent of the lung lesions by the irritation of the part.

DR. HARTZELL had a tubercular case of undoubted local infection. The child's father had recently died of consumption (three months previously). The lesions on the child were, one at metacarpal joint of the thumb, one upon the knee, and another upon the opposite leg—in fact, in just such situations as a child exposed to tubercular sputum could become infected when crawling over the floor. The suggestion was obvious.

DR. GRAHAM recounted the history of a case of a young lady patient of his, affected with phthisis. She was nursed by her mother, who, contrary to instructions, washed the handkerchiefs, etc., used by her daughter in expectoration. She developed several tuberculous sores about the knuckles, and three or four months afterward also developed phthisis.

Unique Case of Agminate Folliculitis of Parasitic Origin.—DR. HARTZELL, of Philadelphia, read the paper. A man aged thirty-two presented two varieties of lesions on the leg belonging to some morbid process: an oval elevated patch covered with scanty crusts over a bright-red, uneven granular surface; smaller patches closely examined were seen to be made up of swollen and inflamed hair-follicles. There were also pin-head to pea-sized pustules in groups and singly. The primary lesions were pustular and increased the patch by appearing at the periphery; some furuncles formed. Examined portions showed a small cavity surrounding the hair in the upper part of the epidermis; a few spores and mycelial threads. The rete was thickened. The follicles were enlarged and distorted. In some sections were grape-like clusters of spores attached to mycelium. The fungus presented larger elements than are usually seen in tinea circinata. Under sulphur improvement began at once, but the disease had existed for about ten months, incapacitating the patient for about half the time. Contact with animals as a source of infection could not be made out. The author believes that the agminate folliculitis of authors is most probably a deep trichophytosis such as here described. Particular attention is called to the Biondi-Haidenhain stain as applicable for the tricophycton. The case illustrates that the trichophytosis may cause extensive painful disease in other locations than upon the hairy part.

DR. WIGGLESWORTH wished to ask whether Dr. Hartzell considered there was any relation as to the extent and severity of the lesion and the sources from which it was derived, whether from the horse or some smaller animal.

DR. WHITE thought we recognized how deeply into the tissues of the skin some forms of trichophyton can penetrate, as seen in kerion, a much more common type of this affection than the agminate forms.

DR. HYDE had seen a couple of cases of exceedingly severe trichophyton derived from sheep in sheep-shearing cases brought a long distance from the city, and in these cases it had always taken the form of sycosis.

DR. FOX objected to title of paper, and thought it should have been reported as a unique case of trichophytosis. Most of them had seen these peculiar forms of trichophyton which occasionally develop these small folliculate patches.

DR. SHERWELL at former meetings had spoken of ravages of trichophyton in lower animals. He thought scratching had something to do with the implication of tissues.

DR. HARTZELL, in answer to Dr. Wigglesworth, said he believed the severity of the disease was determined to a very considerable extent by the variety of the plant, but much more by the character of the soil. The fungus, he thought, grew much more luxuriantly in deep cases than upon the surface, and the elements are larger than in the superficial variety. In this case there was a double infection, and he believed to a certain extent in an antagonism between the staphylococcus and the trichophyton. The fungus did not grow at all well in the pustules; but it was found deep down where there were no pus-cells. He called this an uncommon case, because, so far as he knew, no other case of this character occurring in this situation had ever been reported.

Drug Eruptions.—DR. FORDYCE, of New York, read notes on "Drug Eruptions." The speaker referred to the nodular form of iodic eruption in a woman, where the lesions reached the size of the fist, and were not to be looked upon as erythema nodosum. It is probable that all iodic eruptions are secondary to certain vascular changes, and this may account for the exaggerated lesions seen upon a paralyzed member. An-

other case was of a rupia-like eruption due to the iodide of potassium, but simulating syphilis, in a syphilitic subject. The lesions healed under boric-acid ointment. A second case of similar nature showed ulcerations which healed when the iodides were stopped. The lesions in both cases corresponded with the anthracoid variety of iodide eruptions. The cases would seem to show that the skin in some persons reacts to iodide in much the same manner as to the syphilitic process.

A colored plate was shown of an erythematous rash covering the whole central portion of the body as a diffuse, and the other parts as a scattered, eruption, following the use of mercurial ointment. Another case similarly produced was one of erythema scarlatiniforme, which had been taken for scarlet fever. The last case was one of erythematous eruption from the internal use of boric acid given in thirty-grain doses daily for a month; a multiform erythema of the trunk, and a swelling of the upper lids were present. There was also inflammation of the conjunctiva. On stopping the boric acid, the symptoms disappeared. Other cases have been reported from this cause, but the author has seen no mention of the hard œdema of the eyelids as seen in his case.

Dr. Jackson related the history of a case in which he had been called in consultation; it was supposed to be scarlatina. Previously had been treated with blue ointment. He found patient with no fever or any other clinical signs of scarlet fever except the rash; decided case was not scarlet fever, but one of scarlatiniform rash from mercurial ointment.

Dr. White thought it had been occasionally observed that the use of stimulating applications to the skin was capable of lighting up widely spread dermatitis conditions. He had seen two cases of boric-acid eruptions.

Dr. Klotz had recently seen a case of fatal poisoning following use of boric acid, which is generally considered an innocent drug. He had seen a dermatitis occur after prolonged use of small doses. In the fatal case death was due to desquamative nephritis, result of irritating action on the kidneys. He thought there was some doubt whether death was due to the poison or to the kidney trouble.

Urticaria Pigmentosa.—Dr. Morrow, of New York, reported a case of urticaria pigmentosa of twenty years' duration, with remarks on dermographism. The case was the first recognized as one of this affection observed in this country. It is unique in being under observation through infancy into adult life. Many cases show a spontaneous tendency to disappear at about the eighth or ninth year. The skin at the present time shows the property known as factitious urticaria, and this has been a constant feature throughout. The formation of figures upon the skin after irritation shows irregular elevation or a beaded appearance, each bead representing the site of a lesion. Quotations were made from an already published description of the case. Lesions suggesting minute pigmentary moles have appeared in recent years, and the large nodular masses formerly present have disappeared to a large extent. There is too much less pruritus than formerly.

It must be conceded, the reader says, that in the clinical course of this disease and in the anatomical changes which it presents, it shows many points of difference from urticaria perstans.

In the present case the sound skin has always been subject to dermographism, although in a less marked degree than the pigmented lesions. It may be questioned whether the urticarial elevations and the pigmented patches are expressions of the same or of different morbid processes. Is there a causal or merely a coincidental connection between them? In the present state of our knowledge it is impossible to give a satisfactory solution of these pathogenic problems. In most cases there is a history of urticarial attacks preceding the appearance of the pigmented patches. The hyperplasia and pigmentation, the author believes, are the result of the intense and more or less constant congestion of the skin from the frequent recurrent attacks. He has always regarded it as belonging to the urticaria group rather than as presenting a distinct type of disease. There is probably, conjoined with a vaso-motor hyperexcitability, a disturbance of the trophic centres which regulate nutrition.

Dr. White believed one of the most notable features of this disease was its more general prevalence in England than in other civilized parts of Europe. The number of cases of this disease recorded in this Association is very small (24).

Dr. Bronson asked Dr. Morrow how long this appearance of factitious urticaria remained, and whether when it disappeared it could be revoked immediately or only after an interval.

Dr. Morrow said the patient was stripped forty minutes. Within fifteen or twenty minutes the lines intervening between the lesions would become effaced, and the urticarial elevations still remain persistent. By slightly rubbing the surface these lines had a tendency to reappear. The urticaria on the sound skin has a tendency to disappear in from forty to sixty minutes.

Dr. Bronson said, in a perfectly graphical picture of urticarial pigmentation, there is a striking difference between the distinct lines and these little bead-like elevations. The latter are no more numerous at these points than one would expect from common irritation of the surface. The irritation seemed only to affect the old lesions between them in a common factitious urticaria.

Dr. Allen had had one case of urticaria pigmentosa in his practice off and on for several years. With reference to the rapidity with which the urticarial wheals came out on the permanent lesions, or on the neighboring healthy skin, it often happened that in removing his clothes, or in indulging in a little scratching or rubbing after their removal, there was an almost immediate appearance of plaques as large as the palm, which became diffused over the healthy skin and the dark-brown pigment spots.

Ulerythema Sycosiform.—Dr. Cantrell, of Philadelphia, presented a paper in conjunction with Dr. Schamberg, with the above title. He described a case of the affection to which Unna called attention under the above title in 1889. A man aged fifty-five had suffered in 1886 from a pustular disease of the beard lasting for two years and ending in recovery. In 1891 he again became affected with what seemed to be a non-parasitic sycosis. Two years later a smooth glistening area of atrophic appearance occupied portions of the cheeks, showing complete loss of hair in places. No pustules, but over the area a few vesicles and blebs, which dried into brownish crusts. The affection proved very obstinate, new vesicles appearing every few days. Arsenic aggravated the condition. There is a follicular and peri-follicular inflammation which goes on to destruction of the hair-follicle and formation of atrophic scars. Histologically the stratum corneum and lucidum were missing; the granulosum was well marked. Intense sharply defined cell infiltration, nests with walls consisting of fibres of connective tissue. Cell infiltration most marked around hair-follicles. Overgrowth of connective tissue in papillary layer. Few hair-follicles and no sebaceous glands in section. Giant cells absent. The disease simulates, but is not identical with, lupus vulgaris. No nodules, no bacilli. The writers agree with Unna in considering the condition a distinct entity and accept the name.

Erysipelas.—Dr. Allen, of New York, read a paper on Erysipelas based upon his personal experience in treating fifty cases. He had previously reported fifty others to the Association, and now studied this series of one hundred in the light of the etiological bearing of

preceding skin affections upon the production of the disease, and secondly in regard to the effect of local treatment.

He had found ichthyol the best drug, its combination with collodion the best way to apply it, and strongly advocated the application of the tight adhesive band to check the spread. He explained its action by pressure made upon the lymphatics. Since reading a paper on this subject four years ago, he had applied the band in thirty or more instances, with the result of checking the spread in about half. Many cases recovered under this combined local dressing very promptly.

DR. SHEPHERD said erysipelas was a self-limited disease. He had never been able to check its progress by any treatment.

DR. FORDYCE has secured better results from ichthyol than any other drug.

DR. ZEISLER said that in Chicago, where they had separate wards for erysipelas, boric acid had been replaced by ichthyol, which had been found superior.

DR. WHITE thought extension to the margin of the bands, as advocated by Dr. Allen, would indicate a greater amount of spreading than he would expect to get in his own cases, treated with carbolic-acid solution in alcohol and water.

DR. ROBINSON preferred black wash or lead and opium. The latter constricting the lymphatics, and thus opposing spread of the process.

DR. BRONSON used resorcin in strong solution for superficial erysipelas. He also recommended ichthyol.

DR. ELLIOT treats a large proportion of his cases with ichthyol solution, but ten per cent. ointment of lactate of lead also acts well. He thought that when recovery was observed in two or three days one must attribute it to the effect of the drug.

DR. ALLEN, in closing, said that while erysipelas was self-limited, the limit was too often the death of the patient. There were no deaths in the series reported, but he related two fatal instances in infants. The limitation caused by the strappings he thought significant.

Election of Officers.—*President*, Dr. A. R. Robinson, of New York; *Vice-President*, Dr. F. J. Shepherd, of Montreal; *Secretary and Treasurer*, Dr. C. W. Allen, of New York.

Other papers were read by Drs. Klotz, Elliot, White, Robinson, Zeisler, Bulkley, and Fox, which will appear later.

Therapeutic Hints.

Chloroform was discovered by Mr. Samuel Guthrie, of Sackett's Harbor, N. Y., in 1831, and is produced by action of chlorine upon alcohol.

Alcohol in Liquors.—The average percentage by measure of alcohol (specific gravity, 0.825) of the following wines, liquors, etc., is: Sherry, 19; Madeira, 22: Malaga, 18; Tokay, 9; Burgundy, 14; Claret, 15; Hock, 12; Champagne, 13; Rum, 53; Gin, 51; Beer, 1 to 3; Ale, 7; Porter, 4; Stout, 7; Cider, 7. —WOOD AND DUNGLISON.

Convulsions produced by a drug can be produced only in five ways: 1, They may be epileptiform—*i.e.*, cerebral; 2, they may be conceivably due to stimulation of the peripheral ends of the motor nerves; 3, they may be conceivably caused by irritation of peripheral ends of sensory nerves; 4, they may be muscular—*i.e.*, due to a direct action on the muscles; 5, they may be spinal.—WOOD.

A Misprint.—We find in one of our contemporaries the following old misprint: "Even nowadays the definition of inflammation: rubor, calor, tumor, et DOLLAR, is worthy of consideration."

This is true. The dollar, however, nowadays comes first.

Tracheotomy.—An incision in the anterior region of the neck causes anæsthesia of surrounding parts, and hence it is only the first incision that gives pain.—BROWN-SÉQUARD.

Ascites.—

℞. Potassii bitartratis..... ʒ jss.
Potassii sulphatis..... ʒ ss.
Pulveris scillæ..... ʒ ij.
Antimonii et potassii tartratis..... gr. j.

M. Sig.: One teaspoonful every four hours until active purgation and diuresis follows.

—EBERLE.

The Face during etherization is reddish; marked pallor and lividity are respectively important indications of failure of the heart's action and failure of respiration.—WOOD.

Organs of the Neck.—The sensations in the most different parts of the organs of the neck are, as a rule, jointly referred to a region in which, so to say, the joint sphere of sensation (the sensorium commune, according to Zeissl's analogy) of the entire throat is situated. This region is the front part of the neck, the laryngo-tracheal region.—GOTTSTEIN.

Intra-cranial Pressure.—The classical symptoms of intra-cranial pressure are headache, vomiting, and optic neuritis.

Surgical Suggestions.

Ganglion.—Inject from five to ten drops of the tincture of iodine into the ganglion. A bandage is applied, partly with the object of exercising pressure and partly of fixing the adjacent articulation. The pain is but slight, and ceases on the second or third day. The cure is usually complete in five or six days. Sometimes a second injection may be necessary on the fifth or sixth day. Recurrence has been known after all the usual methods of treatment; and in one of the author's cases the ganglion had already been twice removed.

—DUPLAY.

"**Peritoneum to Peritoneum.**"—Some years ago various accidental experiences combined to unsettle my belief in this axiom. During the past two years I have deliberately and intentionally, where possible, acted as if the axiom were an error, and the result of this experience has been to convince me that, for all purposes where sound, speedy, permanent union is desired, the apposition of two intact serous surfaces is a surgical mistake.—J. GREIG SMITH.

In Syncope during ether narcosis, alcohol should never be used.—WOOD.

Dislocations of Clavicle at sternal end, when other means fail to retain bone in place. The hypodermic injection of absolute alcohol is indicated, deep into tissues about the displaced end; this sets up an adhesive inflammation, which retains bone in place.

Sprains of Foot.—Most successful treatment is use of hot foot-baths for fifteen minutes three times a day; follow each bath with massage for fifteen (15) minutes; then apply snugly a Martin rubber bandage from toes up as high as ankle and have patient walk. Ballet dancers use this method with such success that they are seldom incapacitated for work longer than a week.

Rigidity of Os Cervix.—Ten (10) grains antimonii et potassii tartras, dissolved in half tumbler of water; give teaspoonful every ten or fifteen minutes till free emesis. Under proper use of tartar emetic lacerated cervices et perinei will be the exception in complicated cases.

Disinfection of Vaults and Cesspools.—The disinfectant should kill all pathogenic microbes, including the bacillus coli communis and the bacteria of putrefaction.

The best of all disinfecting agents for the destruction of fecal matters in vaults and cesspools is sulphate of copper, employed in connection with one per cent. of sulphuric acid. The quantity of sulphate of copper required is one pound for every three cubic feet of fecal matter mixed with urine. Half this quantity was found sufficient to destroy the cholera bacillus. It was found necessary that the disinfectant should remain in contact with the infectious material for at least twelve hours.—VINCENT.

Correspondence.

OUR LONDON LETTER

(From our Special Correspondent.)

GRIEVANCES OF HOSPITAL NURSES—SEWAGE FLOODING OF HOUSES—NEWSPAPERS ON MEDICAL MATTERS—DURHAM MEMORIAL AT GUY'S—SCARLET FEVER AT BIRMINGHAM—ADULTERATION LAWS—DR. RUFFER—CHOLERA—HEALTH OF LONDON.

LONDON, September 21, 1895.

THE grievances of hospital nurses are once more before the public. All the week the *Daily News* has been inserting letters under the title of "White Slaves in our Hospitals," and a leading article has directed attention to this correspondence. No doubt there is much necessary hardship in a nurse's lot, but this does not excite complaint. It is the unnecessary impositions which become the proverbial straw to the camel. The managers of our hospitals have much of their business to learn and are too apt to take their views from their officials. One committee is in the hands of its secretary, another listens more attentively to the matron. Neither of these should be suffered to usurp the authority of the Board.

Too often the matron rules the nurses and hoodwinks the committee, and her rule is a terrible tyranny. I am inclined to agree with those who think woman constitutionally incapable of just administration, for when she rises to positions of authority over her sisters her yoke is not only heavy, but armed with many tiny teeth to torture the bearer. But to return to the complaints made. Food of inferior quality or insufficient quantity is mentioned. Surely any hospital board permitting this deserves to be exposed, and should not be allowed to plead ignorance. It is true such boards are unpaid, but if men do not attend to the duties they undertake in the name of charity, they cannot escape the responsibility of their neglect. If they let their paid officials blind them it is their own fault. Authority over a great hospital is a position of trust and must neither be abused nor neglected. The question of long hours is not so easily disposed of as that of diet. It is a question of cost, and all the hospitals are crying aloud for more funds. It is true, however, as pointed out by the *Daily News*, that managers are ready enough to spend on extensions and new buildings, and to get up special funds for such purposes, and the public would quite as willingly support a special fund for providing good food, reasonable hours, and comforts for the nurses. That the hours are too long is admitted on every hand, while the many who break down in health offer a standing proof of the wrong that is done them. Unfortunately there has been too much romance thrown round the occupation of the nurse, and many have therefore entered on the calling without proper appreciation of its duties. But this is no excuse for those matrons and boards that have taken money to teach nursing and kept their victims at hard, menial work for hours which no man's trade union would permit, until their health has broken down and they have been told they are unfit for a calling the real duties of which they have not been allowed to attempt. This kind of swindle (for what else is it?) has often been perpetrated on paying probationers, and should be made impossible in the future. If a man pays a premium to apprentice his boy to a trade the master is bound to teach the trade, and a "paying probationer" expects to be trained in nursing—not in menial work, which she can learn at home.

The water famine in East London is not the only sanitary danger that has lately been prominently before the public. Westminster has been suffering from sewage overflowing into cellars and basements, and strong representations have been made by the magistrate to the local authorities on the urgency of the case and the necessity of immediate action. It seems surprising that most of the property involved belongs to the Ecclesiastical Commissioners, but I suppose it is let on long repairing leases to tenants who let to others, and these in their turn underlet, so that it is not easy to fix responsibility without full inquiry. Our leasehold system has other disadvantages besides those relating to sanitary responsibilities, but the latter are enough to make the cry for easy enfranchisement reasonable. Neither leaseholders, freeholders, nor Ecclesiastical Commissioners are solely concerned. The County Council has some authority, and one of our medical officers of health, some years ago, reported to his vestry on the "Sewage Flooding of Basements Due to the Inadequacy of Main Sewers Vested in the London County Council." It would be interesting to learn what became of that report, though the attention of the Council has been repeatedly called to the matter from other sources. No doubt something must eventually be done, and it would be well for experts to inquire what can be done to abate the recurrent nuisance.

Some allowance for the dead season must be made for the newspapers which have ventured in search of copy into medical pastures. The *Chronicle* is a well-conducted daily which does not often commit itself so much as it has done anent the report of the Local Government Board. Such blue books are very properly noticed by the newspapers. In fact, one of the chief uses of these reports is the circulation of careful abstracts of their contents. Criticism of such productions, to be admissible, must be thorough, and the popularization of such reports by abstracts in the newspapers is perhaps the best use to make of them. The *Daily Chronicle* has, however, ventured to remonstrate with the chief medical adviser for devoting so much energy to the study of bacteria, rather than to the routine of administration! Such a complaint as this in our influential organ must surely be attributed to illness or absence of the generally judicious editor, who would scarcely have allowed an article to appear stigmatizing bacterial investigations as the outcome of "freakish theory," and seriously urging the authorities to "banish the microbe curators to an attic not required for other purposes!" I hope the editor was only absent, not ill, or if the latter, that the indisposition was not mental.

It is proposed to endow in perpetuity two beds at Guy's Hospital in memory of the late Mr. Durham. A sum of £2,000 is being asked for to endow these "Arthur Durham beds."

Birmingham has suffered from a sharp epidemic of scarlet fever, which the Medical Officer of Health hopes has reached its highest point and will now decline. At the close of last month there were four hundred and sixty cases under treatment. Cases have been received from all districts of the city, so that the disease seems widely diffused.

The Select Committee on the Adulteration Laws has reported to Parliament the evidence taken, and asks to be reappointed next session in order to complete its work. It has obtained through the Board of Trade a *précis* of the adulteration laws of other countries, which will prove a valuable work of reference to many.

I regret to say that Dr. Ruffer's attack of diphtheria

has been followed by paralysis, so that he will not be able to resume work for some time.

Cholera having reappeared in Europe, cases of diarrhœa at Grimsby and other ports are being anxiously watched lest early cases of the epidemic should be overlooked. The tendency to recrudescence is not forgotten, and the sanitary department seems to be active, so that we may escape serious invasion, although a few isolated cases may occur.

The health of London and the Provinces continues to be satisfactory, and the death-rate is generally low.

ALKALINE INJECTIONS IN GONORRHŒA.

To the Editor of the Medical Record.

SIR: In reference to the discussion of alkaline injections in gonorrhœa, I beg leave to call attention to the following extract from an article of mine, on the pathology and treatment of that disease, which appeared in the Atlanta, Ga., *Medical and Surgical Journal* for August, 1894.

The treatment of gonorrhœa is a matter of importance to every surgeon, for, like the poor, we have it with us always. A few points must be borne in mind. The first is that we have a narrow tube filled with a muco-purulent secretion, not readily miscible with water, and behind this liquid plug is a sphincter muscle closing the channel. If an injection be made, it will but play on the end of this plug, and will not affect the portion of the urethra in which the seat of the disease lies. Again, this secretion is actively contagious, and if forced into the bladder, will extend the disease to that organ. It is therefore necessary to remove the secretion from behind and treat a clean membrane.

This may be done in several ways. If the patient be told to urinate immediately before the treatment is to be administered, the urethra will be fairly clean, but irrigation is far better. A small flexible catheter, lubricated with glycerin, may be introduced into the triangular ligament, and a warm solution of sodium bicarbonate run through it, washing the urethra as it returns. From a pint to a quart will suffice, and the whole quantity of pus will be dissolved by the alkaline bath, and will be entirely removed. By raising the fountain-syringe containing the soda solution, any desired pressure may be obtained, and enough pressure should be used to dilate the urethra sufficiently for the wash to reach the bottom of the crypts.

The use of the glycerin is very important, for if any oil be employed, the urethra will receive a waterproof coating which will defeat the treatment, and if corrosive sublimate be applied to the tube coated with albuminous muco-pus, the resulting precipitate affords an impenetrable covering for the gonococci.

CHARLES MINOR BLACKFORD, JR., M.D.

LYNCHBURG, VA.

THE ABUSE OF MEDICAL CHARITY.

To the Editor of the Medical Record.

SIR: The article by Dr. Van Fleet on the Abuse of Medical Charity, in a recent number of the MEDICAL RECORD, ought to be of interest to every physician practising in the larger cities where hospitals and free clinics abound.

From personal experience in dispensary and hospital work, it seems to me that the time has arrived when every physician should give this subject serious thought and use his best endeavors to prevent this wholesale abuse of medical charity. Dr. Van Fleet has offered some valuable suggestions, and it would undoubtedly be well to hear from other gentlemen who are working in the free clinics. Another suggestion, which is not original, is for the applicant to obtain a note from a physician living in applicant's neighborhood.

Of course, any suggestion made is only for those clinics which attempt to prevent this abuse, and I regret to say that there are some which do not attempt to prevent it, but seemingly encourage it. In this respect I have in mind the New York Hospital Dispensary, where patients are treated for a dollar per month, medicine extra, doing away with any idea of pauperism, and unless the method of investigation of applicants has recently been changed, it is a very lax one.

At St. Bartholomew's Dispensary the applicants are hardly questioned as to their financial resources. As in many other clinics, a very large percentage of patients attending here can readily afford to pay moderate fees for treatment.

Last, but by no means the least, is the Vanderbilt Clinic. There is now, I believe, no investigation of applicants. When applicants were investigated by the Charity Organization Society for this clinic, about fifty per cent. were found able to pay or unknown at address given to the receiving clerk. The material for clinical instruction is far in excess of the demand, and still the clinic is being enlarged. It certainly seems as though something ought to be done to prevent these abuses of medical charity. It was only recently a young woman applied at one of the classes, and asked to be attended to at once as she had *left her bike outside.*

Applicants from out of town are not a curiosity at any of the clinics.

The abuse of medical charity seems a fit subject for agitation, and it would be well to hear from others on the subject.

C. F. G.

NEW YORK, September 25, 1895.

THE COMMITMENT OF THE INSANE.

To the Editor of the Medical Record.

SIR: In view of the laxity of the laws governing the commitment of the insane, experienced and practical observers must, perforce, endorse some of the views of Mr. Albert Bach on the subject. It is well perhaps to take the ideas of Mr. Bach on some matters "cum grano salis," such, for instance, as the statement in his recent paper on suicide concerning the practice of physicians in promoting euthanasia. Such rhetorical hyperbole causes us to suspect that at times Mr. Bach is given to extravagance of language, if not wilful falsification. However, that the present lunacy law is inadequate, as he claims it to be, is a fact apparent, if we examine for a moment some of its features and the results arising from the necessary observance of it, in its imperfection.

It may be stated that the present law was enacted in 1890, and is an amendment to the revised statutes of 1889. The law of 1889 was in most respects the same as that in force since 1874, except that the certificate, or a duplicate, must be registered with the State Commission in Lunacy. Let us see what the law requires in a medical man before he can qualify as an examiner in lunacy. The first requisite is, that he must have been in the practice of his profession for three years; and the second is, that he must be registered, after approval by a judge of a court of record, with the Lunacy Commission; that is all.

Now, of course, insanity as a rule is not hard of diagnosis, almost any one can do it. The certificate is easy to make out; signing and swearing to its statements are simple matters, and it may seem absurd that we should need a specialist to do something an intelligent layman might do. But this is not all; the average medical man is able to say of the plain case of mania or of melancholia, such and such are the symptoms, and this the diagnosis; more, however, is required of him. The question is not always is the patient insane? but it is, also, is his insanity of the

kind that would be benefited by hospital treatment? Should a patient suffering from simple melancholia, with its terrifying depression, and often its keen realization of surroundings, have the often-time unpleasant sights of a hospital for the insane added to the many subjective miseries incident to his disease? Will a three years' experience in practising medicine, the practice consisting often of "holding down" an office chair, enable a man to pass upon such a question? Again, there are many cases whose symptoms, although an open book to one that has had practical experience in psychiatry, will seem normal and of sound mind to a man that knows more of fractures than of physiological psychology, and is more versed in the varieties of bacilli than in the anatomy of the cerebral convolutions.

It may be well to state here that I do not claim that every examiner in lunacy should be one that has made alienism a life-long study; but he should have a well-grounded theory of mental medicine, and a certain amount of practical experience in its diagnosis and treatment. The chairs of psychiatry in most of our colleges are more ornamental than useful, and the few lectures delivered on the subject are sparsely attended as a rule. So we cannot expect an average examiner in lunacy to know very much on the subject whereof, by reason of his power of certification, he professes to be an expert.

So much, then, for the requirements of the present law in regard to the qualifications of the examining physician, and when it is stated that in New York City alone there are five hundred and two registered examiners in lunacy, it will be seen that many have availed themselves of the simple requirements of the position to pose occasionally as expert alienists and add materially to their income by so doing.

In regard to the other provisions of the law, requiring the approval by a judge of a court of record, the operation in its simplicity and ease of accomplishment make the approval almost farcical. The readiness of our judges to approve of medical certificates of lunacy applies more to the rural districts; there the procedure is done in a hap-hazard way only too frequently, the real committing magistrates being the physicians. Of course, physicians should be like Cæsar's wife; but, unfortunately, the millennium is afar as yet. In New York, lately, certain of our prominent judges have ceased signing certificates in a promiscuous manner, and have shown, by their unwillingness to sign, their disapproval of the law's laxity.

The safeguards against mistakes and false commitment are more numerous than in former years, but that they are far from perfect I think most practical alienists will agree. The remedies are simple and easily applied. Cut down this immense list of insanity experts (?) by making it imperative that an examination, practical and theoretical, in which experience will largely count, must be passed, to determine the competency of the physician. Lengthen the time for the physician required to be in practice. Make it compulsory for the judge to see the lunatic about to be committed before signing any certificate, for no patient is so violent that he may not be seen, at least privately, by the magistrate. By means of these and other precautions our lay friends, with minds as richly imaginative as Mr. Albert Bach, will no longer have cause for alarm.

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How to Rescue a Woman.—A French medical journal says that the authorities at Dieppe have issued instructions to the bathing-police, among which is a paragraph directing them never to seize a drowning woman by the hair, as that might come off, leaving the owner to sink.

THE ABUSE OF PUBLIC CHARITIES, AS SEEN FROM A HUMANITARIAN STANDPOINT.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: The present is an age in which pessimism flourishes with a fecundity astonishing to even the greatest of the brotherhood. That the medical profession is remarkably free from this noxious quality goes without saying; yet, now and then, a solitary case will occasionally make its appearance upon the surface, even where the intention is of the best. When such occurs the majority of the profession are inclined to regard the idiosyncrasies of the individual with a regretful eye, that one who is a member of an honorable profession should allow himself to become morbid. And yet it is a misnomer to call him an extremist, for he is a pessimist in the widest sense of the term who permits himself to hold such a misanthropic estimation of his fellow-men as does the author of "The Abuse of Medical Charities," which appeared in the issue of the MEDICAL RECORD of August 31st.

A cursory perusal would lead the reader to believe it to be a most erudite and profound, logical and sound discussion of a matter in which it must be admitted we are alike interested. But a close and critical examination of the article reveals that it is made up of a tissue of generalities and assertions, few of which are substantiated, and a mass of tiresome repetitions. In fact, the writer betrays a lamentable lack of knowledge with regard to worldly affairs and people, and makes a furious onset upon those who appear respectably clad at free dispensaries, claiming that if well dressed the applicant must be able to undertake the expense entailed on treatment by a specialist.

He cites, or rather indulges in, the parable of a wealthy brother bringing his poorer relative to be treated at the free dispensary; of wealthy employers sending female help; of family physicians who, having exhausted their every known remedy in the treatment of some complaint, consign their patient to the tender mercies of a free dispensary.

And now, what is to be understood by a free dispensary? Does it mean a place where one afflicted with disease may be treated without charge, or is it an institution where there is a class distinction and only those clad, or, rather, not clad, in becoming garments may be prescribed for?

Is it any wonder, then, that, dreading the treatment which a number have experienced, many will appear in costumes which at least cause them to be treated with respect and courtesy? Is it to be supposed that only those who are financially well off are sensitive to the gibes of some follower of Æsculapius? Let one interested visit one of these dispensaries where poverty is predominant and listen and witness the scenes there to be found. Why, then, should these institutions advertise free treatment, and when once the patient is within the toils demand a fee? As well might the attending physician make a demand as to the amount of money in the patient's possession and hold him up in the regular fashion of Claude Duval. It would be fully as honorable and far more manly. In other words, it is nobody's business, and is an impertinence which in any other profession or business would be sharply resented. Frankly speaking, a free dispensary is an institution open to all who stand in need of treatment, and if any physician feels that he is being robbed of his just profits in attending patients who may happen to appear in becoming dress, he may easily find a remedy by severing his connections with an institution where such patients are liable to put in an appearance.

It is folly to inveigh against applicants of foreign extraction who appear at the clinics for treatment, and claim that a very large number of them are able to pay. Statistics plainly prove the fallacy of the assertion. True, there are some who could pay, but the number

is infinitesimal in proportion to the number of applicants for relief. The evil may, as the worthy author of "The Abuse of Medical Charities" asserts, be increasing, but I deny most emphatically that it is begetting habits which tend to degrade the undeserving recipients. Such cannot be degraded, as, in a certain sense, they have tasted the very dregs of degradation, inherited, unfortunately, from a long line of ancestors born in serfdom. Is there a remedy? Perhaps, and yet to find and cut off the evil in this direction we would be obliged to check the tide of immigration, and, as does the great wall of China, effectually shut off this invasion of the vandals who, devoid of conscience, rob the poor physician of his just fees at the free dispensaries.

Imagine the able-bodied mechanic, clerk, typewriter, bookkeeper, etc., with the princely salaries of $8, $10, $12 to $18 per week, many with large families dependent upon their daily toil, paying for special treatment! Or take a school-teacher (many of whom receive but $400 per year, and few of whom have visited a dispensary); how long is it to be imagined they could undertake a special treatment? All of these people must appear well dressed at their places of business or discharge would quickly follow. And yet, it is asserted, if these holders of lucrative positions (?) appear at the free dispensaries, treatment should be refused them. Yet the school-teacher dares not appear other than becomingly clothed. How, then, are professional men to judge of the ability of the patient to pay? "Ay, there's the rub." They dare not say, "Pay me at once," for then they assume the character of extortioners, and as they have the attributes of honor and manhood they will have a natural repugnancy thereto.

It is useless to raise the alarm-cry of pauperism, because a large number of people financially embarrassed, and among whom is a small proportion of well-dressed individuals, are obliged to visit the institutions known as free dispensaries. A large number of those treated have a natural pride which forbids their attending these places. But necessity knows no law, and they perforce do that which is obnoxious to their feelings.

The abuse of these public charities, if such exists, has produced no visible impression upon the public mind. On the contrary, with the exception of some disgruntled individuals, the general verdict is one of approval. This is the more marked that, considering the proportion of patients who receive free treatment to our enormous population, the number who abuse the privilege is infinitesimally small. Can as much be said of cities of like population in other parts of the universe? Statistics fail to reveal it.

As to a remedy for the correction of the abuse of charity, I can suggest nothing which could be put into practical operation. As long as free institutions continue to exist, so long will the people continue to fill the reception-rooms of clinics. If the precept and principles of the Good Samaritan are to be thrown aside, then take down the placard, "Free Treatment," and at once advocate the total abolition of free dispensaries. When this is accomplished, and not till then, will the poor physician of the free dispensary receive his just proportion of the fees which should accrue to him, and likewise the execrations of millions of his unhappy fellow-beings.

THOMAS J. MOSS, M.D.

NEW YORK, October 5, 1895.

Troubles of the German Insane Asylums. — There seems to be, says the *Medical Magazine*, a general awakening in the German insane asylums. Following on the exposures at Mariaberg and Anelsburen comes news of trouble at the Bielefeld Institute for the Insane. The doctor in charge accuses the directors of "gross excesses" against the inmates of the asylum.

A BIT OF ANCIENT HISTORY.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In the *Southern Journal of Medicine and Pharmacy* for September, 1847, Dr. W. T. Wragg states that he has been in the habit of using animal ligatures for upward of ten years, and for several years has used none but these. During this period he has tied arteries of the fingers, arm, forearm, leg, and thigh, and has never seen any symptoms result from which he could infer that the knot had not been removed by absorption.

His deductions are: 1. That the deer-sinew ligature, if properly applied, will effectually arrest hemorrhage from vessels of even large size. 2. That they produce less inflammation of the living tissues with which they are placed in contact during the time they remain within their substance. 3. That they are susceptible of being absorbed and carried away by the action of the living parts in which they are placed.

JOHN A. WYETH, M.D.

NEW YORK.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending October 5, 1895.

	Cases.	Deaths.
Tuberculosis	116	109
Typhoid fever	36	7
Scarlet fever	27	2
Cerebro-spinal meningitis	2	5
Measles	37	5
Diphtheria	142	24

Strychnine Delirium.—Those members of the medical profession who have employed caffeine very largely in the treatment of cardiac and renal disease, have recognized that large doses of this drug, continuously administered for a considerable period, developed in certain individuals what has been popularly called "caffeine craziness." In other words, the full medicinal doses required by the condition of the heart or kidneys have also been sufficiently large not only to produce an increased activity of the brain, such as is seen when coffee is taken in large amounts, but also have gone farther than this, and by the very cerebral stimulation produced temporary insanity. Within the last few years the medical profession has been employing in certain States what may be considered as massive doses of strychnine in the treatment of failing respiration or circulation, and has obtained therefrom very good results. It having been found that these full doses of strychnine acted favorably when given in an emergency, we have been tempted to continue their administration where the symptoms were relieved but temporarily, and, as a result, have oftentimes been pleased with their effect. On the other hand, a sufficient number of cases have been seen in which cerebral disturbance has followed these large doses to put us continually on the lookout for such untoward symptoms. As a rule, he who administers large doses of strychnine in an emergency is on the *qui vive* for some twitching of the muscles of the forearm or other portion of the body as an evidence of the physiological action of the drug. While we believe that these symptoms are commonly produced by a single administration of the remedy, we are also confident that its continued administration in full doses frequently fails to produce these evidences of heightened reflex activity, and in their place causes a more or less active delirium, in which

the patient frequently refuses to take his medicine, or develops the delusion that his attendants are conspiring to poison him or do him some other injury.

Dividing Fees with Midwives.—At the meeting of the Aerztekammer held on the 18th ult., under the presidency of Dr. Achenbach, the new Medzinal Taxe proposed by the Cultus Minister was the chief object discussed. In almost every instance the fees proposed by the Minister were considered as too low, and alterations from this point of view were made as counter-proposals. It is scarcely likely, however, that they will meet with the acceptance they deserve. A second matter discussed was the practice of paying a fee of three shillings for every case of labor introduced by a midwife. This curious practice was not originated by some practitioner in need of practice, but by the University and Charitié kliniks. There was a fear that, as Berlin was a large teaching centre, the number of cases of midwifery would fall short of the requirements for due instruction; it was agreed, therefore, that a reward of three shillings should be given for every obstetric case introduced. This went on for a number of years. When Professor Martin began his extra-mural teaching as lecturer on obstetrics, he found he was handicapped by the premium thus given in working in rivalry with the official institutions, and it became a necessity for him to offer the usual fee paid by the two official bodies. It was, however, considered improper for a private individual to pursue the same course as the two public bodies, and his action came before the Aerzte Vereinen for discussion, and was referred by them to the Central Committee. It was recognized by this body that Dr. Martin did not pay the objectionable fee for his own direct emolument, but simply in order that his teaching facilities should not suffer by the action of the colleges. They, therefore, declined to interfere. The way was thus paved for others, and very soon individual practitioners agreed with midwives to pay them the fee for introductions to midwifery cases. These, however, were without the necessary excuse that these cases were required for teaching purposes, and it was considered that by their action they infringed the rules that ought to govern the relations of medical men among each other. After some discussion, in which no one attempted to defend the payment of premium for introduction, the Chamber unanimously agreed to request the Staatsregierung to compel the Royal Obstetric Institution to put a stop to the payment of such fees. The Chamber further declared all business arrangements of medical men with the lower "Heilpersonal" to be improper.—*The Medical Press.*

Charaka-Samhita.—Part XIII. of this interesting and curious work deals with food and drink, showing what purposes are served by the fluid into which food is changed in the stomach and what by the refuse of food. Those bodies which are particularly liable to disease, and those which are capable of resisting disease, are indicated. Then are mentioned the different diseases which arise in different parts of the body, owing to the excitement of wind, bile, and phlegm, individually, or in pairs, or all together. When they all get excited together the condition is serious, and can only be subdued by the treatment indicated. The difference is set forth between men that are wise and those that are foolish or ignorant. The wise observation is also made that things which are beneficial for some are not always so for others. The concluding pages deal principally with the distinction between good and bad physicians. The bad physicians are called killers of life and helpers of disease. These men, wearing the robes of physicians, are the thorns of the world. Behaving after the manner of those whom they imitate, those persons, through the heedlessness of kings, move about in all countries. This is their especial indication, viz.: clad in the robes of physicians and indulging in self-praise, they walk along the public streets, in expectation of calls. The translator adds that to this day many physicians who have no calls pass and repass along the public thoroughfares in their good and handsome carriages drawn by excellent steeds, to create the impression that their practice keeps them engaged for the whole day.

The Craig Epileptic Colony.—Craig Colony, named for the late Oscar Craig, of Rochester, formerly President of the State Board of Charities, consists of nearly one thousand nine hundred acres of land in the Genesee Valley. It is reached by two trunk lines of railways (the Erie and the Delaware & Lackawanna) and from roads centring at Rochester by the Western New York & Pennsylvania Railroad. The colony has its own post-office and railway station, known as Sonyea, an Indian word signifying sunny place. The law establishing the colony required that it should be arranged on the village plan. Craig Colony will not resemble an institution in any particular, but will look more like a country town than anything else. As the patients are received they will be set to work or at study in various ways. They will take care of the farms, gardens, and orchards; they will plan and build new houses. There will be among them tailors, shoemakers, printers, bookbinders, masons, ironworkers, carpenters, painters, and so on. In fact, every sort of employment, every sort of recreation, everything in short that goes to make up the life of a country village, will be found in this colony, the only difference being that the citizens of this community will be epileptics. The resources of the land are such that almost everything in the way of food for the inhabitants of the village can be raised by themselves, and their surplus agricultural and manufacturing products judiciously managed can make the colony practically self-supporting. Work has been progressing very rapidly during the year to prepare existing buildings for the reception of patients. The first quota of patients, numbering sixty, will be taken from the almshouse early in November. The patients taken from the almshouses and asylums will be known as State patients, and they will be provided for before any private patients can be received. They will be sent to the colony by the poor authorities of each county according to a form required by law, the blanks for which will be furnished on application to the State Board of Charities, or the superintendent of the colony. As soon as all epileptics now upon public charge eligible for admission to the colony are provided for, private patients will be received at prices to be regulated by the Board of Managers, according to the kind and extent of care and attention required. Such patients may, if it be desired, erect cottages for their own use upon the grounds, upon application to the Board of Managers. There will be no restriction as to the age of patients admitted, and the only restriction practically applies to the mental condition. Insane epileptics, or epileptics subject to insane outbreaks, cannot be taken into the colony. The law permits the Board of Managers to take and hold in trust for the State any grant of land, gift, or bequest of money, or any donation to be applied, principal or income, or both, to the maintenance and education of epileptics, and the general uses of the colony. Dr. Frederick Peterson is President of the Board of Managers, and Mr. H. E. Brown, Secretary. The medical superintendent is Dr. William P. Spratling, Craig Colony, Sonyea, N. Y.

An Early Sign of Tabes.—Dr. James J. Putnam, writing in the *Boston Medical and Surgical Journal*, says that a number of years ago, while trying the effect of hyperflexion of the legs for relief of pain in tabes, he observed that it was frequently possible to flex the leg at the hip, without bending it at the knee, so far that it would almost touch the ear without exciting the painful sense of popliteal tension which is so speedily felt by a person in health. Since then he had con-

vinced himself that this sign is not only an interesting feature of advanced cases of the disease, but that it may help one out at an early stage where the diagnosis is doubtful. The degree to which the hyperflexion is possible without exciting pain seems to be proportionate rather to the pain than to any other symptom, and is not proportionate to the ataxia. The sign, Dr. Putnam thinks, is certainly one which deserves study, though it is not invariably present.

The Treatment of Chancroids in Women.— The standard treatment for soft chancres is the application of iodoform, but there are several difficulties to be met with in carrying out this method with females. It is, perhaps, less easy to obtain rest than it is with males, while the disagreeable and penetrating odor of iodoform often causes women to shirk its application. Even if the drug be used as ordered, the lodgement of urine between the labia after micturition and the free vaginal discharge rapidly decompose the chemical and neutralize the good it might do. Von Herff recommends the employment of immediate cauterization by phenol, his method being as follows: Having first well cleansed the genitals with sublimate solution, search is made for the full extent of the disease in a good light. Each ulcer is then touched with a concentrated solution of phenol, a wooden probe being used for the purpose. The edges of each sore must be especially well touched up. Dry wool is then placed over the ulcer, and hip-baths and weak antiseptic injections used afterward. A further examination need not be made for about five days, when the ulcers will, as a rule, be found healing.—*Medical Times and Gazette.*

A Choice of Occupations.—The editor of the *Provincial Medical Journal* says that he attended a meeting of the Section on Ethics of the British Medical Association in company with a successful practitioner who takes only guinea fees. The gentleman listened with attention, but upon leaving the room he said "You have lost your sense of humor. Why, they were actually talking about the dignity of the profession, while in the same breath they discussed the question whether they should attend a man for 3/6, 4/, or 10/ a year." He had never before heard of such a thing, and as his idea of dignity was associated with a guinea fee for each consultation he could not understand it, nor does he yet, says the writer, though we had a long conversation on the subject, and we told him of the conditions of practice among the vast majority of the profession. "Well," he said, "I would break stones first." "It is easy to talk," adds our esteemed contemporary, "about breaking stones for a living, but this form of avocation would not be available, for there are already too many applicants even for that very unremunerative form of making a living."

A Glass Syringe as a Feeding-cup.—Dr. Aulad writes to the *Medical Times and Hospital Gazette* that he was one day attending a child who struggled violently when any vessel or spoon was brought near her mouth. He filled a small glass syringe with milk and held the nozzle over her mouth as she lay in the semi-recumbent position, pushing the piston and allowing the liquid to fall, drop by drop, into her mouth. Very soon she made no objection to allowing the nozzle to be inserted between the lips, and commenced to draw, as from a teat. Dr. Aulad subsequently employed this method with adults only, using a larger syringe, and he says that it is surprising with what ease and comfort patients can thus be induced to take a large amount of liquids—from a few drops to an ounce at a time.

Hereditability of Cancer.—Mr. Roger Williams holds that the fact which he has demonstrated, that cancer is so often homotopic in its transmission, that is to say, that it attacks the corresponding organ in each of the related individuals with preponderating frequency, proves conclusively that the disease may be inherited. The following cases, which he mentions in a letter to the *British Medical Journal*, appear to illustrate this, he thinks, in a particularly striking manner: 1. A woman, aged fifty-three, came under his observation with uterine cancer, whose maternal grandmother, mother (aged forty-five), mother's sister, and the patient's two sisters (aged thirty-two and thirty-six) had all died of cancer of the uterus. 2. In a case recorded by Sibley, a mother and her five daughters all died of cancer of the left breast. 3. Of the celebrated Bonaparte family, Napoleon I., his father, his brother Lucien, and two of his sisters, all died of cancer of the stomach.

The Average British Practitioner is a funny creature, if we may be permitted to generalize from the samples we find revealing themselves in the columns of our London contemporaries. He never seems to know how to act in emergencies not provided for specifically in the decalogue or in "The Manners and Rules of Good Society." Some time ago the question was agitated in the *Times* whether, when a man met his wife's maid or the cook on the street he should raise his hat and smile, or should simply ignore her presence. Now it is a question of raising one's hat to one's rival's wife, and "Perplexed" appeals to the *British Medical Journal* for advice in the following terms: "A is a practitioner in a neighborhood, who, till lately, was unopposed. B comes in and sets up against A. As is customary B calls on A, but does not see A's wife during his call, and yet a few days afterward B meets A's wife in the street and raises his hat to her. A's wife tells her husband, and A calls on B and remonstrates with him, and considers his wife insulted. Was it an insult, or was B merely indiscreet? Allowing that it is a breach of ordinary etiquette to raise one's hat to a lady to whom one has never been introduced, is it not possible that B, in his anxiety to be courteous to A, overstepped the bounds of propriety?"

The answer of our esteemed contemporary is tender and judicial, but not, in our opinion, satisfactory, for it leaves the question undecided, and "Perplexed" is no better off than before. "Although," so the decision runs, "in the absence of a personal introduction B would have been more than justified by the rules of social etiquette in passing A's wife unnoticed, and, probably, under the peculiar circumstances, would have acted more prudently by so doing, still, the simple raising of his hat would not, as alleged by her husband, constitute an insult, but should rather be looked upon as a natural and courteously intended act toward the wife of a brother practitioner to whom, in accordance with the medico-ethical rules, he had recently paid the customary visit of courtesy as a newcomer; and, in our opinion, A would have acted wisely in accepting it as such. Probably, however, and not unnaturally, his mind and temper were somewhat disturbed by the prospect of professional competition in his hitherto unopposed practice."

The next time B sees Mrs. A coming in the distance he should quicken his pace, take off his hat, and mop his brow as though suffering from heat and humidity. He will thus avoid the insult of passing the lady with covered head, and will not commit the discourtesy of raising his hat to an unknown lady; he will also appear to be busy, and that will make the other children feel real bad.

An Austrian View of American Medicine.—The *Wiener Medizinische Blätter* says that of the one hundred and forty medical schools in the United States only fourteen require a four years' course in order to obtain the degree of Doctor of Medicine. One hundred give a diploma on the completion of three courses of lectures, and twenty-five schools require but two courses of lectures. The length of these lecture-courses varies from five to nine months. The same

journal asserts that the practice of the healing art in the United States is entirely unrestricted.

The Alleged Achievements of the Orificial Surgeon, as set forth in an orificial exchange, are little short of the marvellous, and force the conclusion that the fool-killer has abandoned his occupation. We read of a late case of "phthisis cured by the operation for laceration of the cervix." A case of chronic eczema of the hands was "cured by stretching the rectum." Another case of eczema was treated by "clipping irritated points at the various outlets of the body." This seems vague but heroic. And so on. For all the ills that afflict the flesh, the blame is laid at the door of one, or some, of the orifices of the body, from the puncta lachrymalis to the meatus urinarius, and this, or they, must needs be opened and stretched by the most approved orificial methods. A worse species of quackery was never invented. One orificial gentleman thinks that a "conservative orificial surgeon should be connected with each of our State hospitals for the insane." An exchange says this idea is an excellent one, if he be connected in the proper capacity—as patient rather than as surgeon.—*Atlanta Medical and Surgical Journal.*

Sanitary Science.—At a test-examination for sanitary inspectors, one of the candidates, when asked what a death-rate was, replied that it was a rate levied on the living to support the cemeteries. There is a weird sarcasm in this answer, and also in the reply to the question about the wilful exposure of a person suffering from an infectious disease. "He must not," said the examinee, "ride in any conveyance except a hearse without first informing the driver." Another reply to the same question laid it down as imperative that "a person dying of an infectious disease must give notice to the local authority within twenty-four hours." A candidate who evidently thought drastic measures should be employed in cases of infectious disease, said that "members of a family where small-pox has broken out must be sent to a hospital and well boiled." Another mildly remarked that "among the precautions against small-pox vaccination might be looked for." In answer to some physiological questions, one examinee asserted that nitrogeneous foods built up the "waist" of the body, and that "milk is the best food for children because it does not require any chewing." Another candidate gave the following elaborate and curious reply to some questions with regard to clothing: "In hot countries the perspiration which is in the skin is evaporated into steam, which goes up to form clouds, and comes down in the form of rain." Sometimes the answers are most illogically "mixed," as in the case of one which stated "that it would be necessary to get an order from the Sheriff to seize and destroy the Medical Officer of Health," and in another which affirmed that "many articles of food have to be adulterated to keep them pure."—*Bristol Medico-Chirurgical Journal.*

The Pathology of Thomsen's Disease.—It is barely twenty years since there was described in the *Archiv für Psychiatrie* an affection characterized by singular muscular phenomena in several members of one family. The affection, since known by the name of the physician who then first described it, has been studied by many observers, among whom may be especially mentioned Professor Erb, who termed the condition "myotonia congenita." The main features of the affection, apart from its hereditary character, consist in an increased volume of muscular masses, suggestive of a kinship to pseudo hypertrophic paralysis, accompanied by notable impairment of power, and the assumption of a state of tonic spasm on the contraction of the affected muscles. There is, further, an increased excitability to faradism and galvanism, with a tendency to the reaction of degeneration. Moreover, Professor Erb found that ensuing on the "closure contraction" of galvanism there occurred a series of slow and regular undulatory contractions, which gradually spread from the negative to the positive pole, a phenomenon which he termed the "myotonic reaction." Hitherto no opportunity has occurred for full observation of the morbid anatomy of Thomsen's disease, but a paper in the *Revue de Médécine* for March by Dr. Déjérine and Dr. Sottas supplies this deficiency. It is founded upon the case of a man who first came under observation at the age of thirty-two, having since infancy suffered from this affection. It was characterized in him by marked hypertrophy of the muscles of the lower limbs and trunk, and less obvious change in those of the upper limbs. All the muscles of the body were rigid when in contraction, and were but slowly relaxed; the myotonic reaction was present. The patient succumbed at the age of thirty-seven, from acute nephritis. No change was found in the nervous system, central or peripheral, but an examination of the muscular system, specimens being taken from all parts, afforded an insight into the nature and progress of the lesions therein. These lesions consisted, in the first place, in a nuclear overgrowth, following which the muscular substance proper apparently becomes swollen, the fibrillæ becoming fused together, while the transverse striation is retained or is even more pronounced than normal. Measurement showed a notable increase in the diameter of the affected fibres. There is, further, a like increase in the interfibrillar protoplasm, rendering the "Cohnheim's fields" more distinct. In more advanced stages the muscular substance disintegrates, and vacuolar spaces are formed in and between the fibres. It is remarkable that the connective tissue does not undergo any hyperplasia, nor is there any excess of adipose tissue as in pseudo-hypertrophic paralysis. It may be remarked that the changes described in this paper agree in the main with those found by others who have examined fragments of the hypertrophied muscles excised during life; but the record of Dr. Déjérine and Dr. Sottas is far more complete, since they had the opportunity of tracing the changes from early to advanced stages. It is pointed out that the hypertrophy commences and is most marked in those musoles which are the most exercised, and it is concluded that in Thomsen's disease we have to do with a "hypertrophy of functional origin." The affection thus ranks with the group of dystrophies of the muscular system known as primary myopathies.—*The Lancet.*

Suicide and Crime in Russia.—Professor Sikobski, of the University of Kief, writing upon the psychology of the Russian people, brings forward some interesting statistics concerning the frequency of suicide in the different nations of Europe. (*The Lancet.*) According to these figures, the death-rate from suicide per million living, is in Saxony, 311; in France, 210; in Prussia, 133; in Austria, 130; in Bavaria, 90; in England, 66; while in Russia it is as low as 30. Further, it is found that during the last thirty years the suicide-rate has in Russia remained stationary, while in all other European countries it has increased by thirty or forty per cent. The exact significance of figures such as these, relating to so complex a phenomenon as suicide, is not easily brought out. Few, however, will be disposed to question the assertion that much of the explanation of the low rate in Russia is to be found in the patience and long-suffering of the Russian peasant under even the worst misfortunes. Among other characteristics, Professor Sikobski also finds a certain indecision of character which fears to say a word or do an action which shall not admit of retreat or withdrawal. Crime is comparatively rare in Russia; thus, the number of persons tried for murder per million living in the year 1887, was in Italy, 96; in Spain, 55; in Austria, 22; in France, 15; in Russia, 10; in Germany, 9; and in England, only 6.

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Original Articles.

THE TREATMENT OF FEVERS WITHOUT FOOD, ANTIPYRETICS OR ALCOHOL — WITH RECORDS OF VARIOUS CASES.

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IN 1886 I began to treat all fevers, medical and surgical, without food, antipyretics, or alcohol. Instead I used large quantities of water and a few simple remedies which I shall describe in detail later on. *Ab initio*, my results were far better than they had been when I still adhered to the older and yet recognized plan of feeding and stimulation.

There is scarcely anything new in my method, which, in a primitive way, was practised by the ancients. Thus I do not come as the herald of an entirely new and startling discovery. Researches into the physiology and pathology of the subject have taught me that in all forms of fever, medical or surgical, the exanthematous, typhoid, or the traumato-septic varieties, we invariably find changes in the gastro-intestinal mucous membranes. In some instances these changes are anatomical, while in the acute and more simple varieties they are chemico-mechanical in character; yet in both the physiological function of the membranes is changed and impaired.

It may not be out of place in this connection, before touching the question of treatment, to refer briefly to the observations of distinguished physiologists who have enlightened us on this point. Beginning with the saliva, Uffelmann[1] says: "The secretion of the saliva becomes diminished by fever, and in high temperature no saliva is secreted at all. In the lower ranges of temperature—he evidently refers to acute conditions—the saliva—normally alkaline—becomes turbid, thick, and sour, and with the increase of the fever the power of the saliva to convert starch into diastase is materially diminished."

Passing over the function of the muscular action of the stomach in digestion, Beaumont[2] records, as the result of his experiments, that in cases of fever the gastric juice is only sparsely secreted, and the mucous membrane is soft and irritable.

Hoppe-Seyler[3] examined the gastric juice of a patient with typhoid fever and found no free hydrochloric acid. This was also the case in other instances where the gastric juice was taken from subjects in whom there was an elevation of temperature. He found it utterly inadequate to carry on digestion artificially even after the addition of hydrochloric acid. The same author expresses the opinion that under these conditions the gastric juice has a tendency to become neutral in reaction, and stomach digestion can no longer go on. Instead, we get lactic- and butyric-acid fermentation and the formation of gases, and with them we find the sarcinæ ventriculæ and other micro-organisms, first observed and described by Goodsir[1] and Manassein,[2] who also proved that the observations of Hoppe-Seyler were correct.

Gluzinski, of Cracow, records that he found neither hydrochloric acid nor peptones in the gastric juice during the entire stages of typhoid fever.

Explaining the cause of dyspepsia in fever, Landois[3] says: "The secretion of a peptone forming fluid is arrested when the fever begins very violently, when there is great weakness, or when high temperature long continues." This author also emphasizes the fact that the gastric juice is diminished in all cases of fever.

It is well known that in acute febrile conditions, notwithstanding that the bile is diminished in quantity, it is more watery and poorer in specific ingredients. That similar changes occur in the pancreatic and intestinal juices is shown by Stölnikow,[4] who says: "In high ranges of temperature the pancreatic juice is diminished. Examination shows fat in the form of drops and bundles of crystals which may be isolated from the stools." He also found that fluids are quickly absorbed in persons with elevated temperature, whereas the absorption of peptones is much diminished. This is also established by Beaumont and others.

In the face of these facts it became a question to me whether it was justifiable to introduce into the animal economy food that cannot be disposed of and utilized, and that can at best only act as a foreign body, undergo putrefaction, and give rise to ptomaines, that in themselves must tend to elevate temperature.

My experiments and observations at the bedside have in every way borne out my reasoning. At the meeting of the Academy of Medicine, last March, in discussing a paper on the treatment of typhoid fever,[5] I said: "I have in times gone by employed the milk diet in typhoid fever. One patient refused it and I gave her only water, and she was able to live upon it for twenty-one days.

"From that time on I began to investigate how much or how little food my typhoid-fever cases needed. While I do not yet presume to generally recommend the method so new, still what little I have to say upon the subject of allowing typhoid-fever patients no nourishment whatever, save water, is based upon my results in eight cases, all of which made a good recovery without relapses, and in which from five to fourteen days I permitted the patients to take nothing but water *ad libitum*, only administering diluted milk at the expiration of that time, or rather when the patient expressed a desire for some nourishment. In these cases I had no occasion to use alcohol or antipyretics, although the range of temperature was such that according to the recognized methods of treating typhoid fever I would have been justified in administering them. I have since adopted this plan in all fevers in which the temperature is over 102° F."

My method of procedure is as follows: First of all the bowels are flushed well with a high enema of lukewarm saline water. If the tongue of the patient is pale, covered with a white or grayish coating, I prescribe two hourly doses of a teaspoonful of a solution of sodium

[1] Munk and Uffelmann: Die Ernährung des gesunden und kranken Menschen. Berlin, 1887.
[2] Beaumont, Leipsic, 1834.
[3] Die Verdauung und Resorption der Nährstoffe, p. 241. Berlin, 1878.

[1] Biological Memoir. Edinburgh, 1868.
[2] Archiv für path. Anat., Band 55, 1872.
[3] Physiologie des Menschen, p. 351. Leipsic, 1885.
[4] Pflüger: Archiv d. Physiologie.
[5] MEDICAL RECORD, May 26, 1894, p. 671.

sulphite, 4.00 to 60.00 of water while, if the tongue has a red base, clean, or is covered with a dark brown or grayish coating, I administer dil. muriatic acid 1.00 to 100.00 water in the same doses at the same intervals.

Should the stomach be in a highly irritable condition, nothing has given me greater satisfaction than a two-hourly teaspoonful dose of a mixture of carbolic acid, 1.00 suspended in a solution made of 30.00 of mucilage to 125.00 of peppermint-water. If the disease be a painful one or involve serous membranes, doses of 0.6 sodium salicylate in 100.00 of water are repeated every two hours until all pain has subsided; I have found this remedy to be most serviceable and far preferable to the opiates.

There are occasions in which the stomach may be found to contain a large quantity of food. In such instances I freely lavage, or if the case is suitable, begin with an emetic before administering any other drug. I have seen cases watched by careful nurses where large quantities of undigested milk coagula were returned in the lavage. I recall a case in which washing revealed an unusually large quantity of milk coagula taken nineteen hours before, and another which returned a partly putrified oyster which the patient had swallowed whole twenty-three hours previous.

It is from experiences like these that I have made it an absolute rule to empty the stomach in cases where I suspect the presence of food. The results which have followed this apparently heroic commencement of treatment were such that I did not find it necessary to continue medication in large doses for any length of time. The pulse improves and very soon the patient begins to be more comfortable, the headache, malaise, and other annoying symptoms gradually diminishing in severity.

Be it understood, however, that I do not claim to lessen the duration of any disease of certain course.

I also have the patient sponged frequently with water three degrees lower than the prevailing temperature. If this be above 104° F., under no circumstances do I permit any nourishment to be taken. However, when the pyrexia is lower than this, and the patient craves for something, I give clear broths, containing, as I believe, the salts of the meat only; rice and barley-water with a pinch of salt, but never do I attempt to induce the patient to partake of food. Simultaneous with the lowering of the temperature I have observed that the patients become desirous for nourishment, while on the other hand their aversion to it increases as the temperature rises.

I now continue with whatever medication is indicated. I have altogether discarded the internal administration of antipyretics, as I think they diminish the tone of the heart, thereby deluding us into the belief that our patient has improved simply because the temperature is so many degrees lower, when in reality his vital powers are much weakened and he has less resistance to combat his disease. This fact Cantani [1] has so beautifully made clear to us. The bacillus also can thrive and propagate much better in lower than in higher temperature.

As to medication, I employ aconite in 0.6 to 250.00 of water, of which I give teaspoonful doses every hour, not to diminish the temperature or lessen the frequency of the pulse, for aconite in these doses, in my opinion, acts as a heart tonic, in that it relieves the pressure upon the capillaries and so equalizes the circulation.

I administer aconite at the onset of the disease if the pulse is frequent and weak, the extremities cold, while I prefer veratrum viride in the same doses and same intervals as the aconite, when the pulse is rapid and full.

It is astonishing to see how rapidly the small doses of these two drugs act. I have not yet had occasion to have recourse to alcohol in any of my cases. If heart tonics are needed, I rely upon caffein, providing the heart-sounds are weak, and upon nitro-glycerin when its beats are rapid or intermittent.

The dose of caffein I employ repeated as required is 0.15, and of nitro-glycerin 0.0003 every three, four, or five hours, as the case may require. Strychnine in 0.0005 doses I give in addition to either of these drugs, principally when I use nitro-glycerin, always, however, giving these drugs uncombined, and most frequently hypodermatically.

In all these cases water with a trace of sodium chloride, not sufficient to affect its taste, is given *ad libitum*. The quantity taken in twelve hours varies from 1,000.00 to 1,300.00. It is remarkable to observe how readily it is retained by the most sensitive stomach, provided that the organ is free from other food. It is readily absorbed, restoring to the blood the fluids which the intense febrile condition robs from it, and thereby keeping the cells in the different tissues in a mild but constant state of activity; it increases the action of the liver as also the action of the kidneys, lessening their work by secreting bile and urine of lower specific gravity, and holding the specific elements in higher solution.

Of its effect on the intestinal tract it may be said that the juices, although changed in character, become less irritating in their local action, when thus highly diluted, and excessive diarrhœa therefore does not become a complication of the disease—on the contrary, I have found it has a tendency to enhance easy stools from the very beginning.

Thus, in every instance I flush the bowels daily, and have often observed that its returns contained quantities of undigested matter, including coagulated milk, encased in intestinal secretions, even eighteen days after the patient had partaken of any food.

This method of treatment has given me abundant proof of its efficacy, and it is reasonable to assume that when nothing offensive is carried through the digestive tract, nothing deleterious can be carried into the blood and nothing additional brought into the system to support the micro-organism of the disease; while at the same time a constant washing of every portion of the less affected parts of the body is continually going on, until the hungry state of the tissues requires nourishment, as is evidenced by the patient's demand for food.

That this will ease and lessen the danger of febrile disease more than the feeding or stuffing methods, I beg to illustrate in a case of croup, treated in February of last year, and which was seen in daily consultation by Dr. O'Dwyer.

When first I suggested the advisability of administering no food, save water, Dr. O'Dwyer dissented, and for two days we gave milk at regular intervals. We observed that within half an hour after the administration of the milk, the patient was seized with paroxysms that were associated with a rise of temperature and general indisposition. After forty-eight hours of this state of affairs, Dr. O'Dwyer agreed to continue the treatment without nourishment, on water alone. We pursued this course for three days, during which time the temperature gradually dropped, and the paroxysms became less frequent and the patient's general condition materially improved, until at the end of the third day the temperature had fallen to 100° F., and the favorable outcome of the case was assured. We then resorted to mild feeding with well-diluted milk, and in one week our case was fully recovered without any sequelæ. The usual remedies, including fumigation, were used, but intubation was not resorted to.

Knowing, as we do, that it requires a certain time to digest milk, even with normal secretions, and considering, as Bouchard [1] has shown, that milk increases the temperature when administered in any febrile state, and especially in view of the fact that

[1] Transactions of the International Medical Congress, Berlin, 1890, vol. i.

[1] Auto-intoxication in Disease, p. 217. Philadelphia, 1894.

peptones cannot be absorbed under such conditions, does it not speak loudly against the giving of nourishment as is so frequently practised, with digestive secretions abnormal, deficient, or altogether absent?

I have observed that, contrary to what we might expect, patients kept on water alone lose less weight than those fed upon a mild and easily digested diet, which leads me to believe that water maintains the patient's vitality better than food—that is a food in the truest sense of the term.

It is almost obvious that where the intestinal glands are affected, and the stomach secretions changed on account of an elevated temperature, and with blood containing excrementitious matter, we cannot hope for the utilization of anything that has been taken in for absorption.

Since first I made known my views upon this manner of treating fevers, I find that others have also made clinical observations in line with mine. Among the papers recently published, that will repay perusal, are those of Dr. Licorish,[1] Dr. Page of Boston,[2] and Dr. A. P. Henry.[3]

In the appended reports of the several cases, I have detailed the record and progress of their issue as far as it concerns us most.

I trust that the method of treating fevers as I have described it above from careful notes from my case-book, will prove worthy of further investigation, and I hope my colleagues, especially those who are fortunate enough to possess hospital facilities, will give it honest consideration, and report their results at an early day.

72 East Sixty-first Street.

Report of Cases.

Name.	Age.	Diagnosis.	Special Remarks.	Range and Duration of Elevated Temperature.*—Time no food except water given.	Range of Pulse.	Duration of Disease.	Result.
Rud. H	6 yrs.	Acute lobar pneumonia		102° to 104.5°— 5 days	100	5 days	Recovery.
John F	17 mos.	Acute lobar pneumonia		101° to 105° — 5 days	120 to 100	7 days	Recovery.
Ella B	6 yrs.	Scarlatina and diphtheria		103° to 105° — 9 days	140 to 120	15 days	Recovery; no albumin; artic. rheumatism, lasting 5 days.
Anton M	4 yrs.	Scarlatina with otitis media		102° to 105.5°—12 days	174 to 110	21 days	Recovery, with acute arthritis, lasting 2 weeks.
Olga A	15 mos.	Entero-colitis		101.6° to 103.8°— 3 days	200 to 180	7 days	Recovery.
Freda L	10 mos.	Entero-colitis		102° to 103.5°— 7 days	144 to 110	11 days	Recovery.
Carrie G	21 yrs.	Typhoid	Extremely neurasthenic	101.6° to 104° —13 days	200 to 130	5 weeks	Recovery.
Anna W	15 yrs.	Typhoid	Uncomplicated, but excessive pyrexia	103° to 107° — 8 days	102 to 96	27 days	Recovery; no relapse.
Mrs. S	28 yrs.	Typhoid	Treated at Red Cross Hospital.	103° to 106° —21 days	120 to 85	28 days	Recovery.
Vic. F	12 yrs.	Typhoid	Seen with Dr. G. Steger	102° to 105.8°—18 days	164 to 110	26 days	Recovery.
Mrs. J	28 yrs.	Puerperal fever	Curettage first day	Sudden jump to 105.4—4 days	160 to 96	21 days	Recovery.
Mrs. W. J	23 yrs.	Erysipelas of vagina and vulva, with croupous exudation	Seen by Dr. T. Gaillard Thomas	102° to 105.4°— 2 days	140 to 100	12 weeks	Recovery.
Bertha R	19 yrs.	Appendicitis	Seen with Dr. McNicoll; operated ninth day	101° to 103° — 4 days	100 to 80	16 days	Recovery.
Mrs. B	29 yrs.	Peritonitis, metritis, and pyosalpinx	Hysterectomy on sixth day	102° to 105° — 7 days	120 to 80	21 days	Recovery.
Mrs. H	24 yrs.	Abscess of ovary, with circumscribed peritonitis	Seen with Dr. McNicoll	102° to 104° —12 days	180 to 90	5 weeks	Recovery.
Mrs. M	34 yrs.	Double pyosalpinx and peri typhlitic abscess	Seen with Dr. A. Zeh	Constantly 103°—16 days	124 to 84	8 weeks	Recovery with albumin, lasting 5 days.
Henry G	17 yrs.	Erysipelas—nose, throat, and face	Seen by Dr. A. Jacobi and with Dr. Steger	102° to 105.4°—10 days	100 to 76	21 days	Recovery; no sequelæ.

* The lower temperature and pulse rate marked occurred after food had been withheld a few days.

THE CAUSES AND PREVENTION OF PUERPERAL SEPSIS (FEVER).[1]

By WM. E. GROUND, M.D.,

superior, wis.

After so many centuries of vain speculation regarding this dread disease, which surrounded childbearing with such gloom and apprehension, truth and science are at last prevailing. Volumes have been written about the nature of puerperal fever. All sorts of causes have been adduced to explain the protean manifestations of the morbid conditions. A few great minds have occasionally grasped in the direction of the true etiological factors. Even Hippocrates and Galen referred to the fact that erysipelas will affect the womb of the parturient woman, and cause a fatal inflammation; but as often ignorance and superstition ignore and cry down these great truths. Man has ever sought the source of disease in mysterious and remote causes, and has ascribed them to the decree of a blind fatality, or to the caprices of whimsical and fantastic beings. When man comprehends the nature of the elements which surround him, and also his own nature, he will then know the true causes of his evils, and the remedies he should apply.

The true infectious nature of puerperal fever, so-called, has within the last century so gradually dawned upon the minds of physicians, that instead of being considered next to suicidal for a woman to enter a maternity for confinement, a well-regulated maternity hospital is now considered one of the safest places in which a woman can be confined. At the Preston Retreat, in Philadelphia, there were more than twelve hundred deliveries without a death.

In 1843 Oliver Wendell Holmes said: Puerperal fever is so far contagious as to be frequently carried from patient to patient by physicians and nurses. Two or three years later, Semmelweiss attributed childbed fever to decomposing animal matter conveyed to the mother from without. Pasteur, in 1880, was the first to cultivate the streptococcus from the organs of women dead of puerperal fever. Similar observations were subsequently made by Fränkel, Winkle, Doderlein, Winter, Widal, and others, so that now there can be no doubt that the streptococcus pyogenes stands in a direct causal relation to most of the severe and fatal cases of puerperal sepsis. Widal found the streptococcus in a great variety of puerperal affections, including puerperal ulcers, endometritis, parametritis, peritonitis, septicæmia, pyemia, and phlegmasia alba dolens. Many other germs bear an important etiological relation to puerperal affections. Briger, and later Fehling, Doderlein, and others, pointed out the fact that a fatal puerperal fever might be caused by the staphylococcus, but, as a rule, this germ does not produce the severer forms of puerperal sepsis.

[1] Read before the Wisconsin State Medical Society at the forty-ninth annual meeting, held in Superior, June 19 to 21, 1895.

[1] Medical Record, June 2, 1894, p. 706.
[2] Ibid., February 24, 1894, p. 230.
[3] Ibid., May 25, 1895, p. 646.

However, streptococci and staphylococci are frequently found existing together in these affections. Kronig, who is Doderlein's assistant at Leipsic, has obtained a pure culture of the gonococcus from the interior of the uterus in nine cases in which there was a slight febrile disturbance after labor. None of the cases were serious. Energetic research during the last few years has demonstrated that the diplococcus pneumoniæ, the bacterium coli communis, the micrococcus tetragonus, and the bacillus pyogenes fetidus, possess pyogenic powers.

Puerperal sepsis (or surgical sepsis occurring in the parturient woman) is an infectious disease due to germ inoculation of the wounds resulting from the separation of the decidua and the placenta, and from the passage of the child through the genital canal, in the act of parturition.

The next point to consider, then, is what affords these germs an opportunity to inoculate the bruised and abraded parturient canal? This brings us to one of the most important phases of our discussion; viz., do micro-organisms exist normally in the uterus and vagina of pregnant women, or are they placed there by outside influences? Without referring to earlier investigators, I will proceed at once to the consideration of the work of Doderlein. He examined the vaginal secretions of one hundred and ninety-five pregnant women, and distinguished two sorts of secretions, one normal and another pathological. The normal secretion was found in 55.5 per cent. of all cases. It is a whitish, friable substance of the consistence of coagulated milk. The author thinks it is derived from the superficial layers of vaginal mucous membrane, the cells of which, when cast off and mixed with lymphatic fluid, form a white mass. The reaction of the normal vaginal secretion is intensely acid. The acid is lactic acid, and is derived from the tissue changes produced by a definite species of bacillus which is always present in normal secretions, and is called by him "vaginal bacillus." Besides this species of bacillus, Doderlein found in the normal secretion, in a large number of cases, a scizomycete or yeast germ, which he recognized as the germ of thrush, and which, as is known, grows in acid media. He found other micro-organisms, both saprophytic and pathogenic, in normal secretions, but only quite rarely, and he is of the opinion that the vaginal bacilli, inasmuch as they produce acid, render the vagina unfitted for the growth of other germs, and thereby protect it from infection. The author was able to support it by experiment. He introduced the staphylococcus pyogenes aureus into the vagina of a virgin in which the vaginal bacilli were present, and as early as the fourth day they had perished. The pathological secretion differs from the normal by being very fluid and yellowish-white, and containing pus corpuscles. Its reaction is only faintly acid, or neutral, or it may even be alkaline. In the pathological secretion the vaginal bacilli are supplanted by various other saprophytic and pyogenic micro-organisms. The author assumes that the pathological secretion is caused by an increased influx of alkaline tissue fluids, such as is occasioned by excess in venere, by pessaries, by frequent digital examinations, and by gonorrhœal cervical catarrh. Williams, of Johns Hopkins University, has practically substantiated the results of Doderlein. Kronig examined the vaginal secretion of about five hundred pregnant women, and found them to possess reactions of varying degrees of acidity. He found the bacterial flora usually found in the healthy vagina. In no case did he find pathogenic cocci. Kronig and Menge introduced streptococcus pyogenes and pyogenic staphylococci in large numbers into the vagina of pregnant and non-pregnant women, and found they disappeared in a short time. Their observations differ from those of Doderlein only in respect to the rapidity with which foreign organisms disappeared in the normal and pathological secretions. Irrigation of the vagina with water or with antiseptic solution diminished the rapidity with which bacteria in the vagina disappeared. Bacteria introduced into the cervix uteri likewise disappeared in a very short time.

Recently Walthard made some observations regarding the presence or absence of pathogenic micro-organisms in the genital canal of pregnant women, in the Obstetric Clinic of Bern. He found the secretions from the cervical canal to be directly antagonistic to the growth of germs, and that the vaginal secretions possessed antiseptic properties. The author regarded the cervical canal as the border-line between those portions of the genital tract that contain bacteria and those that contain none. An examination of the mucus found in the vagina occasionally revealed the presence of streptococci, with, however, a much less degree of virulence than the same germs possessed when derived from tissues in phlegmonous inflammation, or from the lochia in puerperal septicæmia. The virulence of streptococci found in the vagina is the same as that of the same germs found upon healthy mucous membrane in other portions of the body. They are, in fact, not virulent, but are saprophytic germs upon healthy tissue. They can, however, take upon themselves a malignant character when the resistance of the tissue is diminished, and become the infective germs of puerperal sepsis. In addition to vaginal streptococci, the staphylococci, gonococci, and the bacterium coli commune, produce puerperal sepsis. The bacterium coli commune is occasionally found in the amniotic fluid. The presence of these germs may turn the lochial discharge brownish and offensive, but this condition of the discharge does not necessarily point to sepsis. Highly virulent streptococci and staphylococci may be present on the exposed parts of the healthy body without doing harm, owing to the defences which have been set up against their invasion, and to the local and general resistance offered to their growth. These barriers may, however, be overthrown, and under these circumstances pathogenic bacteria, originally present on exposed surfaces of the body, may cause various local and general diseases. These are the conditions to which the absurd and meaningless term auto-infection is sometimes applied. The term auto-infection has no place in a scientific discussion.

Summing up the results of the investigations of numerous and reliable observers, we may justly conclude that the normal vagina does not often contain pathogenic bacteria. With the exception of the gonococcus, such bacteria do not long survive the vaginal secretions. The practical deductions are that vaginal injections before labor are not only not necessary, but may actually favor septic infection in cases where antiseptic precautions are not carried out strictly. In rare cases with aggravate pathological secretions it may be necessary to flush the vagina with hot sterilized water daily before confinement.

In view of this there can be no disputing the fact that septic infection in the puerperal state occurs almost always from an imperfect aseptic technique on the part of the accoucheur or his assistants in the preparation of themselves or the patient for the lying-in ordeal. The term auto-infection is, strictly speaking, not a fact, and the condition, therefore, a myth. The occurrence of puerperal sepsis is *prima facie* evidence that pathogenic germs have at some time gained admission to the maternal parts from without. That they are always placed there by the surgeon or his assistants is not an established fact. Prioleau[1] insists that there are certainly inevitable forms of puerperal infection which defy rigorous antisepsis during labor and the puerperium. Infection is observed when the labor occurs in an infected or mephitic environment, when labor coincides with the development of an infectious disease, or when the patient has old lesions in or near the genital

[1] Arch. de Tocol. et de Gynec., January, 1894.

tract. The mechanism of this kind of infection is explained. Air charged with noxious principles enters the genital tract. The infected blood of the patient may bring germs to the placental wound in the uterus. Phagocytosis is weak when the blood is already infected, hence the germs develop rapidly in the wound. The primary infection is thus stimulated ; an old genital lesion, abscess, etc., may be awakened, or an old wound or lesion outside the vulva may set up infection in the uterine wound, just as a blood lesion does when pre-existing. Dumont describes a type of puerperal infection from intestinal origin. The cause is alteration of the intestinal mucous membrane from pressure of the gravid uterus, and accumulation of fæces causing stasis and infiltration of the intestinal walls. The alteration consists in desquamation of intestinal mucous membrane, thereby favoring the advent of germs by removing nature's barrier. This alteration permits the bacillus coli communis to pass through the walls into the peritoneal cavity. The colon bacillus is a constant inhabitant of the intestinal canal, but where intestinal lesions exist they frequently invade the internal organs, causing all degrees of septic conditions.

Puerperal sepsis contains the same germs that any other septicæmia contains; the same micro-organisms which cause suppuration elsewhere. Surgeons formerly regarded a febrile reaction as a necessary accompaniment of the normal processes of repair after all surgical procedures ; now they usually regard it as an avoidable blunder. Still we do have a post-operative aseptic fever, that occurs independent of pathogenic germs. This fever is characterized by the absence of inflammatory symptoms and with little constitutional disturbances. In a large wound healing by first intention, we find not only extravasated blood and exuded serum, but minute fragments of tissue which have been separated from the surface of the wound during the operation, and are subsequently disintegrated and absorbed. These materials when absorbed exert a pyrogenic action upon the system. The exact nature of this pyrogenous substance is not clearly known, but the results of experiments seem to prove its existence in the fibrin generators and fibrinferment of the blood. At any rate their close relationship to living substances renders them but slightly injurious, and they produce in consequence only a mild type of fever.

The most common seat of infection is probably in the uterus itself. The sinuses at the placental site are occupied by large clots, which readily become infected, and from this location the putrefactive and septic elements are readily absorbed, owing to the highly active lymphatic circulation. The lacerated vessels of the cervical canal are also plugged with similar though smaller clots. The cervical absorbents are not so highly developed, hence septic absorption cannot be so active at this point as at the fundus uteri. The comparatively lessened lymphatic circulation of the vulva and vagina render erosions and contusions of these parts less likely to communicate infecting material to the general circulation.

The character and gravity of a septic infection will depend, not only upon the nature and virulence of the infecting germ, but too upon local predisposing causes and constitutional conditions which diminish the resisting power of the tissues, such as nephritis, valvular heart disease without compensation, syphilis, diabetes, intercurrent infections, and anæmia.

Briefly, we distinguish three principal types of infection : First, putrid intoxication or poisoning by toxines secreted by germs growing upon putrefactive foci, before these germs have themselves found their way into the blood. The process is due to the putrefaction of retained clots or placental or decidual fragments in the uterus. The poison may gain admission to the general circulation through the uterine sinuses or the denuded placental site, or through abrasions in the vaginal mucous membrane. This condition is the so-called sapremia of most authors, and is intended to be limited to the products of saprophytic germs, but I do not think we are justified in excluding the chemical products of pathogenic germs. The symptoms depend entirely upon the dose of the poison. The onset of the fever is generally within twenty-four hours. The preliminary chill is usually wanting, but there is a rapid rise of temperature to 101° or 103° F. The prompt removal of the putrefying material from the uterus is soon followed by a rapid fall of temperature, and a disappearance of all alarming symptoms. Sapremia follows most frequently manual expression of the placenta, prolonged and forceps deliveries, version, and extraction.

The second type of infection is bacterial invasion and ptomaïne poisoning. The form of bacteria is not always the same, and any of the pyogenic germs may produce septicæmia. The most fatal type is that caused by the streptococcus. The next in order of virulence are the bacterium coli commune, the staphylococci, and the gonococci. These germs invade the uterine sinuses and the lymphatics surrounding them, and from here they penetrate the uterine parenchyma, to the larger lymphatics underlying the peritoneal covering of the uterus. The endometrium contains multitudes of bacteria swarming in its outer layers, while just underneath this layer we find an abundant round-celled formation of granulation tissue, which is the rampart thrown out by nature to prevent the further penetration of invading micro-organisms. In septicæmia the absorption is more gradual, and is aggravated by the more rapid development of the germs. This septic process may extend by continuity of tissue through the uterus to the tube and ovaries, setting up all forms of inflammation in them, and finally involving the pelvic peritoneum ; or the septic infection may extend by the lymphatics through the uterine parenchyma to the pelvic cellular tissue, and ultimately causing a true pelvic abscess.

The third type of septic infection, pyæmia, is merely an advanced or aggravated stage of septicæmia, characterized by abscess formation, the localization of the septic material causing thrombi embolism, and subsequently multiple abscesses in the viscera and joints.

The sources of infection are, first, the midwife or nurse ; second, the surgeon ; third, the husband, or patient herself ; fourth, the air.

Of all the sources of infection, I consider the midwife or nurse the most fruitful. Most of the puerperal cases I have seen have been attended by midwives. They use no antiseptic precautions whatever, making frequent vaginal examinations with filthy, unwashed hands. Untrained nurses are often in attendance at our confinement cases, and not infrequently make internal examinations of the woman about to be confined. Some do this to show that they know as much as the doctor ; others, again, do it to ascertain the degree of dilatation, to aid them in determining when to send for the doctor. When engaged to attend a woman we should instruct her not to permit any attempt at examination by the nurse or midwife, otherwise we cannot always prevent infection from this source.

That the attending surgeon is ever the cause of infection is greatly to be regretted. Happily this is not as often the case now as formerly, but still it does exist. A physician of this age, who attends a case of confinement with less preparation and care than he would bestow upon a capital operation, should be held culpable in case complications of a septic nature should arise. When called upon to attend a case of confinement, proceed at once upon true surgical principles. If time permits, have the patient take a full hot bath. Empty the rectum and bladder, the former by enema. The robe of the patient and the bedding should be absolutely clean. The surgeon should then render his arms and hands aseptic, paying special attention to the subungual spaces. Ethereal soap and hot water should be used freely with a stiff clean brush. Here it may be necessary to remind you of the danger lurking in

questionable soaps and dirty nail-brushes. Nail-brushes should be kept clean and in an antiseptic solution when not in use. I have used ethereal soap with great satisfaction. The external genitals of the mother should be treated much in the same manner. After the scrubbing process has been gone through with, the surgeon's hands and the maternal parts should be rinsed in a solution of creolin. Aseptic towels should be pinned around the thighs and over the mons. The patient is now ready for an internal examination, which should be repeated as seldom as possible. It is a good practice to disinfect the hands each time the maternal parts are touched, and to keep the towel wrung from a creolin solution against the external genitals constantly. Should any accident occur to infect the field of operation, disinfect as from the first, always keeping in mind surgical cleanliness. After delivery the nurse should be instructed not to touch the mother, either to change dressing or to draw the urine, without first scrubbing the hands and nails thoroughly.

Gum catheters had better be discarded altogether, for they are never clean. Use only glass catheters, they can be easily sterilized. The field around the meatus should be carefully cleansed before the catheter is used, and everything clearly in view. After delivery of the placenta an aseptic gauze pad should be worn next the external genitals, and frequently changed.

The husband and the patient are often the sources of contagion. The husband, as a factor in the production of puerperal sepsis, has not, I believe, received the consideration he deserves. He often initiates the septic process in his wife soon after marriage, by inoculating her with the gonococcus, and when she is near the end of pregnancy he comes home with a soft chancre, and continues his septic and sexual relations with her. Most men touch their penis several times a day while urinating, and yet I dare say few of them ever think of washing it, no matter how dirty their occupations, before thrusting it into the parturient canal at night. Men sometimes have sexual relations with their wives within a week or two after confinement, the woman develops symptoms of puerperal fever, and the doctor is puzzled to explain the cause, and perhaps lays it to the breasts, or catching cold, or to auto-infection.

The patient does not have many opportunities for infecting herself, but the methods she employs are calculated to be very successful. Most women think any old rags are good enough to receive the lochial discharge, and this they must be prohibited from doing. She must also be discouraged from using the family sponge, to bathe herself with. The surgeon would do well if he ordered all wash-rags and sponges used for such purposes burned before labor begins, for they will turn up unexpectedly a dozen times during confinement, unless they are entirely out of reach. Only recently I had prepared a parturient woman in a thoroughly aseptic manner, she found it necessary to visit the closet, and while there the waters broke and began dribbling away, when she promptly applied the bath-room sponge to the vulva, where I found it an hour later. These may seem to be little things, but if we expect to do aseptic surgery and get desirable results, we must be externally vigilant.

Vitiated air may greatly increase the predisposition or be a direct cause of puerperal infection. Here, in our northern climate, houses are built with a view of keeping out the cold, and incidentally of course fresh air. In the winter double doors and windows are put on. The natural vitiation of the air is increased by an untrapped or defective drain connected with the sewer. The British Registrar-General's report shows that the smallest number of deaths from puerperal fever every year, for the last twenty-five years, has always been in August, when all the windows are open, and the defective drains have least chance to do harm; and the largest number of deaths has always been in January, when, the windows being closed, sewer-gas laden with bacteria, remains for a long time undiluted in the house. Puerperal fever is relatively common in the bedrooms of the rich, where the elegant marble basin is directly connected with the city sewer. The lowest death-rate ever yet attained is in the Sloane Maternity, where there is absolutely no plumbing in the building, and at the Preston Retreat, where a steam fan-blower forces half a million cubic feet of fresh air every hour into the lying-in wards.

IMPORTANCE OF FRESH AIR AND EXERCISE IN THE TREATMENT OF TUBERCULOSIS.

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The unmistakable evidences of pre-existing and progressive weakness in the vital and physical energies of the body organisms found in the vast majority of cases of tuberculosis, and the fact that the disease progresses just in proportion to the extent of this weakness makes plain the line of hygienic treatment to be adopted. Reinforce these weakened energies with an abundance of fresh air, sunshine, wholesome nutritious diet, and, in suitable cases, moderate judicious exercise should be the watchword all along the line. As to the value of these measures there is quite a unanimity of opinion, except as to the amount of exercise that should be allowed in connection with the fresh-air treatment, and on this point there is quite a diversity of opinion. Many of those who use the terms physiological weakness and physiological exhaustion synonymously, and consider exhaustion to be a necessary consequence of any form of exercise, require absolute rest in all classes of cases; while many of those who believe that strength comes through stimulation, and that exercise is the best form of stimulation, take the opposite view, and favor active exercise in nearly all cases, regardless of the physical condition of the patient. Now, it is apparent that there is some truth and much error in each of these propositions, and that the logical course to pursue is to regulate the exercise to suit the physical condition of each individual case. The most positive indications for rest are pyrexia, hæmoptysis, and extreme debility, because: *a*, except in some hectic conditions pyrexia indicates progressive inflammation at the seat of the disease in the lungs; *b*, hæmoptysis indicates disintegration of tissue and giving way of vessel walls, small or large, according to the extent of the hemorrhage: and *c*, debility indicates exhaustion of the physical forces, potential and kinetic, through fever, exercise, or defective assimilation, all of which conditions are best treated by absolute quietude and rest in bed. The first two because, like similar conditions elsewhere, they need rest, which in these conditions is best secured by reducing the number of heart-beats, lowering the force of the blood-pressure, and checking the flow of blood to the parts by absolute quietude, and the last because in this way the tissues are given an opportunity to recuperate their exhausted forces. But this does not indicate that absolute rest should be continued after these ends have been attained, nor does it indicate, especially in the last case, that after partial recovery the process may not be facilitated by moderate judicious exercise, limited always, however, to the needs of the body. In this connection it is important to make a distinction between cell weakness, defective cell energy, or imperfect metabolism, and cell exhaustion, as these terms are ordinarily used and understood. That high fever and excessive exercise are potent factors in bringing about exhaustion through consumption of the forces and energies, and that the logical way to check this is to arrest the cause, are too well understood to even be mentioned here, if it were not for the fact that in many

cases the process is carried so far that the basis from which these forces draw their supply are so far injured that no amount of rest will restore them to their normal condition. Something similar to this occurs in the case of old ulcerated sores. The minute histological structures that form the line of demarcation between the healthy and diseased tissue are neither dead nor alive, nor will any amount of rest restore them to their normal state. There is too much vitality to permit disintegration, but not enough to allow new blood to come in and impart new life. The surgical treatment in such cases would be to remove all the tissue not susceptible of being restored to healthy vitality, or stimulate by counter-irritants, or by friction and massage force the blood into the parts and stimulate them to normal activity; while nature's method would be to increase the quantity and quality of the blood, strengthen the heart, and force this new blood into these parts, and thereby drive back the broken-down *débris*, and heal by granulation. This is largely the condition that prevails in many cases of chronic tuberculosis, and this is the way a cure is brought about by nutritious diet, the dry rarefied air of high altitudes, and pulmonary gymnastics. A vastly increased amount of fresh air is brought to the lungs, much of which finds its way to unventilated nooks and crevices, where it imparts its oxygen to, and takes up carbonic acid from, the residual air in the air-vesicles, and forces oxygen into the blood circulating in the pulmonary capillaries. The large amount of new blood thus brought to the margins of the ulcers forces its way into the weakened, sluggish tissues, facilitates expulsion of broken-down *débris*, and hastens the healing process by throwing out protoplasmic granular processes, which by degrees encroach upon and fill up the diseased area.

But still there is another general morbid condition in which a distinction should be made between cell weakness and cell exhaustion as the terms are ordinarily used, and that is in the strumous or tubercular diathesis. Here the defects seem to be rather a stagnation than an exhaustion of the energies and forces. The lymph possesses but little vitality, moves sluggishly along the lymph channels, and is easily obstructed in its course. The capillary circulation is often without force or potency, the villi often fail to absorb, and the tissues fail to appropriate and to assimilate the nutriment intended for them. It is this character of cell weakness that is found in a large number of consumptives. It is this weakness that enables the organisms of the disease to make such rapid inroads into the tissues, and it is this weakness which is not benefited by rest, except so far as it has been further reduced by fever or exercise that is to be overcome in the treatment of this disease. It is in this class of cases, when there is no fever and no great amount of debility, that a favorable change is often brought about by stimulation through such moderate, judicious exercise as will gradually increase the force rather than the frequency of the pulsations, and the depths rather than the number of respirations. In this way oxygenation and assimilation are facilitated, and all the metabolic processes are carried on more perfectly and energetically, and the tissue resistance thereby proportionately increased. The average daily consumption of oxygen during quietude being estimated in round numbers at thirty thousand cubic inches, and the average increase in the number of respirations while standing up, over the number while lying down, being estimated at one-third, there are, other things being equal, a daily increased consumption of ten thousand cubic inches of oxygen while standing up over that consumed while lying down. But after reducing this even one-half, for sleep and repose, there is still an excess of five thousand cubic inches, which counts for much when an invalid is starving for oxygen. Besides, the amount of oxygen taken in is augmented nearly or quite as much by the increased depths as by the increased number of respirations during ordinary, and especially during pulmonary, gymnastic exercises. It is pulmonary rather than bodily exercise and an increase in the depth rather than in the number of respirations, then, that is wanted. This accounts in a measure for the benefits derived from high altitudes, from horseback riding, and, to some extent, from carriage driving. But in the latter cases the change of the position of the body (without body exertion) brings it into contact with more air, or at least it brings the body more forcibly into contact with the air, the same as does increased velocity of the air, and this of itself stimulates respiration and increases the amount of air consumed. The main object, then, being to catch and consume as much available air as possible, the essential idea intended to be conveyed when contending for out-door open-air exercise is the living and revelling in the fresh air, rather than the taking of active exercise therein. But just to the extent that the volume of air consumed can be increased by sitting up, by moving leisurely about, or by being conveyed, as in a carriage or on horseback, from place to place without drawing on the weak stock of energy in bank, to that extent it is beneficial. Consequently a careful invoice of the energy in bank to the credit of the tissues should be taken by the physician and the patient before any exercise is recommended. Some of the indices to this are the number, force, and volume of pulsations, number and depth of respirations, the elevation of temperature, and the nervous susceptibility of the individual. The amount of stock, too, may be tested by drawing on it cautiously and temporarily, by going up and down a flight of stairs, lifting weights, or walking briskly a short distance. In each case the amount of energy exhausted may be approximated by the increased pulsations and respirations, the increased elevation of temperature, and the perceptible amount of exhaustion to the patient.

A temperature of 100° F., and especially of over 101° F., contraindicates any kind of exercise. Rapid, feeble pulse, quick, shallow respirations, much increased by slight exertion, and much exhaustion after slight exertion, indicate great feebleness, and call for much caution and discretion in deciding upon the character and kind of the exercise to be recommended. Some may recline on a couch, or sit up in a chair in the open air; others may, if they wish, play checkers or dominoes, read a magazine, or do light needlework; while others may go riding or driving, and even hunting, fishing, rowing; tennis and ball-playing may be engaged in by those who enjoy such sport, and those able to engage in them. Manual labor on a farm, driving a market-wagon, or canvassing, may be permitted by the more robust, not so much for financial as for physical gain. Hill climbing, flower, plant, and mineral gathering—something to make out-door exercise pleasant—are especially to be recommended. Those who look upon exercise as a task to be performed, and think the earlier it is commenced and the sooner completed, and the more energy expended the better the task will be done, usually return from such exercise entirely exhausted and much worse off, physically, than before they started. This is why a morning or evening's walk, horseback ride, or buggy drive, do not count for much. Instead of building up, they often exhaust the vital and physical energies on account of the haste that is taken and energy expended during such exercise. Fresh air is not a luxury to be indulged in only occasionally, at brief periods, and at long intervals, but to the consumptive, whose natural supply of fresh air is greatly reduced on account of defective pulmonary expansion, and whose blood is hourly becoming more and more impoverished, it is a constant necessity.

For him to seek fresh air at such periods is like starting on an important mission and making one step forward and three backward. The final result—complete failure—would inevitably be the same. In living

out of doors, however, some consideration must always be given to the most inclement weather, it is true; yet if properly prepared with water-proof, shoes, and wraps, the climate out doors must be very bad indeed if it is worse than badly ventilated houses. In any event, one cannot ordinarily wait to see if it is going to clear up, or if the sun will come out, while such enemies as the tubercle bacilli are invading, or even threatening to invade, the tissues, when the most effective method of obstructing their progress is by building fortifications out of the invaded or threatened tissue by filling them with new blood through fresh air and wholesome exercise. Fortify the strength and increase the number of the phagocytes in the blood, array them in one solid phalanx against the enemy, and in a large per cent. of cases they will come off victorious. If they cannot annihilate the enemy they can stop their further progress, imprison them in cavities, or encapsulate them in a net-work of fibrous connective tissue so effectively that they cannot make their escape. In climates where the atmosphere is dry and pure the patient should camp on the field at night; he should pitch his tent in the open air so that the enemy cannot take advantage of stagnant air in a close room, in which they like to carry on their deadly work, to recuperate their weakened forces and be ready to renew the attack in the morning. If the house must be occupied even during the night, it must be well ventilated from cellar to garret, and from centre to circumference. The bed is to be placed, not in the draught, it is true, but away from stagnant corners, where the patient can get the benefit of all the fresh air in the room. It has been well said that the greatest trouble about draughts is that they are not large enough. What constitutes a draught when the air enters at a small opening may not be even a gentle breeze when all the doors and windows are thrown open. The inequality in the temperature of the inside and outside air gives rise to draughts. The cold air on the outside rushes in through every little crevice to take the place of the evaporated, rarified air on the inside.

Perhaps rather thin flannel underwear is best at all seasons of the year while taking out-door exercise, as it will take up moisture without becoming damp and sticky, but even this should be changed frequently.

When it is absolutely impossible to take out-door exercise on account of the extreme inclemency of the weather, pulmonary gymnastics should be persistently carried on at home. Indeed, a consumptive should allow no day to pass without such exercise, even when other exercise is taken.

Constancy and regularity in such exercise can only be carried on under the supervision of a physician. The patient can no more be trusted, though his life be at stake, without some oversight by others, than an athlete preparing for the world's championship contest can be trusted to take the proper exercise without a competent trainer. The will cannot summon courage sufficient to meet such extra requirements of the body. With the body erect, as it should always be, and the head rather thrown back, full, deep, prolonged respirations should be taken for five to ten minutes, three to six times a day. The arms should be slowly raised from the sides in a circle till the hands meet above the head during deep inspirations, and then be lowered in the same way during exhalations. This should be repeated from six to ten times, then the arms should be raised and brought forward in a circle till the palms meet in front on a level with the forehead while the lungs are being inflated, then lowered or moved as far backward as possible during expiration; or better still, after the lungs have been fully inflated, while the arms are elevated or in front, the breath should be held while the fullest possible circles are made with the arms in every direction, tapping the chest occasionally with one and then with the other open hand, while weights, dumb-bells, or Indian clubs should be lifted from the floor by the side, or with arms outstretched till they are brought together, either in front on a level with the forehead, or above the head during inspiration, and then lowered during expiration. At least one-half hour should be devoted to such exercise every morning and evening, even when other exercise is taken, and two or three times as often in the open air when little or no other exercise is taken. It is well always to have some primary work on physical culture at hand, and study the various movements as they are described and illustrated.

These exercises should always be carried on in the open air, or where the windows are open. By such respiratory gymnastics the lungs are thoroughly inflated, the air reaching many nooks and crevices filled with stagnant residual air and lurking bacilli. For this reason, if for nothing else, the inhalation of non-irritating, volatile substances should always be recommended.

In order to interest the patients and insure their hearty co-operation, it is recommended by some to attach great importance to the medicaments used, and sometimes to use complicated apparatus in order to throw as much mystery around the treatment as possible. But usually this is not best. To intelligent patients it is always best to be frank, speak plainly, and tell the truth. Indeed, if a little pains be taken to explain the nature of the lesions, their course, and the effect of fresh air and constant inflation of the lungs, it is much better.

Complicated instruments should usually be discarded and irritating medication never used. While it has not been demonstrated that any specific influence is exerted on the tubercle bacillus by any method of antiseptic inhalation treatment so far used, yet it is agreed, with singular unanimity, that when non-irritating balsamic or volatile substances are used there is a decided amelioration of many of the most aggravating symptoms of the disease under such treatment. With almost equal unanimity, too, it is agreed that great benefit is also derived from continued deep inspirations, whether the inhaled air contains any medicament or not.

While I have unbounded faith in the ultimate success of the antiseptic inhalation medication, and believe that even now much good is derived from it, yet for the present the question of paramount interest is continued respiratory gymnastics, frequent, full respirations, constant, complete inflation of the lungs.

For this purpose some of the simple, cheap, vest-pocket inhalers, made of glass or hard rubber, are usually to be preferred to the more expensive, complicated atomizers and inhalers, and even to the much-lauded but cumbersome and unsightly muzzles to be worn over the mouth and nose. Evans's glass inhaler, which has a dilated end for the sponge, or Dennison's hard-rubber inhaler and exhaler, which has a roll of blotting-paper for medication in one end, will answer every purpose. They can be carried in the vest pocket, and a few drops of some non-irritating volatile or balsamic preparation, as terebene, oils of fir-wood, southern pine, or eucalyptus, thymol, creosote, or compound tincture of benzoin, dropped on the absorbent and inhaled ten to fifteen minutes six to ten times a day. It is not necessary, nor even advisable, that the medicine should be renewed every time the inhaler is used. Usually five to fifteen drops of one or more of the above preparations once a day will be sufficient. Whenever pain or any disturbance is caused by the use of any preparation, the quantity should be reduced, or its use discontinued altogether, for a while at least. Usually any existing nasal post-pharyngeal catarrh, laryngitis, or bronchitis, is very much benefited, and even the tuberculous process in the deeper portions of the air-passages are often benefited; cough is relieved, rest secured, appetite increased, and the condition of the patient much improved. The healing process is

facilitated by the increased amount of blood brought to the lungs.

No plan of hygienic treatment is complete without the daily bath—not for cleanliness alone, but for the purpose of stimulating the activity of the skin and superficial blood-vessels, as well as to remove all waste matter from the surface. To most persons a bath at night in cold or tepid water is the most agreeable. Others, more delicate, receive great benefit from the sponge-bath with a damp cloth, and then rubbed down briskly with a crash towel. Some prefer the bath in the morning, to which there is no objection. The one essential condition is that some kind of a bath or rub down be taken daily. Where a thorough bath is taken at night in water containing a little borax or aqua ammonia, it is well in many cases to anoint the patient thoroughly with fresh, clean lard, thoroughly beaten till it has the appearance of cream, or with cotton-seed oil, petroleum, or cocoa-butter. Whatever ointment is used should be delicately perfumed. The hands and feet should be kept warm, the bowels moved at least once a day, and rest and sleep at night secured. The uniform success attending the treatment of tuberculosis in sanitariums established for that purpose, a number of which are in successful operation in this country and in Europe, especially those conducted on the cottage plan, is due to the intelligent, systematic combination of the hygienic, dietetic, and medical treatment carried on at these institutions. Under the influence of the compressed, rarified, and medicated air-baths, nutritious diet, fresh air, and wholesome exercise, a large per cent. of patients improve rapidly, for a while at least, without any medicine whatever. For except in the best equipped hospitals it is here that the pneumatic cabinet and all the needed appliances are the most perfectly arranged and systematically applied to the needs of each individual case.

A BRIEF STUDY OF THE PHYSIOLOGICAL EPOCHS THAT PREDISPOSE TO INSANITY, WITH OBSERVATIONS ON THE MANAGEMENT OF EACH.[1]

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The grave responsibility of treating insanity in its incipiency rests in a greater degree on the physician in general practice than on the specialist in the diseases of the mind. Budding mental infirmities almost invariably come first under the observation and care of the family physician, and it is difficult to properly estimate the greater measure of success that can often be obtained when insanity is early recognized, its significance appreciated, and the disease properly treated. It is because of these indisputable facts that I feel justified in bringing this subject to the attention of a representative society like this.

Charles Mercier, an English alienist of distinction, sums up the causes of insanity in a concise and pleasing manner as follows: "Insanity is, in mathematical terms, a formula of two variables; that is to say, there are two factors and only two in its causation, and these factors are complementary. Both enter into the causation of every case of insanity, and the stronger the influence of one factor the less of the other factor is needed to produce the result. These factors are heredity and stress."

Now, while heredity and stress are words that admit of great breadth of meaning, as they must to include all cases of insanity, they constitute a very acceptable dual head under which to crystallize the inexhaustible list of active and contributory causes that give rise to mental degeneration. Moreover, we will find, when we come to study the various states of mental instability that arise directly out of the physiological epochs, that heredity and stress, with their subdivisions, constitute the only etiological factors. There is no variation from this.

There are certain well-defined physiological epochs that appear at fixed periods during the growth and development of the body. These epochs are all strictly physiological in the order and nature of their occurrence, save one, the epoch of heredity, and that may be said to be pathological, or patho-physiological. These epochs are six in number, and I have designated them as follows: 1, The Epoch of Early Childhood; 2, the Epoch of Puberty; 3, the Epoch of Maternity; 4, the Epoch of Heredity; 5, the Epoch of the Menopause; 6, the Epoch of Senility.

The epoch of early childhood covers the period from the end of the sixth month to the seventh year. Strictly speaking, the period should be regarded as an indirect epoch only, since insanity occurring so early in life is extremely rare. There are, however, frequent cases in which the accidents and incidents of early life facilitate the establishment of insanity in after-years.

The epoch of puberty in the female extends from the thirteenth to the fifteenth year; in the male from the fourteenth to the sixteenth year.

The third epoch covers the entire child-bearing period, from the fifteenth to the forty-fifth year. Insanity occurs more frequently during the first than during the last half of the period.

The epoch of heredity, I believe, has not had special attention called to it by writers in this country. A French authority, Régis, uses the term "Phrenasthenia" to include all forms of inherited insanity. The epoch of heredity is an important and variable one, and embraces that critical period in the life of every individual whose ancestors were accustomed to exhibit evidences of insanity on reaching a certain age.

The fifth epoch embraces the climacteric, and extends in women from the forty-third to the forty-fifth year. Rare exceptions may extend the line a little either way. It is, perhaps, the best-defined epoch of them all, inasmuch as the changes that occur during this period are most perceptible and oftenest lead to mental instability.

The sixth and last epoch, that of senility, or old age, needs no particular designation, but it is of interest to note that when the preceding epochs were not strictly physiological in their occurrence, that pathological conditions of mind are more apt to be encountered on the approach of extreme old age.

Returning now to the first epoch, that of early childhood, let us briefly review the accidents and incidents that are common to this period, and that may serve to render the child a fit subject for mental disorder in the future.

The first, and undoubtedly the most important of these, because it is the most universal, is dentition. Gowers is authority for the statement that one-eighth of all cases of epilepsy begin during the first three years of life; and adds that with rickets as a combining cause seventy-five per cent. of all cases of epilepsy that begin during the first three years of life are due to infantile convulsions ascribed to teething. Here the vicious tendencies of an inherited taint change a perfectly physiological process, that ought to be free from danger to the child, into a period fraught with influences of a most pernicious kind. Syphilis, chronic alcoholism, insanity, or epilepsy in the parent, stamp on the nervous system of the child a congenital taint that unfits it to cope with the serious disturbances that mark the steps of growth and development. Genuine epilepsy probably never occurs in the first instance out of difficult dentition alone. Epileptiform convulsions, however, do quite frequently arise from this cause, and these in time take on all the characteristics of genuine

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epilepsy, and finally become fully established as such. That insanity often follows in the footsteps of epilepsy is a matter of common knowledge. In the *Journal of the American Medical Association* for August 18, 1894, Wilmarth, gives some interesting facts regarding idiocy, epilepsy, imbecility, and insanity, as he studied them at the Pennsylvania Institute for Feeble-Minded Children. Out of 1,000 cases admitted to the institution he found 322 suffering from illness of such a nature as to require medical treatment and care prior to being sent from home. That is to say, 322 cases out of 1,000 were affected in such a manner as to indicate that medical treatment would possibly have brought about recovery.

This excluded of course all cases of congenital troubles that it was not possible for medical skill to relieve. It also excluded all cases in which congenital defect was even noted before the sixth month, that is, just prior to the commencement of dentition. But more important still, he found that the disorder in 75 cases out of the 322 was recorded as having begun during the spasms of dentition. Up to the sixth month 2 were recorded as having thus begun ; between the sixth and twelfth months, 29 ; between the twelfth and eighteenth months, 25 ; between the eighteenth and twenty-fourth months, 19. In these cases, likewise, hereditary taint was not perceptible prior to the first dentition. The growth of the child's brain is rapid, and anything that interferes with its nutrition is a serious matter. The period of most active growth is over at the seventh year.

Besides dentition a great variety of other causes are constantly acting on the organism of the young child that threaten to disarrange the adjustment of the more highly developed parts. Among these may be mentioned traumatism, blows and falls on the head, infantile paralysis, effects of excessive heat, mental shock, fevers of specific origin, diphtheria, whooping-cough, strictures and malformations of the genital organs.

It is not necessary that I should attempt to review the approved methods of treatment in all these cases. Such knowledge belongs to every physician. I desire to emphasize only my belief that in a vast number of selected subjects some of the physiological processes of childhood become distinctly pathological, and that prompt, active, and intelligent treatment will often avail in saving the mental life of the child.

Next comes the period of puberty. The excito-motor exaltation of the nervous system during the first dentition has also its parallel in the explosive condition of the nervous centres, in the higher plane of the cerebral activities, during the evolution of the generative functions, and the sexual divergence or the epoch of early adolescence. This period is, therefore, the second great trial of the constitutional powers of the subject, and is especially prone to reveal any dormant inherited vices. Indeed, such epoch may be characterized as one of the search-lights of the science of psychiatry, since it serves to reveal weak spots in the mental organization of every individual. The mental disorders that so frequently develop at this age are due to indirect stress of internal origin.

The period of puberty is fixed in the female between the thirteenth and the fifteenth years, and in the male from fourteen to sixteen. Pubescent insanity, however, may develop anywhere between the ages of fifteen and twenty-two. The pubescent epoch is attended with more danger to the female than to the male ; the reason of this is obvious. In the female the period consumed in passing through this stage is much shorter than in the male. The male attains maturity gradually, whereas the female acquires it almost at a bound ; consequently the shock is greater. The insanity of this period in the male is characterized by a silly, childish disposition ; depression that may terminate in profound melancholia, mental enfeeblement, bodily inactivity, and later on by systematized delusions that pertain chiefly to self. The manner of the origin of mental obliquity at this period is explained as follows : The period of puberty in the male is the transitional stage from boyhood to manhood. The psychical and physical life of the boy are threatened with extermination, as they have reached a period when carelessness, lack of judgment, natural egotism, and the sportive tendencies of youth are about to be superseded by the attributes that characterize the man. The conflict is inevitable, the result of the union of two opposing forces giving rise to a display of the mental symptoms above described. If the boy is not handicapped by inherited or acquired vicious tendencies that serve to lower nerve-tone he will escape mental blight at that time. But if he inherit a predisposition to insanity, to alcoholism, to epilepsy, or if he begin to masturbate, evidences of grave mental disorder quickly become apparent.

Insanity in the female at this period is essentially an acute neurosis. As before stated this is due to the shorter, sharper transitional period through which the girl is forced to go in order to reach womanhood. Acute mania is the form of insanity that is most frequent. The preponderance of the maniacal states over states of depression is also a feature of the insanity of the puerperal period.

After the acute stage has somewhat subsided evidences of intellectual derangement appear, and fixed delusions become manifest. Sometimes, however, melancholic perversions are noted, and marked by delusions of persecutions and fears of impending evil.

Hallucinations of the special senses appear in about one-fourth of the cases in both sexes. Visual and aural hallucinations predominate, and sixteen per cent. of such cases entertain ideas of poisoning, and religious delusions are not uncommon. The prognosis in such cases is very good, when uncomplicated by hereditary taint, since nearly eighty per cent. get well. The management and treatment of insanity in the pubescent stage consists in the early removal of the patient from home, should prejudicial influences exist there. Nourishment should be given in an easily assimilable form, and the secretory organs should receive special attention, since they are peculiarly liable at this period to sluggish action. Sleep should be secured by open-air exercise. Narcotics and sedatives should not be given unless imperatively demanded ; only when insomnia has existed for several nights in succession, in spite of an observance of the above means, are sedatives admissible ; of these we have many to choose from and I need not enumerate them here.

The menstrual irregularities of this epoch will require special attention. In cases where the rate of development has been excessively rapid, and where the nutritive and assimilative capacities have been overtaxed by the demands of the growing organism, anæmia of a most troublesome form is often encountered. Here a strictly hygienic regimen is to be enforced, and iron, preferably in the form of the carbonate, freely given. The extract of nux vomica and rhubarb in pill form are of service, and I have seen excellent results follow the use of malt extract in combination with the compound syrup of the phosphates, in such cases.

The third epoch embraces the child-bearing period. The puerperal state, in the wider sense in which Repping uses the term, has more important relation to the causation of insanity than the other physiological periods, not excluding those of the climacteric and of the senile evolution. During pregnancy, during labor itself, which is sometimes accompanied by extreme transitory frenzy, and during lactation, the mental life of the woman is in peril. Insanity occurring during pregnancy is more frequent in mothers who are about to bear illegitimate children. The elements of grief and remorse, as they affect the emotional sphere, account for this fact. The mental anomalies of this period vary all the way from simple morbid appetites

to well-marked melancholia with well-marked suicidal impulses. The transitory frenzy occurring during labor, mentioned above, is dependent either on the extreme agony of childbirth, or it appears as the forerunner of delirium of the puerperal state. Infanticide and suicide are acts common to the subjects of this condition. Hereditary predisposition increases the gravity of the attacks of this period. Insanity following childbirth may develop suddenly after delivery, or may come on gradually after evidences of nerve exhaustion; when it begins suddenly it almost always takes the form of acute mania. Out of sixty-eight puerperal cases studied by Bevan Lewis, forty-five, or sixty-six per cent., suffered from mania, while only thirty-three per cent. showed states of depression. The symptoms in acute mania comprise intense excitement, great incoherence, continuous garrulity, and a dangerous explosiveness, which is manifested in acts of violence and destructive tendencies. Visual and aural hallucinations are frequent, being present in about eighteen per cent. of such cases. Delusions of a varied character are present in over sixty per cent. Impulsive acts are common, leading most frequently to attempts at suicide. The etiology of this disorder is interesting, but cannot be discussed here. The treatment is most important; in the majority of cases it is a good practice to begin it with a saline aperient. Search for the cause of fever. It may be due to putrescible matter in the uterine cavity, or to septic absorption through a raw surface of a rupture or tear, or it may be due to peritonitis, phlebitis, or an inflamed mammary gland. If it is due to septic absorption, measures must be promptly instituted to check further infection; a vitiated condition of the blood may demand the free use of iron, but none of the chalybeate preparations should be given until all traces of acute excitement have subsided.

The infant must be early removed from the mother's care. The mother's diet should consist of milk, beef-tea, broths, and eggs, and should be administered in small quantities at frequent intervals.

To secure sleep chloral, potassium bromide, sulfonal, or paraldehyde should be given. My personal preference is paraldehyde in two-drachm doses, or more if required, given in a small quantity of port wine. Warm baths often suffice to produce refreshing sleep, and, when practicable, deserve a trial before medicines are given.

Insanity occurring during lactation differs in no essential feature from that which occurs just after childbirth.

The fourth epoch, that of heredity, requires only brief mention. The form of insanity that develops at this period is determined very largely by the form of insanity with which the ancestors suffered. And it is especially prone to occur in the offspring at nearly or about the age at which it became manifest in the parent. An instance recently came under my observation in which the members of a family for four generations suffered more or less from insanity just as soon as they reached a certain age. In the first generation only one person was insane, in the fourth, four are now or have been insane.

The fifth epoch embraces the menopause. The psychic manifestations attendant upon this critical period are well marked. For women who have an inherited tendency to mental disease, or who have suffered from previous attacks of insanity during one of the former epochs, this period has added dangers. The type of insanity common to this period is constant; painful mental states invariably prevail.

Doctor Skae characterizes the alienation occurring at this period as follows: "A monomania of fear, despondency, remorse, hopelessness, passing occasionally into dementia." Fifty-five per cent. of cases at this period are of the depressed type. Acute maniacal conditions sometimes exist. The suicidal impulse is frequent, more than one-half possessing it. The prognosis may be considered as favorable, if inherited weaknesses do not prevail, and if the subject has not previously been insane.

The treatment consists mainly in a tonic regimen, out-door life, strict attention to dietetic matters, and change of environment. Anæmia must be met by the administration of iron, preferably the ammoniated citrate of iron, and in combination with small doses of arsenic. Such patients often require artificial feeding, and we have four methods of accomplishing this to choose from. Sleep usually has to be secured by artificial means—chloral hydrate in a single large dose, or paraldehyde, is to be preferred.

The sixth and last epoch is senility, and I will make only brief reference to it. The most common form of insanity at this epoch is senile dementia; it is questionable, however, whether we are justified in regarding this form of dementia as a separate and distinct psychical disorder, dependent upon pathological conditions of its own. Senile dementia is really nothing more or less than the physiological loss of mind. Retrograde changes occurring in the brain, in the form of widespread atrophy, give rise to the symptoms common to extreme old age.

Senile mania and senile melancholia occur as distinct disorders. In senile mania we usually have simple maniacal excitement without any obvious involvement of the intellectual faculties. Such attacks are marked by incessant garrulity, severe disturbance of the emotional sphere, restlessness, persistent insomnia, incoherence of speech, and outbursts of passion. When uncomplicated by hereditary taint, or previous alcoholic excesses, such cases usually recover. But they must not be mistaken for one of a series of excitements that usually terminate in dementia.

Senile melancholia is a frequent accompaniment of the physiological involution of the brain on the advent of senility. The tendency to suicide is strongly marked in this condition, seventy-nine per cent. of such cases showing this tendency. But little can be said of the treatment of these cases. The most important thing to do is to maintain so close a supervision of the patient that self-destruction will be impossible. The most satisfactory results I have obtained from the use of any drug in treating the insanities incident to old age have come from the use of opium. Nature in the second childhood seems as susceptible to its influence as in the first childhood. When there is great restlessness and fixed insomnia, the use of opium, beginning with small doses, has a happy effect. Moreover, in persons who have lived the allotted time of threescore years and ten, the danger of establishing the opium habit is not to be feared so much as if the patient was still in the prime of life.

Antivivisection and Polo-playing.—We notice that the editor of *Our Dumb Animals* is starting a war on polo-playing. Polo-playing, according to our contemporary, is "a meaner sport than prize-fighting. It is," he says, "cruel and brutal, and one which ladies that profess to respectability and refinement ought to be ashamed to countenance." This same gentleman, who thus attacks polo, offers a prize for persons who detect evidence of vivisection, and gives over his own signature a most extravagant eulogy of a certain cholera and dysentery syrup, which, he says, "cured a lady at Rye Beach, who was not expected to live through the night," and "cured a lady in Maine, who was in great agony, which the doctor did not relieve."

A Prominent Sanitarian asserts that if all the cholera germs in the world were dumped into Lake Michigan, Chicago would be in no danger. We are a little in doubt whether this assertion is meant to be considered a tribute to Chicago's greatness, or the diluent power of Michigan water.

ACUTE ŒDEMA OF THE LARYNX, WITH REPORT OF A CASE.*

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ACUTE œdema of the larynx is, fortunately, a rare affection, so rare and of such gravity as to warrant the reporting of the following case:

On January 24, 1895, I was called to attend J. G——, whom I found suffering from a mild attack of la grippe, which was epidemic at that time. The patient, a stout, florid male of Irish birth, about forty-eight years of age, a dealer in masons' supplies, had been drinking both spirits and malt liquors for two years, and growing stout, until he had reached a weight of two hundred and thirty-five pounds. His average weight for the six preceding years had been somewhat less than two hundred pounds. His attack of la grippe proved a mild one, its most prominent symptom being a constant spasmodic cough, without any marked pulmonary lesion. I saw him but three times. On the 29th he seemed quite well, and he was left with a caution against exposure. The patient had always enjoyed good health, and finding confinement to the house irksome, returned at once to business. Four days later I was called to see him again, when he was suffering from acute amygdalitis and pharyngitis. This yielded promptly to treatment and the patient had so far improved, that on my visit on February 4th I told him that I would not call again for two days. We were at that time having the coldest weather of an unusually cold winter. The patient again recklessly exposed himself, and I was hastily summoned early on the morning of February 6th. He had passed a restless night and I found him sitting in a chair, breathing with some difficulty; his voice was hoarse and he coughed, but without expectoration. Examination of his chest revealed no lesion. His temperature was 100° F. and pulse 112. The posterior wall of pharynx and the larynx were much congested, the aryepiglottic folds and the ventricular bands were somewhat swollen. I prescribed warm steam inhalations, gave tincture aconite internally, and directed that he make frequent use of hot nourishing fluids.

The symptoms grew rapidly worse and by 7 P.M. his condition was truly alarming. He was restless, incessantly moving about and demanding that the windows be opened, that he might get more air. He was cyanotic and his expression anxious. His respirations were short and rapid, all the accessory muscles being brought into the utmost activity. Inspiration was stridulous, expiration not so much obstructed, while the voice was nearly suppressed. Swallowing was all but impossible, apparently more from mechanical obstruction than from pain, though the latter was considerable. His temperature had risen somewhat, being 102° F., pulse, 130. On examination with the laryngoscope, nothing but the epiglottis could be seen. This appeared enormously enlarged in every direction—doubtless the apparent elongation was due to the angle at which the tumefaction forced it to stand. The œdema was greatest at the sides, and this had the curious effect of doubling the epiglottis upon itself. Its upper free edge was not œdematous, for anatomical reasons pointed out by Hajek[1], but it was intensely congested, and the mucous membrane covering it seemed thickened and loose. On each inspiration the lateral edges of the epiglottis approximated posteriorly, and then this thickened and loose mucous membrane on the upper free edge collapsed, falling in like a valve, narrowing still further the small chink through which the patient breathed. I conclude from this appearance that the arytenoids and aryepiglottic folds, which I could not see, and owing to the intense dyspnœa I did not dare attempt to explore with my finger—were so swollen that the epiglottis in its unnatural position rested upon them, and the patient got air only through the curious opening just described. A condition of the epiglottis similar to this has been reported by Baron.[2]

Earlier in the day I had planned to intubate, should that promise to afford relief, but after this view of the parts decided to scarify instead. Guided by the mirror I made deep incisions first upon the right side of the epiglottis and then upon the left. I was surprised to see my incisions as gaping clefts in a mass of gelatine, followed by little hemorrhage or exudation of serum and no apparent shrinking of the œdematous tissue. The excitement of the patient and his struggle for breath were making him so restive that it became apparent that if anything were to be accomplished by scarification it must be immediately. Accordingly further free incision was made into the tumid mass. This was followed by more free bleeding, and evidently some of the fluid entered the larynx, as a spasm was at once excited and attended by most frightful dyspnœa. I seized a bistoury, intending to plunge it into the trachea. This is not so simple a matter when the patient, a man of two hundred and thirty-five pounds, is standing in bed and tearing wildly at his throat. After watching the patient a moment, and being convinced that he was getting air enough to prevent immediate suffocation, I did what I could to calm him and sent for Dr. J. W. Hurley, the nearest physician, to assist in performing tracheotomy. The severity of the spasm gradually subsided and the patient could breathe with less terrific effort. A hypodermic of morphia was administered which aided still further in the relief of spasm of the larynx. Leeches were applied over the larynx and following them, a cold coil.

When the excitement had sufficiently subsided to allow of noting the pulse it was found dangerously rapid and weak, and free stimulation was required for some days. The coil was worn almost continuously for three days, and the air of the room kept constantly moistened. The œdema of the epiglottis continued sufficient to prevent a view of the arytenoids until the fourth day after the scarification, when they, as well as the aryepiglottic folds, were still œdematous.

The patient had been ill to such a slight degree, up to the time of the laryngeal symptoms, that my attention was not called to the condition of his kidneys. No specimen of urine could be secured on the night of the 6th, the urine being suppressed. The first specimen of urine was small in quantity, of dark color and high specific gravity, containing albumin and casts. It was noticed by the 8th that his lower extremities were œdematous, and he became somewhat delirious. Casts were found only at the first examination, and the albumin disappeared from the urine in two weeks from the onset of the laryngeal symptoms. The convalescence was slow. Although the element of danger involved in the laryngeal stenosis seemed to have passed in about three days, the patient did not recover sufficient strength to allow of his return to business for two months from the beginning of the original attack.

I shall but touch upon the history of the subject, as this has been so exhaustively treated by many writers, and shall consider only acute œdema affecting the upper part of the larynx.

According to Mackenzie,[3] the ancient authors show no clear knowledge of the disease. Morgagni in 1765 gave the first correct account of it, founded upon post-mortem examinations, but the literature of the subject dates from its scientific portrayal by Bayle, in 1815. In 1852 Sestier, who had gathered a vast amount of statistical evidence, issued a standard treatise, and this author had since been quoted by every writer who has treated the subject with anything like thoroughness.

That the disease is a comparatively rare one is shown by the fact that the Index Medicus for 1885 had no

* Presented as a candidate's thesis to the American Laryngological Association, and accepted by the Association at its Seventeenth Annual Meeting, June 17, 1895.

reference to a case of this affection; also by the investigation of Peltesohn,[4] who found that of 5,161 patients treated in a clinic for diseases of the throat and nose, between April 1, 1887, and June 1, 1889, there were only eight cases of acute œdema of the larynx. Of these seven were men between twenty-one and forty-eight years of age, and one a woman fifty-eight years of age. Seven occurred in connection with local inflammatory conditions. The etiology could not be determined in the eighth. Systemic disease could not be discovered in any of the cases. This number of cases is less than one-fifth of one per cent., and these were from a throat clinic. The per cent. in a general clinic would be small indeed. Peltesohn also examined the records of autopsies made under charge of Virchow, between 1873 and 1878, with the following results: In 3,887 examinations, œdema of the larynx was noted 210 times—149 in men, 40 in women, and 21 in children. The majority of men were between the ages of eighteen and sixty years, and women, between twenty-one and fifty-four years, while 13 of the children were less than five years of age. Forty-four cases were due to local, and one hundred and thirty-six to systemic, disease. It is thus seen that men are much more liable to the affection than women, and that relatively few cases occur in childhood.

Etiology.—The causes of the affection are many and various. The influence of age and sex is marked, as appears from the above statistics, while those of Sestier are similar. The influence of exposure to cold is seen in the fact that the greatest number of cases occur during the winter season. Recent writers seem inclined to the theory of infection as a common cause. Exposure to cold, or any similar condition which reduces the resisting power of the mucous membrane of the larynx, makes possible the very entrance of streptococci or pneumococci, bacteria which are at all times to be found in the mouth and nose. Such is the opinion of Garel,[5] Barjon,[6] and Kuttner,[7] and bacteriological examinations, as reported by them, have shown the presence of the bacteria named. Primary erysipelas of the larynx, first alluded to by Radcliffe,[8] but thoroughly investigated by Massei,[9] belongs to the diseases of infectious origin and falls into this category. Massei is quoted by every recent writer upon the subject of œdema of the larynx, and has the support of the best authorities. Virchow[10] says that these acute cases of œdema of the larynx, on closer analysis, prove to be cases of erysipelas of the larynx. Anatomically, erysipelas is but an œdematous swelling. At first Massei was inclined to base his diagnosis upon the presence of Fehleisen's coccus, but recent investigations[11] have proven that it is impossible to differentiate between this and staphylococcus pyogenes aureus; and he now depends upon three principal points in the clinical aspect of the case: the rapid dysphagia, the character of the œdema—as its livid color and easy displacement—and the remitting temperature.

Acute œdema may occur during the course of systemic disease. Some renal disease is mentioned by writers as the one most often thus complicated; but this must evidently be rare, for Mackenzie[3] examined the larynx in two hundred cases of Bright's disease without finding œdema present in a single instance. Albumin is often present during a grave case of œdema of the larynx, but according to Barjon[6] this is to be looked for as a usual accompaniment of the local disease, and the urine is free from albumin within two, or at the latest three, weeks. This was true in my case, the albumin disappearing in about two weeks. It may occur in the case of small-pox, typhoid fever, diphtheria, scarlet fever, or any of the exanthems.[12] A curious neurotic affection closely connected with urticaria, and characterized by the sudden appearance of circumscribed areas of œdema in different parts of the surface of the body, has been described by Osler in a paper read before the Philadelphia Neurological Society.[13] The larynx may be invaded by the same process. The term angio-neurotic œdema has been applied to this condition. A case of this kind was reported by Pryor.[14] The patient, a healthy male, thirty years of age, a dentist, developed a sudden œdema of the larynx without ascertainable cause. This reached a dangerous degree of infiltration, but under active treatment subsided, and the man resumed work within forty-eight hours of the attack.

Cases af acute œdema following the use of iodide of potassium have been reported by Avellis[15] and by Baumgarten[16] and others. I have seen one such case in a woman of about thirty years of age, in whom so small a dose as twelve grains three times a day for two days produced decided symptoms. It may occur during the course of rheumatism affecting the crico-arytenoid articulation. It may occur from traumatism, scalds, the presence of a foreign body, the swallowing of corrosive poisons, or the inhalation of flame.[17]

Recently several cases have been reported as following or complicating la grippe. Dr. Robertson[18] reports three such cases in children, the youngest eight months old, the oldest seven years. Rhu[19] reports three cases in adults. Tucker[20] describes a case of septicæmia occurring during the prevalence of la grippe, complicated by œdema of the larynx. In this case the true cords were much involved in the œdematous process. The cases following la grippe should perhaps properly be classed with those due to infection. I do not know of any bacteriological examination in this connection, but all the conditions necessary to infection are present, the patient being debilitated by disease and the bacteria present in the throat ready to set up infection. Indeed, several of the cases reported followed a faucial or pharyngeal inflammation. One by Rhu[19] complicated a posterior pharyngeal abscess and terminated fatally. Serous effusion into the larynx may also occur as the result of an obstruction to the return of venous circulation, caused by the presence of an aneurismal or other tumor in the cervical or upper thoracic region;[19] and in the various forms of cardiac disease, and the direct complication of specific forms of inflammation of the larynx, as syphilis, tuberculosis, and perichondritis.[21]

Pathology.—The disease is due to a transudation from the blood-vessels into the submucous connective tissue, and this transudation is most abundant in those parts in which there is the most connective tissue, that is, in the aryepiglottis folds, the ventricular bands, and the anterior face of the epiglottis to within a short distance of its free edge.[1] It is exceedingly rare that this process involves the true vocal cords or extends to the subglottic region. This character of the œdema produced varies greatly. In those cases which have been called primary erysipelas of the larynx, the exudation is superficial and the parts are easily drained of the contained serum by scarification. According to Massei, as quoted by Garel, the appearance is quite like that of a nasal myxoma in color, and the tumor, easily displaced, is of a trembling gelatinous consistency. In the most acute and rapidly fatal cases pure serum only is found.[3] It must be in these cases that scarification is followed by such prompt, not to say magical, results.

In certain cases the network of submucous connective tissue holds the imprisoned serum so tightly within its meshes, that, as Bayle expressed it, it cannot be squeezed out. This, however, does not prevent the œdema from gradually emptying itself through the punctures made in scarification.[22] It is in these cases that the immediate results of scarification are disappointing. One may be led by his reading to anticipate prompt relief to the dyspnœa upon incising the œdematous tissue, but in this form the patient may for a brief period be thrown into a still more alarming state. The flow of blood following incision may enter the larynx and excite spasm so severe as to threaten instant suffocation. In the phlegmonous variety, which, according to Kuttner,[23] may be regarded as a

later stage of the serous, the transudation changes to sero-purulent, or becomes purulent with abscess formation. In this event the abscess is usually limited to one side.[13] Mackenzie says the pus is always diffused, circumscribed abscess never occurring as a sequel of acute inflammation of the larynx. Post,[24] however, reported an autopsy upon a case in which he found fibrinous exudation in the larynx with points where suppuration had occurred.

Symptoms.—The attack may be ushered in by a chill, but the temperature following is not usually high; 101° F. was noted in my case. This chill may simply be the result of exposure to cold. Cough, hoarseness, and pain are observed, but the symptoms of prime importance are those referable to respiration. Owing to the rapid infiltration, especially in the serous form, respiration is early obstructed, and the infiltration often advances so rapidly that within twelve hours of the attack the patient's condition becomes one of great gravity. Inspiration is at first more obstructed than expiration, as the swollen tissue tends to roll in, and, valve-like, to close the larynx, while expiration is not so much interfered with.

The rapid progress of the disease is well illustrated by the case reported by Edes.[25] The patient, an athlete in excellent health, aged thirty-five, after exposure to cold had a chill followed by faucial inflamtion. A few hours later he suddenly sprang out of bed, said he was suffocating, ran a few steps, and died within a few moments. At no time previous to the final seizure had there been any complaint of difficulty in breathing, nor had dyspnœa been noticed by the attendants. The autopsy showed a marked degree of œdema of the submucous connective tissue of the epiglottis, aryepiglottic folds, and cords.

The voice, at first not much altered, becomes gradually hoarse, and later may be lost or only a hoarse whisper, due to the overhanging masses of swollen tissue, the interarytenoid tumefaction, or to infiltration of the muscles themselves. The cough is unproductive. It seems to be an effort to rid the throat of what the patient describes as some foreign body. Pain is not always severe, but an effort to swallow, especially if the epiglottis is involved, causes distress, chiefly because of the mechanical obstruction. The patient assumes the sitting posture, seeking some support for his hands, that the auxiliary muscles aiding respiration may be brought into the fullest possible activity. The face becomes first flushed, then cyanotic, and the whole body trembles from the excitement and the muscular tension required to sustain respiration. The symptoms are aggravated at night, for, as the patient falls asleep, the conscious effort to aid respiration which has been maintained during the day is suspended. The urine is scanty and of high color, and in the grave cases contains albumin.[6]

Diagnosis.—In acute laryngeal stenosis we have to determine whether the given case be one of œdema or of foreign body in the larynx. The history of the case will usually afford some aid; but the laryngoscope is to be relied upon not only for differential diagnosis, but at the same time to reveal the degree of the stenosis. One also gains a knowledge of the location and character of the œdema, whether it be superficial serous exudation or the intense congestion indicative of phlegmon. Palpation has been employed, but it is brutal and not devoid of danger, as it may excite dangerous spasm of the larynx. Barjon mentions an interesting point in external palpation. If one seize a healthy larynx between the thumb and fingers, and pressing it backward upon the spinal column, give it a lateral movement, there is produced a very perceptible crackling sound, caused by the spring of the cartilage against the vertebra. In laryngeal œdema the infiltration of the posterior portion of the larynx forms an isolating cushion which prevents this crackling sound.

Prognosis.—This is always grave except in those rare cases in which the œdematous process is limited, as to one side of the larynx. Even the apparently mildest case may develop a rapid œdema which proves fatal within a few hours. Much depends upon the stage at which the case comes under observation, and the promptness and vigor with which measures for relief are employed. Those cases of superficial serous œdema, if seen early, offer better hope of recovery than those of the phlegmonous variety. Primary œdema is less likely to prove fatal than secondary. Prospect of recovery in the latter depends in part upon the general disease or the local condition with which it is associated. Secondary œdema coming on in connection with typhoid fever and small-pox is likely to be fatal.

The period of the most urgent symptoms does not usually last beyond three or four days. If the infiltration has not reached a suffocative degree within that time it will probably not be the direct cause of death.[21] There, however, remains the danger of complications—pneumonia, septicæmia, or cardiac involvement—and in any case of continued dyspnœa the convalescence is likely to be prolonged because of the patient's great prostration.

Sestier, quoted by Mackenzie,[3] found that the affection proved fatal in 158 out of 213 cases in spite of tracheotomy performed thirty times. In the 55 cases which recovered tracheotomy was performed twenty times. Bayle's[3] statistics are much less favorable, as he reports 17 cases with 16 deaths. It would be interesting to know if the mortality is less at present by reason of treatment. I have not found statistics of any large number of cases, but those I have gathered from medical journals of the past few years make a much better showing. They are, however, not numerous enough to allow of any definite deductions. There is the suspicion, too, that only the more favorable results secure publication.

Treatment.—After attempting to read even one of the exhaustive and laborious German monographs upon the subject of œdema of the larynx, in which the history of the subject, its etiology and bacteriology reveal a faithfulness of research which excites one's admiration—and proves at the same time a trifle appalling—it is a relief to come to the subject of treatment.

Notwithstanding the gravity of the condition which confronts one, and the conflicting ideas on etiology, there is a reassuring definiteness in the plan of treatment; and in a portion of the cases the response to vigorous and well-timed measures of relief is prompt and gratifying. If a case be seen at the beginning of an attack, the treatment for a severe acute inflammation of the larynx is to be recommended. The inhalation of warm medicated vapor, the use of diaphoretics, the maintenance of the patient's room at an equable temperature, 72° F.—with the air moistened by the vapor of boiling water; and at a later stage the application of leeches over the region of the larynx, to be followed by the continuous use of the cold coil. The sucking of pellets of ice is also to be recommended. Upon the appearance of œdema, however, scarification with the laryngeal lancet should be performed. By the aid of the laryngoscope this can easily be done, for, in spite of the struggle for breath, patients readily and quietly submit to the operation. In those cases of superficial œdema the relief which follows scarification is spoken of as little less than magical; but it is well to remember that the particular case before one may be that of more solid œdema, in which the exuded serum is held tightly imprisoned in the meshes of the connective tissue, so that the serum drains off but slowly and little relief immediately follows the scarification. Indeed, spasm of the larynx may be excited and for a time the patient's condition seem even more critical. This method of affording relief was first employed by Lisfranc in 1823,[3] but the operation fell into

disuse. It was first done in this country by Buck,[26] who reported cases in 1848. He was led to the adoption of the method by his own reasoning, not being aware that it had previously been employed. During a period of eleven months he saw the surprising number of eight cases. Five of these he scarified, and all of them recovered.

Lennox Browne[21] recommends the hypodermic injection of muriate of pilocarpine, one twelfth to one-fourth a grain, and the *International Medical Magazine* for 1892, Vol. I., contains a report of two cases in which the use of one-eighth grain hypodermically was promptly followed by the constitutional effects of the drug, and within an hour there was marked subsidence of the laryngeal œdema. In serous œdema Garel[5] recommends the application of pure tincture of iodine after cocainizing, and reports good results from its use.

Various drugs, as cocaine, astringents, etc., have been sprayed into the larynx, and while these may be of some avail, one should not temporize too long in their use, but employ scarification, which is to be repeated if necessary. The recurrence of œdema, however, is less likely to take place if one persists in the use of the cold coil and pilocarpine. The temperature is not usually sufficiently elevated to call for attention. It should, however, be watched as affording a warning of the beginning of complications. Of these, pneumonia and septicæmia are the most frequent.

In case all the measures suggested fail to afford relief, then tracheotomy should be done, nor should this be delayed till the patient has become so exhausted as to render the operation almost hopeless. Intubation[27] has been performed in several cases, and will have a limited application in this affection, especially in those rare cases where the cords or the parts immediately adjacent are principally involved. One should be prepared either to intubate or perform tracheotomy, as may seem indicated. The exhausting character of the affection must be borne in mind, and feeding, stimulation, and tonic medication receive careful attention, both during the attack and during the convalescence, which in many cases is prolonged.

[1] Hajek: Archiv. für klin. Chir., xlii., pp 46-93, Berlin, 1891.
[2] Baron: British Medical Journal, December 17, 1887.
[3] Mackenzie: Diseases of the Pharynx, Larynx, and Trachea, p. 200. William Wood & Co., 1880.
[4] Peltesohn: Abstracts in Sajous's Annals of the University of Medical Sciences, 1890, vol. iv.
[5] Garel: Annales des Maladies de l'Oreille, du Larynx, Paris, July, 1891.
[6] Barjon: Gazette des Hôpitaux, Paris, May 19, 1894
[7] Kuttner: Larynxödem und submucöse laryngitis, Berlin, 1895.
[8] Radcliffe: Lancet, 1835.
[9] Massei: Ueber das primäre Erysipel des Kehlkopfs, Berlin, 1886. (German translation)
[10] Virchow: Verhandlungen der medicinischen Gesellschaft, Berlin, May 11, 1887, i., p. 80.
[11] Kuttner: Pages 43 and 44.
[12] Bosworth: Diseases of the Nose and Throat, vol. ii., p. 543.
[13] Osler: American Journal of the Medical Sciences, vol. xcv., p 362.
[14] Pryor: MEDICAL RECORD, July 28, 1894.
[15] Avellis: Wiener med. Woch., Nos. 46 to 48, 1892. (Abstract of Journal of Laryng. and Rhin., 1894.)
[16] Baumgarten: Deutsche med. Woch., 1892, No. 9. (Abstract of Journal of Laryng. and Rhin., 1894.)
[17] Arnold: System of Diseases of the Ear, Nose, and Throat, vol. ii., p. 318, Philadelphia, 1894.

INTESTINE CONSTRICTED BY VERMIFORM APPENDIX—OBSTRUCTIONS—OPERATION—RECOVERY.

BY DWIGHT H. MURRAY, M.D.,

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ON Friday, June 14th, at 5 P.M., I was called by Dr. J. A. Belch to see Wesley D——, aged seven and a half years. The following history of the case was given:

On Monday, June 10th, he had eaten very heartily of "potted meat;" on Tuesday he vomited and purged five or six times, which was followed by a very severe pain in the bowels, so that "he danced about the house," as the mother expressed it. This vomiting and pain continued until Thursday, June 13th, when the father consulted Dr. Belch at his office, thinking it unnecessary for the doctor to call at the house, saying that it was a bilious attack.

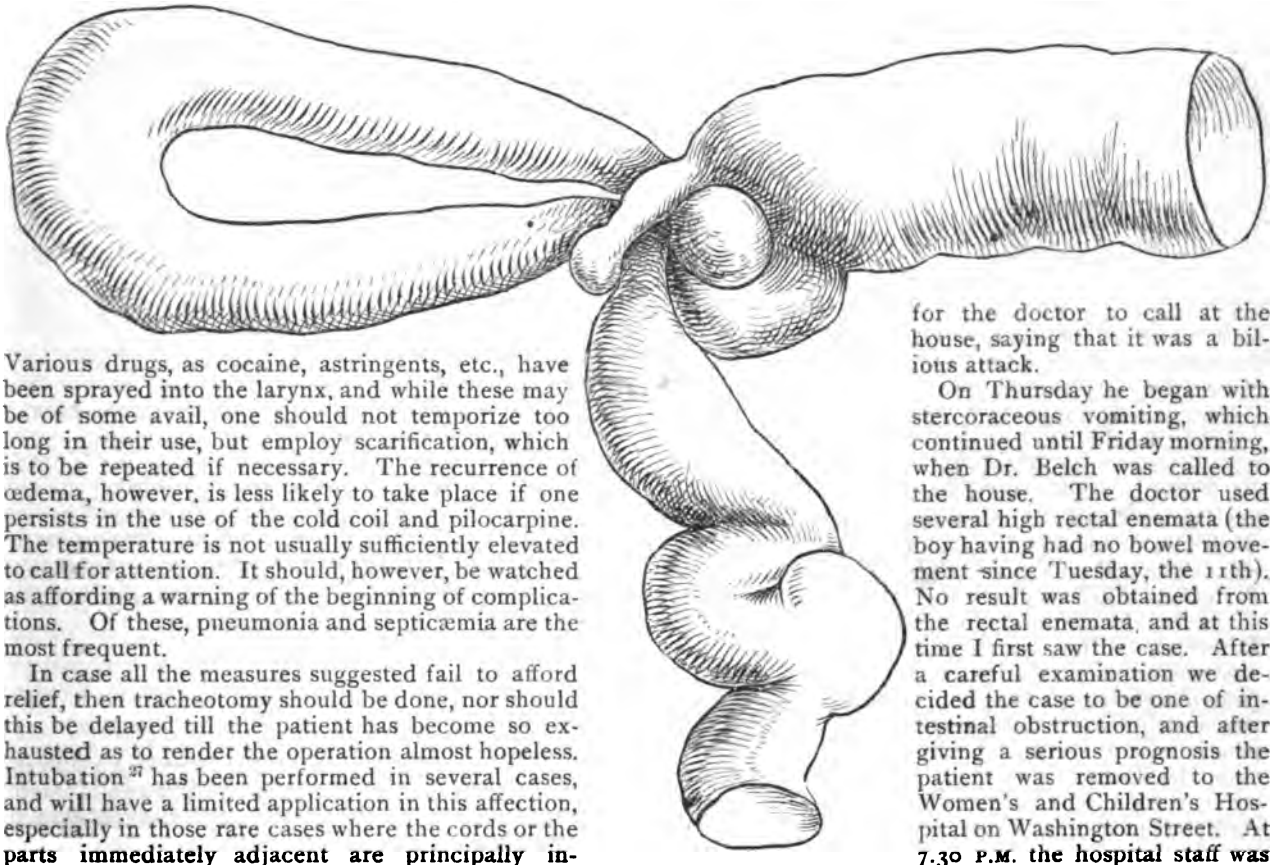

FIG. 1.

On Thursday he began with stercoraceous vomiting, which continued until Friday morning, when Dr. Belch was called to the house. The doctor used several high rectal enemata (the boy having had no bowel movement since Tuesday, the 11th). No result was obtained from the rectal enemata, and at this time I first saw the case. After a careful examination we decided the case to be one of intestinal obstruction, and after giving a serious prognosis the patient was removed to the Women's and Children's Hospital on Washington Street. At 7.30 P.M. the hospital staff was called together and after consultation it was decided to defer operation until morning, continuing high rectal enemata of glycerine and saturated solution of magnesium sulphate, alternating each hour, and applying hot stupes externally. At 8.30 P.M. a large quantity of stercoraceous material was vomited, after which the patient rested quietly all night.

At 8.30 A.M. on the 15th, the hospital staff, with the addition of Drs. Heffron, Alfred Mercer, and Belch met, all preparations having been made for operation. The boy having passed a comfortable night, and his general condition being good, he was placed upon the table at

[18] Robertson: Northwestern Lancet St. Paul, December 1, 1892.
[19] Rhu: International Medical Magazine, Philadelphia, 1892, vol. i., p. 839.
[20] Tucker: Chicago Medical Record, 1892, vol. iii., p. 40.
[21] Brown: Diseases of the Throat, 3d edition, p. 299.
[22] De Blois: Transactions of the American Laryngological Association, 1886.
[23] Kuttner, p. 61.
[24] Post: New York Medical Press, 1859, p. 557.
[25] Edes: Boston Medical and Surgical Journal, February 4, 1886.
[26] Buck: Transactions of the American Medical Association, vol. i., p. 135.
[27] MEDICAL RECORD, May 5, 1888, p. 409; Chicago Medical Record, 1892, vol. iii., p. 41; MEDICAL RECORD, September 10, 1887, p. 355.

9 A.M. A careful examination was given under an anæsthetic; no tumor or other evidence of obstruction except constipation being present, it was advised to give a dose of calomel and wait a still longer time. Several high enemata were given through a long, stiff, rectal tube, with no result except the clear water returning. At 2.30 P.M. ten grains of calomel were administered, stupes continued, and three high enemata were given before 9 A.M., Sunday, the 16th, no further vomiting occurring. I again saw him at 9 A.M. on the 16th, and feeling that no further time should be lost called the staff together, and it was agreed to operate, which I did at 12 M., assisted by Dr. Breese; anæsthetic given by Dr. Wynkoop. Present, Drs. A. B. Randall, R. C. McLennan, F. W. Sears, Alfred Mercer, and J. A. Belch.

Median incision was made, the presenting gut held by Dr. Breese. I followed the gut down to the right iliac fossa, where I found a hard mass, which was brought up into the incision and proved to be the obstruction, which was caused by the vermiform appendix wound around a loop of the ileum, over and under, the end of the appendix having passed upward from the back side of the mass between the ileum and the caput coli. The end of the appendix was enlarged and slightly adherent to the ileum by newly formed adhesions. The constriction was very tight, producing complete obstruction to the gut. It was with difficulty that the appendix could be pulled away from the ileum so that the constricted loop of the intestine could be drawn through the knot that had been tied. When this was done, however, the appendix lay free in the abdominal cavity, the end of it being clubbed, then a narrow portion under the enlargement, and the remainder being of normal size, as shown by Figs. 3 and 4. The appendix was two inches in length, and was removed at a point one-half inch from the caput coli. Figs. 1 and 2 show, respectively, the front and back views of the obstruction as it existed at the time of opening the abdominal cavity.

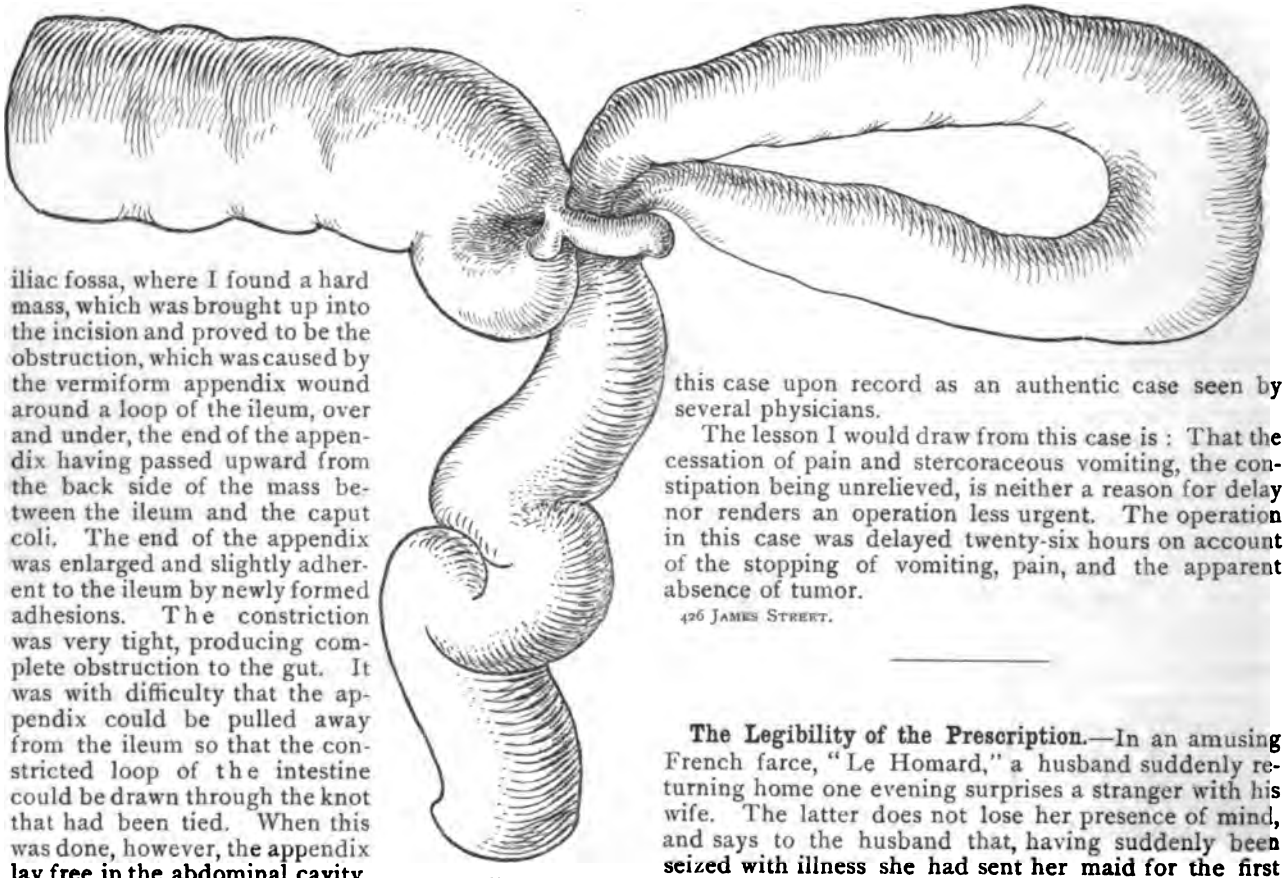

FIG. 2.

FIG. 3.

FIG. 4.

The time of operation was twenty-five minutes; the recovery from the anæsthetic was good, no vomiting. At 2.45 P.M. he passed one ounce of urine and had a small movement from the bowels, which was thin and dark brown in color; at 3.45 an involuntary movement of the same character. Between this time and 6.10 P.M. he had three other movements; at 2 A.M. a formed movement, and from this time to the time of his discharge from the hospital there were no bad symptoms of any kind, the temperature only going to 101° F. at 9 in the forenoon after the operation, falling to normal at 5 the next morning, never going to 100° after that. He was discharged from the hospital July 5th, entirely recovered.

This form of intestinal obstruction, so far as I have been able to find from the literature, is very rare, if not unique. Dr. Treves in his work on intestinal obstruction states that this form of obstruction has been claimed to have existed, but that it is difficult to credit it. On this account I feel that it is important to place this case upon record as an authentic case seen by several physicians.

The lesson I would draw from this case is: That the cessation of pain and stercoraceous vomiting, the constipation being unrelieved, is neither a reason for delay nor renders an operation less urgent. The operation in this case was delayed twenty-six hours on account of the stopping of vomiting, pain, and the apparent absence of tumor.

426 JAMES STREET.

The Legibility of the Prescription.—In an amusing French farce, "Le Homard," a husband suddenly returning home one evening surprises a stranger with his wife. The latter does not lose her presence of mind, and says to the husband that, having suddenly been seized with illness she had sent her maid for the first available doctor, and that this gentleman was the doctor. The husband thanks the gallant for his speedy appearance, and asks if he has already prescribed anything. The gallant, who, of course, is not a doctor, tries to make himself scarce; but the anxious husband insists on having a prescription, so that the Galen, bathed in cold perspiration, is compelled to give one. The husband casts a glance at it; it consists of wholly illegible marks. "And will the chemist be able to read that?" asks the husband, shaking his head. "As if it were print," asseverates the false physician, again trying to make his escape. The husband, however, adjures him to remain, and holds him fast till the maid returns from the chemist. In a few minutes she makes her appearance. The Galen prepares himself for a catastrophe. No. The maid brings a phial of medicine, a box of pills, and some powders. "Did the chemist give you those?" demands the Galen in bewilderment. "Certainly." "On my prescription?" "Of course it was on your prescription," replies the astonished maid. "Has the chemist made some mistake?" interposes the troubled husband. "No, no," our Galen hastens to reply; but he contemplates the medicines for a long time and becomes lost in reverie.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

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OYSTERS AND TYPHOID FEVER.

PROFESSORS HERDMAN and Boyce recently presented to the British Association for the Advancement of Science a report upon the cultivation of oysters and their relation to typhoid fever and other diseases. This report is the result of an experimental inquiry into the effect of oysters of various external conditions, including pathogenic organisms. This country, which is such an extensive consumer of oysters, ought not to be indebted to European scientists for knowledge regarding the relation of oysters to infective diseases. For some reason, however, not very much has been done here in this direction, except to investigate certain special epidemics. The facts established by Professors Herdman and Boyce, therefore, should be of much practical value to oyster growers and oyster consumers. The observations of the gentlemen in question showed that oysters were very much benefited by having plenty of air, or, in other words, by being supplied by water in which there is an active change produced by tidal or other currents. They established the fact that oysters can be made to grow fat or to become sick and die, according to the kind of food with which they are supplied. The oyster is, for example, very much harmed by the action of sugar, and it does not thrive upon oatmeal. The oyster is injured also by the micro-organisms that develop in stagnant water; on the other hand, it seems to tolerate sewage very well, and it was found that it even has a certain capacity for clearing contaminated water of its sewage. It can even live for a prolonged period in water, made quite opaque by the addition of fæcal matter. It was further established, though this fact was already known, that the oyster takes up the micro-organisms that are in the water about it. They are found, however, more plentiful in the pallial cavity than in the rectal, showing that the organisms are, to a certain extent, digested. The typhoid bacilli, in particular, were found to decrease in number as they passed down the alimentary canal. The most important practical point, perhaps, reached by the experimenters, was the determination of the fact that oysters could be practically cleansed of all their pathogenic germs by a suitable process of feeding, that is, by supplying them with a sufficiency of clean, aerated water. Professors Herdman and Boyce found, as others have done, that the typhoid bacillus does not grow in salt water.

RAILWAY DISCOMFORTS.

THE report, which we give briefly in another column, of the International Conference on Railway Hygiene, suggests that very much helpful work might be done by organizations of this kind. We have plenty of societies of railway surgeons, and we have a copious supply of insurance companies of all kinds. We have also very many enterprising railway companies, but there is no organization which takes upon itself the task of supervising or suggesting measures for the sanitary improvement of railway travel. We, in America, boast often of the superiority of our cars, and of our tracks, and of the swiftness of our express trains, but those who travel much cannot fail to see there are numberless deficiencies, which a little more intelligence and care on the part of railways might correct. The ventilation, for example, of our so-called parlor-cars is admitted to be an utter failure. The cars are close and stifling in winter, and hot beyond endurance in summer. There seems to have been no real intelligence or special skill in ventilation applied to the architecture of the American parlor-car. The question of smoke, and dust, and cinders, is one also which deserves attention, from a sanitary point of view. The harm done to the eyes and to the mucous membrane of the nose and respiratory tract, by the constant inhalation of more or less carbonaceous particles, is certainly very considerable, and one that must eventually amount to something to the commuter. The question of the water-supply upon cars and of the food furnished upon them and at railroad stations, is also one that well deserves the supervision of the sanitarian. In fact, if a national congress on railway hygiene were organized in this country, we feel sure that it would be able to secure a great many interesting papers, and would, perhaps, stir up a sentiment in favor of better and more sanitary conditions of railway travel, the result of which would be to keep a great many of the Americans, who now go to Europe, at home.

TWO MILLIONS OF PATIENTS.

THERE is a doctor in St. Louis who says that he has treated two million cases of insanity in the last thirty years. This statement, we understand, was made while he was serving in the capacity of an expert on the witness stand. He subsequently affirmed the correctness of the statement in a letter to the *Medical Weekly*.

Two million cases in thirty years means 66,666 cases every year. This means 182 cases a day. Allowing that the doctor, with this active practice, slept only six hours and worked the remaining eighteen seeing his two million cases, this would give him about ten cases of insanity every hour in the day, or one every six minutes. This, of course, is quite a possible feat, but it shows an extraordinary activity on the part of the St. Louis mind. The more fairy-like side of the tale comes out when one studies the source from which the two million cases of insanity came. If the statistics of this country are correct, there have not been two million cases of insanity in all United States, within the last thirty years. There may be uncounted millions of

lunatics, however, in Missouri, being so near to Kansas. But upon the whole we fear that the esteemed expert must have been suffering somewhat from an expansive delusion in regard to his experience in insane matters. We have heard of people who, having had a few minutes interview with a lunatic, felt as though they had seen sixteen, and no doubt this sense of numerical exaggeration which attacked the St. Louis doctor, was due to some such subjective influence as this. Still, it would have been more to the credit of Southwestern medical expert testimony, if arithmetic were a branch of science carefully studied. At present it seems as though there is one medical expert who lisped in numbers, because the numbers came.

A MENACE TO PUBLIC HEALTH.

The Board of Health of this city has recently had its attention directed to several cases of flagrant violation of the sanitary code through the transportation in public conveyances of patients suffering from contagious diseases. The danger of spreading disease by such means would seem to be apparent to even the most ignorant of laymen, yet it is said that many physicians are guilty of this practice. Nearly every week, so it is stated by Dr. Benedict, chief inspector of contagious diseases, patients are brought from their homes to the Willard Parker Hospital in public cabs, and on inquiry it is found in many cases that this is done on the advice of the family physician. In other cases the physician has simply directed that the patient be taken to the hospital, but has given no directions as to how the transportation shall be effected. The friends then have the alternative of taking the patient in a public carriage or, worse yet, in a street car. If a cab is used, the vehicle is seized upon arrival at the hospital and disinfected, and the danger to others is comparatively slight; but when the patient goes in a street car, there is practically no limit to the number of persons exposed to contagion both during the transit and afterward.

This could be avoided by merely notifying the Health Board, when an ambulance will be sent to transport the patient. When so simple a remedy is at hand, it seems strange that any physician would permit himself, or his patient, to incur the expense of a carriage, expose others to the risk of contagion, and moreover violate a law, for which there is a penalty of $250 and imprisonment.

MESCAL BUTTONS.

Drs. D. W. Prentiss and Francis P. Morgan publish, in the *Therapeutic Gazette* for September 16th, an account of some experiments made with the mescal button, a vegetable substance of which the botanical name is *Antralonium Lewinin.*

The attention of the medical world was first attracted to this drug by Lewin, but, aside from his observations, little attention has been given to this substance. The mescal button is obtained from a plant which grows in a valley of the Rio Grande, in Mexico. The tops of the plants when dried constitute the commercial form of *Antralonium Lewinin.* They are brownish in color circular, and from one to one and a half inch in diameter. The button is hard and can be pulverized in the mortar with difficulty. In the mouth, however, under the action of the saliva, it swells and rapidly becomes soft, giving a nauseous and bitter taste, with a marked sensation of tingling in the fauces. Two or three alkaloids have been abstracted from this substance, as well as some resinous bodies. The mescal button is said to be used by the Indians in connection with some of their religious ceremonies. Upon certain festal occasions, the Indians seat themselves in a circle around a large camp fire; then they begin to swallow the buttons, one after another, until ten or twelve are taken during the course of the night. A sort of reverie or quiet intoxication is produced, and the participants in the ceremony continue under the influence of the button until sundown or noon of the next day.

The therapeutic investigations made by Drs. Prentiss and Morgan consisted simply in the administration of buttons in different doses to six different adults, noting the effects. Not more than three or four buttons were taken, as a rule. The result produced seemed to be in all cases somewhat alike. The most striking was the development of visions, ranging from ill-defined flashes of color to most beautiful figures, landscapes, dances, etc. The principal feature of the visions was the color effect. The pleasurable effect of the drug seemed to be mainly due to the development of these entrancing visions. The effect upon the muscular system was depressing, and there was at no time any general stimulation or intoxication, such as is produced by alcohol. Dilatation of the pupil was well marked in all cases, and this persisted for twenty-four hours. Partial anæsthesia of the skin was present in three of the cases; the heart action, if anything, was somewhat depressed; the respiration was unaffected; the stomach was sometimes irritated and nausea was felt. The drug is not a sleep-producing one, but has rather the contrary effect. No constant disturbance of the pulse, skin, or the temperature was noted. The drug seems to have an effect to some extent resembling that of Indian hemp, and in a slight degree that of cocaine. According to the description as cited above, its effects are on the whole somewhat unique. We ought to add that Lewin reports one case in which the drug was taken experimentally by an adult, and in which it produced a rapid rise of pulse, headache, and difficulty in respiration, which was so great that the patient's life was imperilled and he became unconscious.

It is possible that when the various constituents of the drug are obtained, and their effects carefully studied, we may have in the mescal button an addition to our Pharmacopœia of some value.

The State Board of Health of Missouri has issued regulations regarding the requirements of persons who intend to study medicine. The minimum requirement recognized by the Board is one which demands the presentation of a diploma of graduation from a good literary or scientific college or high-school, or a first-grade teacher's certificate.

BRAIN INJURY AND CONSCIOUSNESS.

THE article in the MEDICAL RECORD, of October 12th, by Dr. Hrdlicka, upon a case of extensive traumatic brain lesion, affords an interesting commentary upon the question of the amount of injury which the brain can receive without consciousness being lost, or the mental functions being very seriously impaired. This subject has been occupying the attention of some of our contemporaries in the last few weeks. In a recent murder trial, it seems that a woman was shot with a pistol while in bed, and it is claimed that she rose, spoke to her husband, and walked through several rooms to the rear of the house. The prosecution assert that, with such a wound as she received, she could not have spoken or walked, but would have relapsed at once into unconsciousness. The description of the wound seems to show that the bullet must have passed pretty nearly horizontally through both frontal lobes. All surgical writers agree as to the great tolerance of the brain to injury, when in particular the latent portions of the brain are affected. In connection with the particular medico-legal case referred to, comes up the history of the celebrated Yankee who, through a premature explosion, received a tamping-iron in his head, destroying a considerable portion of his frontal lobes without very serious after-effects. In Dr. Hrdlicka's case, however, there was some serious immediate effect due to the shock, as there was also in the tamping iron case, and it is, so far as experience goes, extremely unlikely that any human being can sustain the effects of the concussion and shock, that would be produced by a ball passing through the brain, without, at least, a temporary disturbance of consciousness.

News of the Week.

Medical Society of the State of New York.—The following gentlemen constitute the business committee for the next meeting of the State Society, to be held in Albany during the last week in January: Dr. H. R. Hopkins, of Buffalo, Chairman; Dr. Nathan Jacobson, of Syracuse; and Dr. J. M. Winfield, of Brooklyn. Members desiring to present papers are requested to promptly notify the Chairman of this Committee. Addresses have been promised by Professor William Pepper, of Philadelphia; Professor James H. Etheridge, of Chicago; and President Eliot, of Harvard University, who will speak on the subject of "Medical Education of the Future."

Johns Hopkins University, Baltimore.—Dr. W. W. Russell has been appointed Associate in Gynecology, and Dr. Thomas S. Cullen Instructor in Gynecological Pathology, in the Johns Hopkins University, Baltimore. Dr. Otto Ramsay has gone to Freiburg for a year to study gynecological pathology under Professor E. Ziegler.

The Hartford Medical Society have purchased a centrally situated building site for the location of the Society building, for which Mrs. Mary C. Hunt left them a legacy of $20,000, provided they acquired a site, free from encumbrance, upon which to erect a building exclusively for the use of the Society, as a memorial to her husband, the late Ebenezer K. Hunt, M.D.

Errata.—In Dr. Hayward's article on "Honey in Erysipelas," read *heat* swelling instead of *heart* swelling. In Dr. Baruch's article, on top line, second column, p. 472, read *borine* instead of *bovine*. On fifteenth line from bottom, second column, p. 474, read "has rarely failed," instead of "rarely fails."

Railway and Marine Hygiene.—Among the numerous conferences of an international character which have been held during the fall, is one which took place at Amsterdam, September 20th, and which was concerned with the hygiene of railway and marine travel. The conference was started by certain Dutch officials, and the gentlemen taking part were mainly from Holland and England. The question of the examination of eyesight of railway employees was the only one that seems to have been extensively discussed. The speakers reported a very great improvement in the methods of such examinations, and also in the extent to which they were applied. In France, England, and Holland eye-tests are required, but not in Belgium. Dr. Zwaardemaker, of Utrecht, read a paper upon the importance of the acoustic examination of railway servants, and urged that every railway man should have at least one ear possessing normal acuteness. Papers dealing with the question of medical aid on railway trains were read, and also papers on "Overwork," on "Traumatic Hysteria," the "Disinfection of Stations and Restaurants."

Telling the Story of Surgical Progress.—A weekly religious paper, *The Independent*, has recently published a series of articles by a number of prominent American surgeons, of which the object is to show to the public how great a thing is modern surgery. There is no question whatever as to the wonderful progress made in surgery in modern times, but we observe that modern surgery has never lacked sweet singers to chant its praise, as the mighty wheels of the chariot of its progress go rolling along. We believe thoroughly in allowing the public to estimate the medical profession at its full worth, but it sometimes seems as though the exploitation of the wonders of surgery was a little overdone, the result being, that as soon as a person has any ailment of any part of the body, the people at once want to have it cut out.

Typhoid Fever in Washington.—The Health Office of Washington states, October 11th, that an epidemic of typhoid fever exists in that city. During the last week, at least six hundred cases were reported. The epidemic is attributed to the lowness of the water in the Potomac River (from which the city is supplied), and to the use of well-water in families.

Congress of Physiologists.—The International Congress of Physiologists held its annual meeting at Berne, Switzerland, on September 9th, 10th, and 11th. Professors Goltz and Ewald showed a dog all of whose spinal cord had been removed, from the middle dorsal region downward. The removal had been performed at three different operations, during a year and a half, and the animal had survived the last operation two

years. There was a degeneration of the muscles below the line of the lesion, but the animal had retained power over the sphincters, both of the bladder and rectum, and since the last operation had given birth to pups. Dr. Demoor, of Brussels, showed that an actual anatomical change takes place in the processes of the cortical nerve-cells in animals to which a strong dose of morphine or chloral hydrate has been given. Professor Herzen, of Lausanne, read a paper in which he brought evidence to show that the spleen exerts an important influence on pancreatic digestion. Professors Hürtle and Mosso showed a new apparatus for the determination of blood-pressure in man. Dr. Jacquet, of Basle, read a paper on "The Influence of Cold Baths on the Circulation in Fever." He showed that in fever the red blood-cells disappear from the systemic veins and collect in the loin and abdominal veins, and that cold baths prevent this, while antipyrin does not. Professor Mosso read a paper on "Respiration and Circulation in Man at High Altitudes." These studies were made at a height of 15,000 feet. Mosso found that at this height, during repose, respiratory exchange is less.

The Congress accepted an invitation from Professor Foster to hold its next meeting at Cambridge. Dr. Bowditch, of Boston, was elected one of the presidents.

Medical Morals.—The *British Medical Journal* contains a medico-ethical column, in which the serious problems of medical etiquette are gravely discussed and judiciously decided. The editor of this ethical section has recently discussed the question of whether charges should be made for attendance upon the wives of medical men. The question is answered in the negative, and now the query is raised, should charges be made for attendance upon the husbands of medical women.

A Railway Surgeon in Trouble.—The path of the Western railway surgeon is not always strewn with roses. Dr. R. V. Smith, of Cleveland, O., was recently sued for $25,000 for an alleged malpractice. The plaintiff was a man who was injured while working for one of the Western railroads, of which Dr. Smith was the surgeon. The company is said to have settled with the patient for a certain sum of money, but, despite this, the plaintiff claims damages for maltreatment, and we presume that the company will promptly deny its responsibility, and shift it on to their poor servant, the railway surgeon. At any rate, it is stated that railway surgeons, who work under contract, are not thereby necessarily protected from malpractice suits. The companies, to be sure, generally protect the surgeons, but they are not obliged to do so.

Antirabic Sero-Therapy.—*The Lancet* publishes a series of articles by Drs. Tizzoni and Centanni on the subject of the use of the serum of animals protected against rabies. Their investigations extended over a long period, and the conclusions they have reached seem the result of a very careful work. They assert that by taking the serum of animals that have been protected against rabies, and preparing this for digestion by means of pepsin, they have secured an antirabic serum which protects animals better than is done by the original Pasteur method. The value of this preparation has so far been only tested upon animals, but if it should prove to be what its originators claim, it will do away with the expense of Pasteur institutes, for the serum can be dried or made antiseptic, and kept so that anyone can use it. It is to be hoped, therefore, that the new antirabic serum will really prove to be of value.

Artificial Human Milk.—A Berlin physician has devised what seems to be a rather novel method of imitating the modern milk. Cow's milk is fermented by means of rennet, and the whey thus obtained is carefully sterilized, and then enriched, as required by different individuals, by the addition of cream.

The Medical and Surgical Reporter has moved back its publishing office to Philadelphia.

Obituary.

FREDERIC M. WARNER, M.D.,

NEW YORK.

DR. FREDERIC M. WARNER died at his residence in this city on October 9th, at the age of thirty-eight. A man of bright attainments, of sterling professional zeal, of brilliant future promise—his death is not alone a loss to the medical fraternity, but also to the community.

Dr. Warner was born in Jersey City, July 14, 1857. He was educated at Lehigh University, and was graduated at the College of Physicians and Surgeons, New York.

After a protracted sojourn in Europe, he began the practice of medicine in this city in 1881, and at the time of his death he had acquired a large general practice, and for a man of his years no inconsiderable consulting work. His special leaning was toward internal medicine in particular diseases of the heart and lungs. In these affections he was a most astute diagnostician, and he possessed the rare faculty of being able to impart his knowledge to others in terse, descriptive terms, which marked him as a brilliant, clinical teacher. His solicitude for the patients under his charge at the City and the French Hospitals will long be remembered by his colleagues. His unique devotion to his patients, whether pauper or rich, irrespective of personal comfort or health, profoundly impressed those who had the privilege of knowing him well. He was just beginning to publish in the medical press the results of his observations in hospital and in private practice, and he was of material assistance to Dr. J. Lewis Smith, in the preparation of the last edition of "Diseases of Children." From the inception of the enterprise he had contributed to the "Annual of the Medical Sciences" (Sajous).

At the time of his death, Dr. Warner was a member of the Committee on Library of the Academy of Medicine, and of the Committee on Ethics of the County Medical Society. He was visiting physician to the City Hospital, and special consultant for heart and lungs at the French Hospital.

Reserved in manner, upright in action, steadfast in purpose, those who were admitted to his friendship could not help but love as well as admire him. Although young, he has left an impress suggestive of a most brilliant future.

Dr. Warner was married to a daughter of Dr. J. Lewis Smith. The widow and two children survive him.

Reviews and Notices.

ATLAS OF THE DISEASES OF THE SKIN. By H. RADCLIFFE CROCKER, M.D., F.R.C.P. Physician to the Department for Diseases of the Skin, University College Hospital; formerly physician to the East London Hospital for Children, etc. Edinburgh and London: Young J. Pentland. New York: Macmillan & Co.

FASCICULUS Eleven of this series of plates has now been published. The illustrations comprise: Lichen Planus Acutus; Lymphangiectodes; Papilloma, with Xeroderma Pygmentosum, Milium, Acne Vulgaris, and Tinea Circinata.

The first represents, in a striking manner, acute lichen planus of the trunk; the arms being free. The second plate has four figures showing groups of lesions of different appearance upon the trunk, neck, and inner surface of the lip. The picture of xeroderma resembles closely the other cases which have become familiar, but shows, in addition to the characteristic lesions, a large papilloma occupying the region of the ear. The next plate illustrates, very well, milium in an infant, showing in a second figure lesions upon the hand, and in another, grouped lesions about the eyelids in an adult. Fig. 4 is a group of milium following pemphigus; and Fig. 5, grouped comedones of childhood.

Two large figures are devoted to acne; one beautifully showing acneiform folliculitis of the buttocks, the other being of a rather aggravated type of acne vulgaris of the back. The last plate has four figures, the largest being of a maplike ringworm involving the trunk and arms of a child; the other showing different varieties of lesion upon the nape of the neck, the arm, and buttock. In the latter the circular patch has not cleared in the centre, and the whole area is filled with minute papules more or less covered with fine scales. The general high character of the work, to which we have already referred, is being maintained both in text and illustration.

PRACTICAL DIETETICS, with Special Reference to Diet in Disease. By W. GILMAN THOMPSON, M.D., Professor of Materia Medica, Therapeutics, and Clinical Medicine in the University of the City of New York; Visiting Physician to the Presbyterian and Bellevue Hospitals. New York: D. Appleton & Co. 1895.

DR. THOMPSON has rendered good service in preparing this volume on dietetics, for the subject is one upon which comparatively little has been written, and concerning which, it is safe to say, even less is known by the ordinary physician. Yet no one will dispute that the regulation of the diet in many diseases is at least as important as the administration of drugs.

The first chapters are devoted to a description of the various foods, their mode of preparation, and their value in nutrition. Following these is a chapter upon digestion and the special conditions which affect it favorably or injuriously. Then the author takes up the subject of diet in disease, devoting to this the second half of the work. After treating upon the diseases caused by improper food, by over-eating, or under-eating, the subject of feeding the sick is taken up, and treated in general very satisfactorily. The concluding pages of the book contain a chapter on army rations, hospital dietaries, milk, grape, and other "cures," athletic training, the relation of diet to occupation, etc.

The work will be found a useful supplement to the accepted treatises in therapeutics.

MEDICAL AND SURGICAL REPORTS OF THE BOSTON CITY HOSPITAL. Sixth Series. Edited by GEORGE B. SHATTUCK, M.D., W. T. COUNCILMAN, M.D., H. L. BURRELL, M.D. Boston: Published by the Trustees. 1895.

THIS excellent publication, which the editors announce will probably be henceforth an annual, contains twenty-five papers and reports upon the cases treated in the Boston City Hospital during the past year, embracing a great variety of subjects.

INDEX CATALOGUE OF THE LIBRARY OF THE SURGEON-GENERAL'S OFFICE, UNITED STATES ARMY. Vol. XVI., W–Zythus. Washington: Government Printing Office. 1895.

THIS volume, which is probably the last to be issued under the personal supervision of Dr. Billings, completes the alphabet and is therefore the final volume of the first series. The second series, including the titles of books and articles received too late for insertion in the first series, of which the manuscript is already prepared, will comprise five volumes of the same size as those of the first series. An appropriation for the printing of this first volume has been made by Congress, and we are therefore assured that there will be no delay in its publication or in that of those that are to follow.

TRANSACTIONS OF THE MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA, at its Forty-fifth Annual Session, held at Chambersburg, 1895. Vol. XXVI. Philadelphia: The Edwards & Docker Co. 1895.

TRANSACTIONS OF THE MEDICAL SOCIETY OF THE STATE OF CALIFORNIA, Session of 1895. San Francisco: W. A. Woodward & Co. 1895.

THESE reports of the meetings of two of the most important State societies contain a number of valuable and interesting papers. It is to be regretted, however, that they should be practically buried in this way, instead of being given to the world through the columns of some live journal.

TEXT-BOOK OF PRACTICAL THERAPEUTICS. By HOBART AMORY HARE, M.D., B.Sc.; Professor of Therapeutics and Materia Medica, Jefferson Medical College, etc. Fifth Edition. Enlarged and thoroughly Revised. 8vo, pp. 740. Philadelphia: Lea Brothers & Co. 1895.

THE fifth edition of this admirable work has been somewhat enlarged and thoroughly revised. A distinguishing feature of the work is a discussion of the antitoxin treatment of diphtheria. The author is a believer in this new method, and gives a very lucid description of its rationale, embodying the advanced views on the subject. As we have remarked concerning previous editions, the work is of exceptional value to the general practitioner who is ambitious of obtaining the most recent and advanced views of leading therapeutists, as well as the opinion of an acknowledged authority.

THE SCIENCE AND ART OF OBSTETRICS. By THEOPHILUS PARVIN, A.M., M.D., LL.D.; Professor of Obstetrics and Diseases of Women and Children, Jefferson Medical College, Philadelphia, etc. 8vo, pp. 685. Philadelphia: Lea Brothers & Co. 1895.

THE general plan of this classical work remains substantially unchanged in its third edition, although some of the subjects have a different order. Additions of great practical value have been made, and nearly one-third of the work has been rewritten. As a whole it is destined to maintain its hold in obstetric literature as one of the leading works of its kind. The experience of the author as a veteran teacher gives him great advantages in the practical treatment of his subjects, which, added to a perspicuous and graceful style, leave nothing to be desired in the full appreciation of a model of its kind.

A SYSTEM OF SURGERY. Edited by FREDERICK TREVES, F.R.C.S. Surgeon to and Lecturer on Surgery, London Hospital, etc. Vol. I., pp. 1152. Philadelphia: Lea Brothers & Co. 1895.

THE progress which surgery has made during the past few years has made its impress upon the literature of its art and practice. The richness and extent of contributions in that line are manifest by the number of excellent treatises that are constantly making their appearance, giving the experience of the leading teachers. Mr. Treves's work is one of these, which is destined, as far as can be judged by the showing in the first volume now before us, to take a leading place. Following what appears to be the better accepted plan of special contributors to different departments, he has secured as his collaborators many of the leading surgeons of Great Britain. Each writer has striven, from a concise and practical standpoint, to exhaust his subject within the space allotted, and to carry out the spirit of the treatise by "presenting concisely and with authority an account of the science of surgery as it exists at the present day." The illustrations are numerous, well placed, and are mostly original in character. Two plates are introduced showing the bacteriological character of infectious discharges, but are hardly up in point of detail execution to the other illustrations so plentifully and judiciously sprinkled throughout the text. The number and variety of subjects treated in the present volume can be duly estimated by the following list: Surgical Bacteriology, by German Sims Woodward, M.D.; Inflammation, Suppuration, Ulceration, Gangrene, Syncope, Shock, and Wounds and Contusions, by W. Watson Cheyne, F.R.S., F.R.C.S.; Erysipelas, Pyæmia,

Tetanus, Tetany, Burns, and Scalds, by C. B. Lockwood, F.R.C S.; Military Surgery, by Surgeon-Major Andrew Duncan, I.M.S., etc.; Anæsthetics, by Frederick W. Hewitt, M.D.; Infectious Surgical Diseases and Rickets, by George Henry Makins, F.R.C.S.; Tuberculosis, Rickets, Hæmophilia, and Surgical Hysteria, by the Editor, Frederick Treves, F.R.C.S.; Syphilis and Gonorrhœa, by Jonathan Hutchinson, Jr., F.R.C.S.; Injuries and Diseases of Blood-vessels, and Aneurism, by A. Pearce Gould, M.S., Lond.; Injuries and Diseases of the Lymphatics, by John H. Morgan, F.R.C.S.; and lastly, Injuries and Diseases of the Nerves, by Anthony Bowlby, F.R.C.S.

To such as are acquainted with Mr. Treves's Operative Surgery, no prediction will be necessary for the success of the present work.

Progress of Medical Science.

The Paralysis of Infancy.—The following convenient classification of these paralyses is given by the Madrid correspondent of the *Medical Press:*

Painful Paralysis of Children.—Was described by Chassaignac in 1855, and by Brunon in 1893. It is a temporary functional paralysis, of which the pain is an essential symptom. Prognosis is favorable. Diagnosis is made by the evanescent character of the affection, and the pain accompanying it, though there is no lesion of the articulations or bones.

Syphilitic Pseudo-Paralysis of Parrot.—Occurs only in infancy. The epiphyses are attacked, and crackling can be got between the epiphysis and the diaphysis as if they were separated. The affected limb appears totally paralysed. The muscles of the face, neck, and of respiration are never affected. No sensory troubles, except pain on movement. The sphincters are not affected. Electrical examination gives negative results.

Cerebro-spinal Syphilis.—The paralysis involves also the face; the epiphyses are not affected.

Syphilitic Paralysis of Peripheral Origin.—Diagnosis is based on the fact of the integrity of the bones, and on the modification of the electric reaction. When the syphilitic origin of the paralysis is not clear, diagnosis from infantile paralysis is made by considering the rapidity and fever with which this latter presents itself, the generalness of the paralytic phenomena, and the absence of pain.

Litle's Malady.—Is a congenital spasmodic paraplegia of the four extremities, more marked in the lower, and occurring in children born prematurely. It is not accompanied by convulsions or psychical phenomena. It cannot be confounded with spasmodic tabes, for this belongs to adolescence and tends to grow worse.

Spasmodic Infantile Hemiplegia.—Is congenital, or manifests itself soon after birth; begins with convulsions. There are athetetic movements with convulsive crises, which, when they are bilateral, may be confounded with epilepsy. There is loss of intelligence, if not idiocy. The growth of the bones is hindered. As etiological factors, cysts, areas of cerebral softening, meningeal hemorrhage, meningo-encephalitis, and sclerosis have been found.

Friedreich's Disease (Hereditary Ataxy).—Does not present phenomena of motor inco-ordination. Is not congenital. Nystagmus and defective speech are present. The lightning pains, anæsthesia, and trophic changes of locomotor ataxy are wanting.

Primary Myopatias.—Pseudo-hypertrophic paralysis and atrophic myopatia are forms which present themselves in childhood. Thomsen's malady is a congenital form characterized by spasmodic rigidity of the voluntary muscles, which shows itself on beginning to make a movement.

Infantile Paralysis.—There is initial fever. The paralysis affects many muscles at first, and then becomes restricted to groups of muscles, or individual muscles. No sensory disturbances, and the intelligence remains normal.

Pott's Paralysis.—Frequent in infancy and youth. Follows disease of the dorso-lumbar vertebræ.

Diphtheritic Paralysis.—There is the history. An important symptom is the dysphagia and regurgitation of food by the nose.

Post-Morbillic Paralysis.—This occurs during convalescence; of paraplegic type; and after some six weeks ends in recovery.

Obstetric Paralysis.—Caused by traumatism inflicted at birth; the muscles usually affected are those supplied by the brachial plexus or facial nerve.

Hysterical Paralysis.—In these the reflexes are not abolished. Diagnosis by exclusion.

Choreic Paralysis.—Affects the monoplegic or hemiplegic form. Sometimes the paralysis precedes the chorea. Ordinarily it is post-choreic, or during the evolution of the neurosis.

The Blood in Bright's Disease.—Dr. Freund has studied this subject for the past three years, and now publishes his observations. They refer to cases of Bright's disease (chronic parenchymatous nephritis, with dropsy), in which the clinical features were well marked, and which were verified by pathological examination. The results were compared with other cases of albuminuria and dropsy, without Bright's disease. 1. Analysis of the blood of nine cases showed no changes in the absolute quantities of either organic or inorganic constituents. The only alteration was in the relative amounts of the globulins compared with the albumins in the serum. While in normal and other pathological conditions the relation was 1 to 1 and 1.5, in the 9 cases of Bright's disease it was 1 to 2.3. In 2 cases, in spite of the clinical diagnosis of Bright's disease, the relation of globulins to albumins was 1 to 1.1 and 1 to 11.3; in one of these cases the necropsy showed cystic kidney, in the other contracted granular kidney. This alteration of the relation of globulins to albumins cannot be held as specific, because in a case of pernicious anæmia it was found to be 1 to 2. 2. As regards the alkalinity of the blood, no specific abnormal condition was found. 3. The conditions of coagulation were found to be altered. While normal serum coagulates uniformly at a temperature of 70° to 74° C. to a firm jelly, in Bright's disease coagulation does not occur till 78° to 82° C., and the clot, instead of remaining firm, is easily broken up by shaking. It has been shown that much dilution alters the point of coagulation as well as the condition of the clot, and a dilution of 1.018 generally raises the coagulation point. Normal serum diluted to the same specific gravity as serum from Bright's disease was found to behave in the same way, and similar results were obtained in serum from dropsy without Bright's and in pernicious anæmia. 4. Semmola in 1881 showed that serum from Bright's disease had a greater power of diffusion than normal serum, or serum from cases of albuminuria without Bright's; Freund's experiments confirm this view, for in 15 cases of Bright's disease the diffusibility with egg albumin was 0.006 to 0.025 g. per cent.; in 3 out of 16 control experiments from other diseases the diffusibility was 0.003 to 0.004 per cent., 13 giving negative results.—*Wiener klinische Rundschau.*

Suprapubic Cystotomy for Tubercular Ulceration.—The following case of this kind is recorded by Dr. Moullin in *The Lancet:* A woman twenty-two years of age was admitted into the London Hospital in January, 1894, suffering from cystitis. Her illness began three years before, with an attack of hæmaturia, which lasted upward of six weeks. Apparently it was caused by lifting a heavy weight. At the same time micturition became more frequent. There was no pain, but she grew weak and ill, and was unable to continue at work as a domestic servant. A few months later, after resting at home, she began to suffer from pain shooting

down the right leg from the loin. Micturition became more and more frequent, until at last it took place nearly every hour. Each act was attended by intense smarting, felt chiefly at the neck of the bladder, and continuing for some time after the bladder was emptied. Blood made its appearance again. The urine became foul and loaded with mucus; and for the six months previous to admission the suffering was so great that she was almost confined to bed, any attempt at walking causing intense dragging pain over the pubes. The patient was slightly built, but fairly well nourished. There was no history of previous illness of any importance. The lymphatic glands were not enlarged, the heart and lungs were normal, and there was no history of phthisis in the family. The hypogastric region was very sensitive to pressure, but there was no tenderness over the kidneys on either side. Micturition was exceedingly frequent, night and day, and was accompanied by the greatest suffering. The average amount of urine passed in twenty-four hours was only twenty-five ounces of 1.015 specific gravity. It was alkaline in reaction, always contained a large amount of blood intimately mixed with it, and threw down a heavy precipitate of blood, mucus, pus, and phosphates. Microscopic examination showed the presence of tubercle bacilli upon one occasion. Benzoate of ammonia was given internally, and the bladder was washed out at regular intervals with boracic acid and lactic acid, but without result. No improvement followed, and as the patient, who had been under treatment for many months, was beginning to lose weight, it was determined to explore the bladder under an anæsthetic. A number of ulcers coated over with an adherent, blood-stained, caseous deposit were found just inside the orifice. A week later supra-pubic cystotomy was performed. The sides of the bladder were held apart with sutures passed through the edges of the muscular coat; a Ferguson's speculum was introduced through the wound, and all the ulcers that were accessible were scraped and cauterized with Paquelin's cautery. Those that were situated on the anterior surface of the bladder, and which could not be reached in this way, were scraped with a Volkmann's spoon, and then iodoform was thoroughly rubbed in. All the ulcers were situated near the orifice of the bladder; there were none to be seen or felt on the fundus. The lower angle of the wound was left open and a drainage-tube introduced into the bladder; the rest was sutured and dressings of sal alembroth gauze and wool applied. The tube was shortened on the third day and removed a few days later. Urine acid in reaction was passed naturally on the fifteenth day, and at the end of three weeks the wound was soundly healed and the patient was allowed to get up. At first there was considerable pain on micturition, but this soon wore off. Five weeks after the operation the patient passed urine four times during the day and twice at night. Six months later, when she was seen again, the frequency during the day remained the same, but she had to rise only occasionally at night. The urine was acid and contained only a little mucus, and the patient had gained flesh and strength.

The number of cases in which supra-pubic cystotomy and cauterization have been performed for tuberculous disease of the bladder is not very large. Guyon has recorded two; Reverdin one; Battle one, in which, owing to the size of the ulcer, chloride of zinc was used instead of the actual cautery; Pilcher four; and Bell three. In three cases Bardenheuer has dissected away the entire mucous membrane, practically abolishing the bladder, for very little of the lining was reproduced. In nearly every case of cauterization the results as reported were good, and there can be little doubt that in many instances this operation might be resorted to with advantage. Ulceration of the bladder attended by strangury and hæmaturia is of not uncommon occurrence in young adults of both sexes, and in a large proportion of cases yields readily to local and palliative treatment. In these the ulceration is not tuberculous, or, if it is, the ulceration is very recent and involves only the most superficial layers of the mucous membrane. When the disease has lasted some time, as in the present instance, and has affected the whole thickness of the mucous membrane, and perhaps the submucous tissue as well, leaving deep ulcers coated over with a dense adherent layer of caseous débris, pus, and phosphates, the momentary application of dilute solutions of lactic acid or other drugs can be of no avail. They can never penetrate unaided through the protecting layer. In such cases the prognosis is so unfavorable, the suffering as the disease advances so intense, and the risk of supra-pubic cystotomy as it is performed at the present day so slight, that it is difficult to understand why it is not more frequently resorted to. Tuberculosis of the bladder may not be common as a primary affection. It is usually regarded as secondary to disease of the kidneys or (in males) of the genital organs. But the fact that many of the cases in which it has occurred have been women, who do not suffer in the same way from genital tuberculosis, and whose kidneys were healthy, makes it rather doubtful whether in the case of men there is not a tendency to exaggerate the secondary character of the disease. The neck of the bladder is involved more frequently than the fundus, not because of the proximity of the orifices of the ureters or of the vasa deferentia, but because its blood-supply is so much larger, and it is so liable to attacks of congestion, and because its functional activity is so much greater.

Vaginal Resection of the Rectum.—Dr. Rehn states that in cancer of the rectum in females the affected gut can be readily removed through a vertical incision made in the middle line of the posterior wall of the vagina, and carried backward in the perineum as far as the external sphincter ani. By such an incision he was able, with very little difficulty and without much hemorrhage, to remove an extensive cancer from the rectum of an aged woman. The incision of the posterior wall of the vagina, he states, permits of free removal of a large malignant growth and facilitates the separation of the diseased mass from the surrounding soft parts. The rectum having been plugged with antiseptic gauze and the vagina thoroughly disinfected, the posterior vaginal wall is carefully incised and separated from the diseased gut. The perineum is next incised in the middle line and the rectum below the seat of disease isolated, ligatured, and divided. The upper and cancerous portion of the gut is now drawn through the vaginal wound and excised. This stage of the operation, it is asserted, can be effected with but little hemorrhage and with free exposure of the diseased structures. An opening in the peritoneum can be readily dealt with in this operation, and any enlarged glands in the meso-rectum can be removed without difficulty.—*Centralblatt für Chirurgie.*

Congenital Constipation.—Marfan, in a clinical lecture on constipation in infants, discusses at some length the so-called congenital or anatomical constipation associated with undue length of the colon and folding of the sigmoid. (*The British Medical Journal.*) Instead of making the simple **S** or **Σ** curve, the sigmoid is thrown into several folds, which may be variously disposed. He quotes from the *Thèse* of Bourcart (Paris, 1863) a classification into three types—ascending, transverse, and descending. Of these the commonest is the ascending type, in which the colon, after entering the pelvis and passing across it near the middle, turns sharp upon itself and ascends out of the pelvis again before descending once more to open into the rectum. This anatomical peculiarity favors delay of fæces in this part of the intestine, with consequent absorption of fluid, and the formation of large hard masses difficult of expulsion. The stools are firm or pasty, or dry solid balls, sometimes streaked with blood, an indication of excoriation of the anus. When there

has been no stool for several days there may be a good deal of flatulent distention, which causes discomfort, but pain is not a prominent symptom. By palpation the mass of fæces may be felt, generally in the left iliac fossa. Occasionally the efforts which the child makes appear to determine the production of hernia, most commonly of the umbilicus, and also prolapsus ani. A convulsion may occur at the time of expulsion of a large mass of fæces. Anal fissures are liable to be produced by the passage of these large masses; and when not seen exteriorly their presence may be suspected if the child cries much and ceases to make effort, or if the solid fæces are streaked with blood. The coprostasis may lead to colitis—simple, mucous, or ulcerative. Marfan believes that the cases of so-called congenital dilatation of the colon, of which a few instances have been described, are really secondary to prolonged coprostasis due to this congenital peculiarity of the sigmoid. As to treatment, he thinks that something might be done by attending to the diet, and especially by using sugar water to dilute the milk. If in children at the breast there is reason to believe that the milk is deficient in sugar, it is well to give the child a small quantity of sweetened water before suckling. Laxatives and purgatives are not to be recommended. The best treatment is injections of tepid water, of water with a little sea salt (gr. j. to ʒ j.), or with glycerine (ʒ ss. in ʒ vj.), or of oil. He prefers the last-named, ʒ j. of oil in emulsion with the yellow of an egg in about ʒ viij. of water. He uses a long soft tube, which he says usually passes easily after a small quantity of the injection has been introduced. He sees no objection to giving the injections daily or even oftener; though there may be some prejudice to overcome before the nurse can be induced to do this. Injections may sometimes be replaced by suppositories; for this purpose he uses a hollow suppository of cocoa butter containing about eight grains of glycerine and a little soap. In older children a small quantity of aloes (gr. ¾) or calomel (gr. ⅓) may be added, but in infants these drugs should be avoided. Massage of the abdomen along the course of the colon may also be of use. When a case is seen presenting signs of obstruction the best treatment is to wash out the stomach, and then to endeavor to remove the hard masses from the rectum with the finger or a spoon. Electricity may also succeed in cases of obstruction, and the author relates one case in point. Occasionally faradization may succeed—one electrode in the rectum and the other moved about over the course of the colon. If the continuous current be used the strength ought not to exceed 15 to 20 milliampères. The positive pole should be in the rectum at first for five minutes, and the current then reversed and interrupted subsequently every twenty seconds for another five minutes.

Vesical Hernia.—The subject of vesical hernia has lately received considerable attention. Dr. Ernst Michels recently communicated to the Medico-Chirurgical Society a case in which, during the operation for radical cure of hernia, the bladder was found and a portion removed in mistake for the sac. The stump was put back into the abdomen and the inguinal canal closed. The mistake was not discovered until twenty-four hours after the operation, when the patient began to complain of pain in the hypogastrium and to pass blood with the urine. The bladder was fully exposed by abdominal section, and the wound, which was discovered in its extra-peritoneal part, closed with sutures, the bladder being drained by a Jacques' catheter. The author of the communication pointed out that there were two distinct kinds of vesical hernia; in one the bladder was contained within a peritoneal sac, but in the other the extra-peritoneal portion of the bladder descended, and this was a much rarer condition. The bladder had been wounded in almost all the cases the records of which the author had examined, as it was exceedingly difficult to recognize it. With this Mr. Macready agreed, and stated that the accidental opening of the bladder in these cases had been done by many accomplished surgeons, and that he had himself done so. In his case the wound of the bladder was not discovered until the ninth day, when urine was found trickling from the wound. Mr. Arbuthnot Lane records a case in which a hernial protrusion of the bladder was found outside the true sac in the operation for the cure of a large inguinal hernia. On pressure fluid could be forced out of it into the abdomen. It was thought to be a portion of the bladder, but to make sure was opened and then sutured. It was freed from its adhesions to the outside of the hernial sac, and returned into the abdomen. A case in which a portion of the bladder formed part of a hernia is reported by Mr. Rose, which differs from the other recorded cases in that symptoms of bladder trouble were present. Micturition was very painful at times, and there was retention occasionally, associated with some increase in the size of the hernia. The radical cure operation was performed, and the painful micturition ceased. The hernia was an inguinal one, although the patient was a young woman. The cases of Mr. Lane and Mr. Rose are, however, quite different from Dr. Michels' case, in which the bladder alone protruded, and resembled the hernial sac itself, a condition in which the bladder has almost always been taken for the sac, and opened as such, happily without any serious consequences, the opening thus accidentally made having been carefully sutured in each case.—*The Hospital.*

The Pathogenesis of Diabetes Mellitus.—Dr. Kaufmann upholds the view that the excess of sugar in the blood in diabetes is always due to an increase in the sugar formation, and not to a diminished sugar destruction in the capillaries. He believes that in the normal condition the destruction of sugar in the blood is always compensated by an equivalent sugar formation by the liver, and that any modification of the destruction of sugar in the tissues reacts at once on the liver by the nervous paths or by the blood, and impresses on the sugar formation an activity in direct relation to the sugar destruction. In hibernating animals the sugar in the blood diminishes during the period of torpor, although the sugar destruction in the tissues is greatly decreased. After the revival the sugar in the blood increases greatly, though the consumption of sugar in the tissues is increased. Under normal conditions the amount of sugar in the blood of the horse is increased during muscular activity; also during digestion there is an increase of the sugar in the blood. In these physiological conditions the increase of sugar in the blood is to be explained by increased sugar formation. This is also the cause of the glycosuria after poisoning by curare and morphine, in asphyxia, after the administration of anæsthetics, after lesions of the nervous system, and after extirpation of the pancreas in animals. In the case of pancreas extirpation the evidence against the increased sugar production is stronger. But the chief argument against the increased sugar formation is the supposed diminution of oxidation in diabetes. Recent researches have shown, however, that in many cases of diabetes the activity of oxidation and nutrition is the same as in the normal state. Lépine and Barral, from the chemical examination of the blood, conclude that in experimental pancreatic diabetes, and in diabetes in man, the glycolytic power of the blood is diminished—that is, the power of sugar destruction is diminished. Kaufmann and Chauveau have made a series of analyses of the arterial and venous blood in healthy persons and in cases of diabetes, but they have never found any difference between the normal sugar destruction and that in diabetes. Kaufmann has isolated the liver by tying all its vessels in a healthy dog, and also in another dog which had been rendered dia-

betic by extirpation of the pancreas. The action of the sugar-producing focus being suppressed, the sugar in the blood gradually became diminished during its circulation in other parts of the body. But an hour after the insolation of the liver the blood had lost the same proportion of sugar both in the healthy and in the diabetic animals. After having determined the diminution of sugar, Kaufmann re-established the circulation in the liver by removing the ligatures placed on the vessels. He found that the sugar in the blood soon regained its previous percentage. Hence he concludes that sugar destruction proceeds with the same activity in dogs rendered diabetic by pancreas extirpation as in the normal condition, and that the excess of sugar in the blood is due to increased sugar formation by the liver. He believes that increased sugar formation and not diminished destruction in the capillaries is the cause of the excess of sugar in the blood in the diabetes produced by pancreas extirpation, by lesions of the medulla, and in all other ways.—*La Semain Médicale.*

Congenital Obliteration of the Bile Duct.—At a recent meeting of the Pathological Society of London (*The Lancet*) Dr. Francis Hawkins exhibited a specimen showing congenital obliteration of the ductus communis choledochus. This duct was obliterated and appeared as a mere thread about one inch before joining the duodenum. The hepatic and cystic ducts were pervious, as was also the ductus communis choledochus for nearly an inch before becoming obliterated. The gall-bladder was not enlarged and was empty. The liver was enlarged, very firm, and of a dark olive-green color, with fibrous bands running over the surface, which was slightly irregular. The blood-vessels were normal. The pancreatic duct was pervious and the opening into the duodenum was seen. Microscopical examination on section of the liver showed it to be cirrhotic. There was a right inguinal hernia containing the cæcum and appendix. There was also a small localized empyema at the left pulmonary base. The specimen was removed from a male child, aged at death four months and two weeks, who was admitted into the Royal Berkshire Hospital suffering from jaundice, which had first been noticed eight days after birth. The jaundice was of a deep olive color and the stools were white. Hemorrhage from the mouth occurred on two occasions and epistaxis once. The family history was not important. Only two similar cases had been shown before the society, and from a diagrammatic representation of the local condition of obliteration of the bile ducts made by Dr. John Thomson, of Edinburgh, it would appear that, including the two cases above mentioned, only six were recorded in medical literature where the ductus communis choledochus was alone obstructed. The cause of the jaundice was thought to be due to the change in the liver itself owing to the bile ducts becoming constricted and obliterated. The cystic and hepatic ducts were pervious and yet contained no bile.

Digestive Troubles in Diabetics and their Treatment.—Dr. Grube, of Neuenahr, has several times observed in diabetic patients gastric crises very similar to those of tabes (*The British Medical Journal*). The patient all at once experiences a violent pain in the abdomen, especially at the pit of the stomach, accompanied ordinarily with swelling of the belly and eructations. Violent contractions of the stomach are appreciable on simple inspection. Very soon there supervene nausea, acid vomitings, and sometimes diarrhœa and cramps in the calves of the legs. The tongue is foul, the pulse quickened, the buccal mucous membrane dry; a little fever is noted. The urine may contain, besides sugar, acetone, but it does not give the reactions of diacetic nor oxybutyric acids. Lastly, the breath acquires an odor recalling that of chloroform. These symptoms, which Grube attributes to an irritation of the vagus by toxic substances circulating in the blood, last from some hours to one or two days, and leave behind them a more or less prolonged state of enfeeblement. The best treatment of these gastric crises consists in immediately provoking an alvine evacuation by means of aqueous or oily enemata, and in applying hot fomentations over the belly. Internal medicaments and feeding are impossible, owing to the vomiting. The drinks best supported immediately after the cessation of the crisis are milk, chicken broth, tea, or weak brandy and water. These crises, although not dangerous *per se*, are of bad augury, for they indicate that the disease is reaching its final stage. To avoid their recurrence, the diet must be altered, so that fleshy foods do not predominate too much, and the regularity of the action of the bowels must be attended to. Besides these acute digestive troubles, at certain periods of the disease a state of chronic dyspepsia is frequently observed, characterized by diminution of appetite, especially by dislike for meat, by painful digestion and constipation. The best treatment Grube believes to be an alcoholic extract of pancreas taken after the three principal meals, a remedy which, though not improving the glycosuria, may undoubtedly be beneficial in relieving the digestive disturbances.

Varices of the Œsophagus.—According to Dr. Friedreich, the veins of the œsophagus are divided into two groups, one of which enters the superior cava, and the other the portal vein. In the anastomosis about the œsophagus these veins far outnumber the arteries. There is an inner plexus in the submucosa, and an outer plexus on the periphery. Both these plexuses anastomose freely. There is a free anastomosis between the portal vein group and the superior cava group which gives a direct communication between the portal and general venous system. In most of the cases of varices of the œsophagus the liver has been the organ affected as the primary cause of the dilatation of the vessels. The author reports the following case: A girl, six years of age, began to be sick when two and a half years old. She began to get weak and pale, and complained of pain in the head and in the region of the liver. There were signs of indigestion. One year before, 1892, the child had a sudden vomiting of blood, with continued vomiting and diarrhœa. In the following summer the child had another attack of vomiting and diarrhœa. October 13, 1893, the child was admitted to hospital with vomiting of blood. There was no abnormality of heart or lungs. The abdomen was distended, but not tender. It was thought that the child was suffering from an ulcer of the stomach. In five days another severe attack of hematemesis occurred, this time followed by bloody stools. This was followed in ten days by a typical attack of chorea, which gradually improved as the child gained strength. There were no stomach symptoms after this until the child died of a third attack of hemoptysis. At the autopsy the ventricles were dilated and the muscle soft. The endocardium was flecked with spots and stripes of intense yellow color. The pericardium and lungs were normal. The peritoneal cavity contained about a pint of milky fluid. The peritoneum and glands were normal. The liver and the much-enlarged spleen were the seat of fatty degeneration. Section of the portal vein, thoracic duct, and vena azygos were negative. The only positive lesion was an extensive varicose condition of the œsophageal veins. They were knotted and thickened, and some almost as large as a lead-pencil. The point of bleeding could not be discovered.—*Deutsches Archiv für klinische Medicin.*

The University of California.—The Medical Department held its annual commencement on July 13th. The number of medical students during the past year was one hundred and twenty-two.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, October 3, 1895.

JOSEPH D. BRYANT, M.D., PRESIDENT, IN THE CHAIR.

Abstract of a Report of the Gynecological Service at Mount Sinai Hospital for the Twelve Years Ending January 1, 1895.—DR. PAUL F. MUNDÉ read the paper. The number of patients admitted to his service at the hospital during these twelve years was 4,211. Of these 2,211 were discharged cured, 1,456 improved, 191 unimproved, 102 died, 313 were discharged after examination as not gynecological.

Laceration of the Perineum.—There were 184 cases of laceration of the perineum; 121 incomplete, 63 complete. One hundred and forty-one were cured by operation, the others were improved. Up to 1886 he performed the operation employed by Emmet and Thomas, making a butterfly-shaped denudation and using silver-wire suture. While he could not deny that his results were good, still he had a few failures, and the operation had the fault of being long and somewhat difficult. In the summer of 1886 he saw Mr. Tait do the so-called flap operation, without removal of any tissue, and operating so rapidly that only those nearest him could see what was being done. Dr. Mundé had since preferred this method, and had employed it in 30 or 40 cases without a single failure. He had discarded silver wire because it produced pain.

After referring to catarrh, ulcer, and stricture of the rectum as not infrequent causes of symptoms seemingly of a gynecological origin, and their treatment by stretching the sphincter and applying a solution of nitrate of silver, he next referred to urethral tenesmus, for which he had found dilatation usually an efficient remedy. In chronic cystitis, with decided disease of the mucosa, mouth medication was of little value. The bladder should be washed out once or twice a day with a solution of borax or Thiersch's solution. In decided disease of the mucosa a cure could not be effected without making a vaginal fistula.

Fistulæ.—Of 13 cases of fistula between the bladder and sexual organs, 2 were between the bladder and uterus, 11 between the bladder and vagina. In one of the former he turned the uterine canal into the bladder, menstruation taking place through the bladder. The other patient died from an ovarian abscess which had not been suspected, and which ruptured during the operation. Of the cases of vesico-vaginal fistula, 9 were cured, 1 improved, 1 refused an operation. The Sims method of operating was employed, namely, shallow paring of the edges of the fistula, not including the bladder-walls in the sutures. Silver wire was used.

Rectocele, alone or along with prolapse of the anterior vaginal wall and bladder, was present in 110 cases. If an operation were required, the two conditions were treated at the same sitting. The symptoms of rectocele, without decided laceration of the perineum, could be relieved by holding up the backwardly displaced uterus with a pessary. If the perineum were torn and the posterior vaginal wall were very much relaxed a pessary could not be retained, and only narrowing that portion of the vagina would give relief. A pessary, however, might still have to be worn for the uterine displacement. He was decidedly in favor of curing a pronounced rectocele by operation, and employed Hegar's method of triangular denudation of the posterior vaginal wall and mattress stitch, which he preferred to the method of Thomas and the later one of Emmet.

Dr. Mundé did not operate as often on cystocele as on rectocele, for the reason that, unless there were complete vaginal prolapsus calling for narrowing of both posterior and anterior walls, the simple cystocele operation was not so successful in its permanent results as that on rectocele. This was because of greater pressure on the bladder and anterior vaginal wall in the erect position. Where there was not too much vaginal prolapsus along with the cystocele, and no displacement of the uterus, Gehrung's pessary sufficed without a plastic operation. In the combined operation, he preferred to use the tobacco-pouch suture, recommended by Stoltz, anteriorly.

In fifteen cases of stenosis and atresia of the vagina, he restored the canal or made a new one. In one case there was double uterus and vagina, the vaginal canal on one side being closed and causing pain by retention of menstrual blood. He excised the septum and made one canal from vulva to fundus. In two cases there was epithelioma originating in the posterior wall of the vagina, a rare seat of the disease. The cervix was healthy. He could only use the curette and caustic, giving but temporary relief.

Cervical Laceration; Cancer.—The most common disease of the uterus was laceration of the cervix—518 cases. Emmet's operation was performed in 342 cases, with 316 recoveries. In 160 cases an operation was not considered necessary, the symptoms being relieved by the sharp curette, iodized phenol, and nitric acid. A lacerated cervix required operation, not so much for the laceration itself as for the symptoms which it produced. He had become convinced that absolute rest in the recumbent position was not at all necessary for union of the lacerated lips after Emmet's operation, but if it were not enforced and there should be failure, one would be blamed for not having taken the necessary precautions. His custom had been of recent years to direct patients to remain abed a week, then get up and go about, and come to his office after the first menstrual period, when he usually removed the stitches. He had seen, in properly selected cases, more benefit result from operation on the lacerated cervix than from any other treatment of any one of the minor lesions of the female sexual organs. Another reason for operating was the possibility of malignant disease developing in the raw, bleeding tear. How many of the 54 cases of epithelioma of the cervix which appeared in his list were due to laceration of the cervix he was unable to say. At any rate, probably more than two-thirds of all the patients with epithelioma of the cervix seen by him had borne children, and probably had suffered from more or less cervical laceration. In only 3 of the 54 cases was he able to achieve a cure. The galvano-cautery wire was used. Of the remaining 51 cases all he was able to do in 40 was to remove as much of the diseased tissue as possible with the sharp curette and chloride of zinc. One of the patients lived four years after one such treatment. In 11 cases the entire uterus was removed per vaginam, but in no instance with permanent recovery. In fact, out of 26 cases of vaginal hysterectomy, with 3 deaths, not one patient had remained free from disease longer than nine months, and in no case had life been prolonged more than two years. The uterus was extirpated in 6 cases for malignant disease of the body—4 epithelioma and 2 sarcoma. The patient recovered, but the disease returned. He was perfectly aware that vaginal hysterectomy was attended by a smaller mortality, but he could not help feeling that the supra-pubic method of complete hysterectomy was more surgical and technically superior. "I do not feel that my own experience justifies me in attempting again to remove a cancerous uterus, unless a thorough careful examination, if necessary under anæsthesia, has convinced me that the uterus alone is involved and that the parametrium is absolutely free from disease. I do not see the use of subjecting the patient to the danger, discomfort, not to mention expense, of a hysterectomy, whether vaginal or supra-pubic, for the removal of her cancerous uterus,

unless there are at least seventy-five chances out of a hundred in her favor for a permanent cure. Acting on this principle, I have refused many an operation which I have good reason to believe has afterward been performed by others, who could not possibly have had any reasonable expectation of curing the patient. Many cases of cancer of the cervix, indeed, in which the patient does not bleed and has only a comparatively trifling discharge, suffers no pain, in fact, hardly knows that she is afflicted with an incurable disease—many such cases, I repeat, should, I think, be left alone. The disease progresses more slowly, I am sure, if it is not interfered with, and when the case is at once recognized to be incurable, what is the use of inflicting unnecessary pain and discomfort upon the patient? Simple palliative remedies will in such cases, it is my honest conviction, do much better for the patient than doubtful or hopeless operative procedures.

I may as well say here that, so far, I have not happened to meet with a case where I could conscientiously perform the now so popular operation of extirpation of the uterus per vaginam for diseased appendages and pelvic suppuration. I do not question the justifiability of vaginal extirpation of the uterus for suppuration of the appendages and pelvic tissues, in properly selected cases, but my experience certainly leads me to regard such cases as not very common, as rather the exception than the rule in diseases of the adnexa and pelvic inflammation, and I cannot help questioning the judgment of surgeons who report with pride several hundred such operations performed by them during the last three or four years, with but trifling mortality. It seems to me that these gentlemen are riding a hobby as fascinating as it is likely to be ephemeral.

Endometritis.—Only such cases of endometritis were admitted as could not be safely treated at the office or clinic, yet the number admitted was two hundred and ninety-seven. The chief significance of chronic non-puerperal endometritis was the production of sterility, and it was for this reason chiefly, and also for the irritating discharge, that the cases were admitted. The treatment consisted of dilatation and curettage of the uterine cavity, followed by thorough application to the endometrium of fifty per cent. solution of chloride of zinc in the worst cases, and of a solution of iodized phenol in milder cases. A sterilized drain was then inserted through the internal os, the patient put to bed, and all precautions taken against inflammatory reaction. A repetition of the cauterization with milder solution, if thought best, usually resulted in a permanent cure in the course of two or three weeks. There were 197 cures, 94 cases of improvement out of 297 operations, only 6 being mentioned as discharged unimproved. The best hope for a permanent cure of chronic endometritis would result from impregnation and normal delivery.

Fibroids.—There were 130 cases of fibroids of the uterus; in only 3 was the growth limited to the cervix, and was removed by enucleation and traction through the vagina. In one instance the patient was pregnant in the fifth month, and rupture of the membranes and prolapse of the umbilical cord necessitated immediate action. He first removed the tumor, weighing three pounds, and then easily extracted the child and placenta. The other two cases occurred in virgins, and cervix and perineum had to be split, after which the tumor was extracted with the obstetric forceps, the cervix and perineum being repaired subsequently. In 21 cases the fibroid had developed into a polypus and was removed with comparative ease. In 29 cases abdominal hysterectomy was performed, with 25 recoveries. The extra-peritoneal treatment of the stump was adopted in all cases up to within two years, since which time he had employed the intra-peritoneal method, leaving a small portion of the cervix which he covered with peritoneum. All these cases had recovered.

In 46 cases the symptoms were improved in the course of time by ergot, curetting, and intra-uterine galvanization. In 3 cases galvano-puncture of the fibroid was practised through the vagina, and a current up to 150 milliampères was passed through the tumor and uterus for fifteen minutes under anæsthesia, only one sitting being given in each case. The treatment was followed by quite extensive inflammation and sloughing, but the tumor gradually disappeared and all three of the patients were discharged cured.

In nearly one-half of all the cases of fibroids the symptoms were not regarded as sufficiently severe to warrant any dangerous operative procedure. His custom was to advise the expectant treatment in all cases of fibroids which do not call for immediate surgical interference, but he had been careful to recommend to such patients to present themselves two or three times a year for examination, or whenever sudden increase in the tumor or alarming symptoms manifested themselves. In numerous cases the tumor was found, after a year or more, in its original condition or diminished in size, causing no symptoms. He had seen great benefit result from the persistent use of galvanism, without puncture, in the arrest of growth or diminution in the tumor.

Dilatation for Sterility.—Discission and dilatation of the uterine canal for congenital constriction was performed ninety times, the object being chiefly to cure sterility. The canal was kept open in former years by hard rubber stem, lately by packing with iodoform gauze. What the results were on the sterility he was unable to say, since such patients seldom returned to report.

Retroversion or Retroflexion was present in 161 cases: 85 recoveries, 66 improved, 10 unimproved. The recoveries were mostly due to Alexander's operation, a few to ventral fixation; the improvements were due to retention of the uterus by pessary. He still preferred Alexander's operation to all others for radical cure of displacement, had performed it seventy-five times in this list, with very few failures. If there were uterine prolapsus, Alexander's operation alone would not suffice to retain the organ, but it was necessary to also narrow the vaginal canal anteriorly and posteriorly, and do perineorrhaphy. Twice he operated by Freund's new method for prolapsus of uterus and vagina, by inserting a series of circular thick wire sutures round the prolapsed mass, beginning at the external and replacing it step by step as each suture was twisted. The result, so far as he could judge, was perfect. Of course the vagina was almost entirely closed, the stitches being left in as permanent splints.

In one case of inversion of the uterus of a year's duration, repeated efforts to replace the organ failed. He was finally obliged to remove the ovaries, close the abdominal wound, and apply an elastic ligature to the pretty well mutilated uterus, the result being a sloughing of the organ and a complete recovery. He would hardly recommend this procedure, but under the circumstances saw no other way out of the difficulty.

Hysterorrhaphy, or ventral fixation of the fundus uteri, was performed ten times for retroflexion and twice for prolapsus, with one death in prolapsus. He could not conscientiously favor this operation for a condition which in no way endangered life.

Disease of the Ovaries and Tubes.—Salpingitis, acute or chronic, more or less associated with chronic oöphoritis, occurred 651 times, with 75 recoveries after removal, 41 cured after local treatment without operation, 512 improved after palliative local treatment, 22 unimproved, 1 death after operation. He said it would have been very easy for him to have operated on probably 500 of the 651 cases, without putting his conscience to a very dangerous tension, but he had always felt that, while it was easy to remove the appendages, it was never possible to restore them, and he did not believe any patient had seriously suffered through delay in removal of

the appendages for which he might have been to blame. When it came to distention of the tube with pus the case was quite different, for out of 40 cases recorded he removed the diseased organs by cœliotomy in 26, with 21 recoveries, and cured 11 others by vaginal incision and drainage. As a rule he preferred to remove every pus tube by abdominal section, unless it was firmly adherent to Douglas's pouch, was unilateral, and could be easily and safely opened and drained by the vagina.

Tubal Pregnancy.—In 15 cases the Fallopian tube was removed for pregnancy, before or after rupture, with 13 recoveries. He was no longer a convert to galvanism for the arrest of tubal pregnancy, although he had had a successful case of the kind twelve years ago. It was exceedingly difficult to lay down positive rules for the guidance of the surgeon where hemorrhage had ceased and the patient's condition was good, yet, unquestionably, the proper course was, if the diagnosis were reasonably certain and the blood was not encapsulated, to open the abdomen at once and remove the ruptured tube. In one of his cases the rupture had occurred a month previously, there was general peritonitis, the abdominal cavity was full of foul, decomposing blood; yet the patient recovered.

Cœliotomy for ovarian tumors and cysts of the broad ligaments was performed 149 times Of these, 128 were ovarian tumors, with 11 deaths. The rest comprised hæmatoma, carcinoma, papilloma, acute œdema of the ovary, and 7 cases of cyst of the broad ligament. Two cases of fibroid of the ovary, both recovered after operation. In 25 cases the ovarian tumor was dermoid, 10 of the right, 10 of the left ovary, 5 of both ovaries. In one case the dermoid on one side contained a large switch of black hair about six feet long. In 23 cases torsion of the pedicle of the tumor was found, all recovering but one. The torsion was usually to the right in cysts of the left ovary, to the left in cysts of the right ovary, so that it was usually found on the opposite side from its origin.

A number of cœliotomies were performed for other conditions of the abdominal organs, such as tubercular peritonitis, general purulent peritonitis, sarcoma of rectus muscle, displaced kidney, perityphlitic abscess, and for exploratory purposes.

Pelvic Peritonitis and Pelvic Cellulitis.—Pelvic peritonitis was the most common affection in his service: 602 cases, with 304 recoveries, 281 improved, 10 discharged unimproved, 7 deaths. The attack might last a long time, even for months, yet the exudate completely disappear, and the pelvic organs be restored apparently to their normal condition. In a large majority of cases the disease had its origin in an acute salpingitis, and the worst prognosis regarding ultimate restoration to entire health was certainly found after gonorrhœal infection. Pelvic cellulitis was noted in 79 cases, with 67 recoveries, 8 cases improved, 4 not benefited, no deaths. With rare exceptions the cases of pelvic cellulitis followed parturition. The differential diagnosis between the two classes of cases was not easy. His treatment had usually been absolute rest, thorough cleaning out of the bowels to begin with, then regular but easy evacuations every two or three days. Cold or hot applications to the abdomen. When the temperature had gone down and only the exudate remained, he applied blisters with hot poultices over the abdomen. Opium only to relieve pain. In 103 cases the pelvic exudate underwent suppuration, with 87 recoveries, 6 improved, 1 not improved, 9 deaths. In 95 cases the abscesses were opened by lateral abdominal section, in quite a number through the vagina also—opening where the mass pointed most prominently, but preferring the vagina.

Pelvic Hæmatocele and Hæmatoma.—When the effusion of blood was free in the peritoneal cavity, and appeared not to have reached its limit, abdominal section should be made; but when it had become encapsulated, or was extra-peritoneal and bulged deep into the vagina, he had found its evacuation through the vaginal roof, no matter where it may originally have started from, to be a perfectly safe and efficient method. Out of eleven cases of hæmatocele treated in this manner he had three deaths, and out of sixteen cases of hæmatoma two deaths. He did not believe the results after abdominal section would have been nearly as good.

To show the increase in the service of the hospital, there were admitted, in 1883, 181 patients, and 47 operations were performed; in 1894, 505 patients, with 295 operations. He had always sought to cure his patients without resorting to the knife whenever it was possible. If he had erred on the side of conservatism, there were plenty other operators ready to correct his error.

Dr. R. A. Murray asked Dr. Mundé what had been the difference between the results of the former method of doing trachelorrhaphy alone, and of the later method of doing curettement and trachelorrhaphy.

Dr. Brettauer, who had assisted Dr. Mundé in many of his operations and had acted in his place part of the time during his vacations, expressed his pleasure at the author's conservatism in view of the many radical operations being done by others.

Dr. P. A. Harris wished to know whether the author had found the ureters ever in danger while narrowing the vagina for prolapsus of the bladder. He had never injured them himself, but had feared that he might.

Dr. C. E. Quimby thought it strange that, as a general practitioner, he saw so few cases of suppurative disease of the appendages when gynecologists reported so many. A writer in the Medical Record had stated that in the vast majority of cases of pus-tubes gonorrhœa was the cause. He wished to know if this was in accord with Dr. Mundé's observations, and whether the pus had been examined for gonococci.

Dr. H. L. Collyer said he had seen a good deal of Dr. Mundé's work, and knew that he could have made a better showing in his operative statistics had he been less conservative; but it would have been at the expense of more mutilated women. In his opinion the effect of electricity on fibroids was to cause an absorption of exudate rather than absorption of the fibroid itself.

Medical Treatment of Chronic Endometritis.—Dr. A. Jacobi said there was no chapter in the paper which had not given him instruction. He hoped the author, who had used the material chiefly for drawing surgical lessons, would write another paper showing the influence of disease of the pelvic organs on other organs of the body and on the general health, and also on the etiology of the diseases treated. Regarding chronic endometritis, of which he had himself seen a good deal, he had given up its treatment by chloride of zinc because of the tendency of this agent to produce cicatrization of the surface. In parametritis Dr. Jacobi had been able to do a good deal by bichloride of mercury internally, amounting to a quarter of a grain a day, kept up with intervals for perhaps six weeks. If he wished a speedier effect, he changed off from bichloride of mercury to iodide of potassium weekly. This treatment certainly did good.

Dr. Mundé closed the discussion. Replying to Dr. Murray's question, he said both classes of cases had gotten well when treated by trachelorrhaphy, but those in which curettement was done at the same sitting got well sooner. He had never wounded the ureters in operating for cystocele, the vaginal denudation not extending deep enough. There was danger of chloride of zinc producing contraction of the uterine canal, still he used it with precautions in endometritis, because of its beneficial effects. He did not think old plastic or fibrous adhesions could be influenced by internal medication, as mercury or iodide of potassium.

The Loomis Entertainment Fund.—The President stated that the trustees had provided a modest refreshment from the Loomis Entertainment Fund. In donating ten thousand dollars, the interest of which was to be devoted to this purpose, Dr. Loomis had wished to

awaken interest in the Academy, and it was hoped the members would wait and partake of the refreshments. It is understood that a collation will be announced on the card regularly hereafter.

THE NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, May 22, 1895.

GEORGE P. BIGGS, M.D., PRESIDENT.

Lacer's Liver.—DR. DONALD M. BARSTOW exhibited a liver that had been taken from a woman, sixty years of age, who, while crossing one of the ferries, had been suddenly seized with vomiting and faintness, and who had become unconscious before the arrival of the ambulance from the Hudson Street Hospital. She died a few hours later. At the autopsy, which was made by Dr. George P. Biggs, it was found that the cause of death had been an extensive cerebral hemorrhage, the result of an endarteritis. The liver was a typical example of what is known as "lacer's liver." A groove or sulcus ran across the anterior surface of the organ, and indicated that the constricting force had pressed the lower half of the liver down below the tightly laced corset. The liver also presented the general appearance of cirrhosis of syphilitic origin.

Displaced Cæcum with Volvulus.—DR. GEORGE P. BIGGS presented a specimen, removed from a male Italian, thirty years of age, who had been admitted to the Hudson Street Hospital, complaining of constipation which had existed for eleven days. He had abdominal pain, most marked on the left, and the abdomen was moderately distended. His temperature was 99.4° F., in the rectum. Examination showed an indistinct mass in the left inguinal region. A number of enemata were given with negative result. As his condition grew steadily worse laparotomy was performed on the following day. The incision was first made in the median line, and a mass was felt in the left side of the abdomen which was thought to be a distended and strangulated sigmoid flexure. A second incision was then made over this mass, and a considerable quantity of thin fecal matter escaped through this incision. Supposing that the gangrenous sigmoid flexure had been opened into, it was sutured to the abdominal end and packed with gauze. The patient died within a few hours.

The specimen presented showed that the gangrenous gut found in the left iliac fossa was not the sigmoid flexure, but the cæcum. The latter had a long, free mesentery, and the cæcum had become completely twisted upon itself, and folded over to the opposite side of the abdominal cavity. The speaker said that it was not uncommon to find a cæcum with such a long mesentery, but he had never before seen one twisted upon itself in this manner.

Gunshot Wound of the Skull.—Dr. Biggs presented two portions of skull, showing the points of entrance and exit of a bullet. The bullet had entered the temporal region, six inches above, and a little anterior to, the external auditory meatus. The skin about the wound for a distance of nearly half an inch had been blackened by the powder. There was a comminuted fracture in the centre of the left parietal bone, about two centimeters in diameter. The bullet, as shown in the specimen, was found lying in the substance of the bone itself. It had produced a comminuted fracture, particularly of the external plate, and had become flattened against the bone. The course of the bullet was from the lower end of the right fissure of Rolando through the upper portion of the right lateral ventricle to the upper end of the left fissure of Rolando. Fragments of bone were found along the course of the bullet. A small fragment driven off from the bone at the point of entrance of the bullet was forced downward, and to the left, through the right corpus striatum, and across to the left hemisphere, and through the left frontal lobe, and was finally arrested at the orbital plate of the frontal bone. This fragment was large enough to produce considerable laceration of the cerebral substance.

Puerperal Septicæmia in a Dog.—Dr. Biggs then presented the organs from a dog, dying of puerperal septicæmia. The dog had been originally one of the attractions at a neighboring museum. About four weeks ago it had been confined. Almost immediately thereafter the animal was observed to be ill, and to have diarrhœa. After about a week fluid began to accumulate in the peritoneal cavity, and the animal became markedly emaciated. About one week ago the dog was sent to a veterinary hospital, and here some of the fluid was withdrawn from the abdominal cavity and found to be almost clear. The animal died shortly afterward. Examination of the uterus showed an acute inflammation, involving the entire thickness of the wall-organ at one cornu. There was evidence also of a subacute peritonitis. The spleen was soft, congested, and enormously enlarged. There was a thrombosis of the left ventricle of the heart, located behind the posterior cusp of the mitral valve. The kidneys showed very marked parenchymatous nephritis. Both the small and large intestine showed a diffuse inflammation, and in places deep ulcerations.

The Society then adjourned.

Clinical Department.

TOTAL REMOVAL OF TONGUE—KOCHER'S METHOD—RECOVERY.

BY WILLIAM WATKYNS SEYMOUR, M.D. HARVARD.

TROY, N. Y.

PROFESSOR OF GYNECOLOGY IN THE UNIVERSITY OF VERMONT, FELLOW OF THE AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS, ETC.

JULY 2, 1895, Mr. L——, fifty-four years of age, blacksmith, was referred to me by my friend Dr. H. C. Gordinier for opinion as to the propriety of operation. The patient had never used tobacco and had never had any venereal disease; but seven or eight years ago he had had some obstinate fissures on the dorsum of the tongue. The teeth were poor, ragged, and ill kept. Five months ago he first noticed an ulcer on the left border of the tongue, and had two teeth removed by Dr. Lyman, of Troy, who advised the patient to consult a competent surgeon. He consulted a physician, who made light of his trouble, and, while daily cauterizing the tongue, told him he was getting better. So far was this from the fact that in the five weeks previous to his consulting Dr. Gordinier and his reference to me, the tongue, from being readily protruded beyond the teeth, had become as hard as a bone and so painful as to prevent restful sleep.

The tongue was warty, but at no part was there any ulceration, and only from the history could I determine the point of origin. The left sublingual gland was greatly enlarged, and in addition there was also a mass of enlarged lymphatics in the submental triangle. Except for symptoms due to the malignant disease the patient seemed in good physical trim and of unlimited grit. The dangers of the disease, the improbability of a radical cure, and the risks of operation were thoroughly explained to him, and he consented to an operation.

On July 7th, with the assistance of Drs. J. W. Morris, Donald and Archibald Buchanan, I operated by Kocher's method. The patient was on his back, and Vienna mixture was used for the anæsthetic. The right lingual artery was first tied; then tracheotomy was done, and the pharynx was packed with a sponge. I

then made a submental flap on the left side so that at the same time I could remove the implicated glands. The ligature of the right lingual was a tiresome piece of work, as pulsation in it was so feeble that I was at a loss to know whether it was an artery; even a slight change in the position of the head would stop all pulsation. When the trachea was opened respiration stopped, necessitating artificial respiration. Again, when all bleeding from the tracheotomy wound appeared to be controlled and the tube and sutures had been inserted, I was obliged to reopen the wound and ligate a small vessel. The submental dissection gave admirable access to the diseased structures and ready control of the bleeding vessels. Through this opening the entire tongue and floor of the mouth were readily removed. The ligature wound was sutured and sealed with iodoform collodion, and the same was done with the flap wound, save at the upper part of the posterior limb, where a feeding-tube was passed into the stomach and allowed to remain. The sponge-packing of the pharynx having been removed, the mouth was irrigated with a weak carbolic solution, and iodoform gauze packing was introduced into the floor of the mouth. A thick dressing of sterilized gauze was applied over all.

Despite the duration of the operation (nearly two hours) there was absolutely no shock.

As is my custom in all operations on the throat or mouth, the patient was put in a bed with the foot very considerably raised so as to favor drainage into the mouth and away from the respiratory tract.

For the first twenty-four hours the patient was fed by enemata, and afterward by the feeding-tube in the neck. After the first twenty-four hours the gauze-packing was removed, and the mouth was washed with a mild carbolized solution. The after-progress was uneventful. The patient was up and out on the fifth day—not, however, with my consent. The tracheotomy-tube was removed on the tenth day, and the feeding-tube on the eleventh day, after which the patient fed himself with a "duck," to which was attached a piece of rubber tubing. This was rendered easier by the practice which he had taken, at my suggestion, before operation. Although the patient before the operation had been racked with pain, he has not required a single dose of medicine since, and is now working daily at his trade, feeling as strong as ever; he can swallow meat by washing it down with fluid after it has been well chewed, and one can understand most of what he says.

The total excisions of the tongue which I had heretofore seen had either been done by bisecting the lower jaw or by Billroth's or Regnoli's substantial excision, and none of them seemed to afford the thorough view given by Kocher's operation. The ligation of the lingual was the hardest part of the operation. Of preliminary tracheotomies I have always been a little shy, having seen the respiration cease instantly in two cases on seizing the trachea with a tenaculum, and twice when the trachea was opened. Three of these cases were tracheotomies for diphtheria, and one a tracheotomy preliminary to excision of the upper jaw by my former visiting surgeon, Dr. George W. Gay, of Boston. This latter case finally breathed noticeably a very long time after Dr. Gay had finished his operation. Following my Boston training, I used ether almost entirely in my early work, but after myself taking it for a cœliotomy, and ending most diabolical laryngeal irritation from it, I have come to use more and more the so-called Vienna mixture, especially in abdominal work. I have found it expeditious, not at all irritating to the respiratory organs, and to occasion less nausea than has come from ether alone, whether administered profusely as in Boston, or with Clover's or Ormsby's inhalers. In the after-treatment of such operations on the mouth, in tracheotomy, and in intubation, permanent inversion for drainage I believe to be a great advance.

Dr. Casselbury, of Chicago, suggested inversion as a means of feeding intubation cases, but nowhere have I found any evidence of its employment over a period of several days for drainage. It is wonderfully efficient, and I am sure will minimize inspiration in pneumonias if employed in such operations as excision of tongue, tracheotomy, intubation, thyrotomy, and laryngectomy. Trever's suggestion, to have the patient, for some time before operation, practise feeding himself with a vessel, to the spout of which a rubber tube is attached, is an excellent one; although I should in any subsequent case again employ a feeding-tube such as I used, and which is very highly recommended by Mr. Arthur Baker. In these cases the important factors are early recognition, radical operation, drainage, and feeding. Jonathan Hutchinson has very recently declared that no one should die from cancer of the tongue; but to attain this Utopian state of surgical practice time, and with time life, must not be frittered away by needless delay or harmful cauterizations.

The cautery, chemical or actual, does not go to the root of the evil, and the same may be said of the partial operations—the wedge and hemi-excisions. The total excision does go as far as possible, and should be done early for cure. If the tongue is movable and the floor of the mouth and glands free, I would, as a rule, prefer Whitehead's operation through the mouth, but in more extensive disease I cannot imagine an operation which, better than Kocher's, satisfies all the conditions of operation. Hemorrhage is well controlled, implicated glands are accessible as well as the whole floor of the mouth, and the field of operation is better exposed than by any other method. By it also both drainage and feeding are easier than by other methods.

To prevent infarction and inspiration in pneumonia invert the patient until granulation is well advanced.

Specimens from the mass we hardened in formalin and then cut by embedding in celluloidin, and subsequently stained with hæmotoxylin, and with alum carmine. The disease was shown to be clearly epitheliomatous. Sections showing toward the surface great masses of squamous epithelium with innumerable nests everywhere. The small-celled infiltration extended everywhere, between the muscles and into the areolar tissue. The patient, two weeks after operation, weighed 116 pounds, and now weighs 148 pounds.

TREATMENT OF GONORRHŒA.

By ISAAC E. WILLIAMS, M.D.,

ST. MARY, O.

I WRITE this article not because I am a specialist in this line of work, but with the hope of offering a few good suggestions which have aided me much in the treatment of gonorrhœa.

In the beginning, I wish to state that my experience teaches me: 1. That the abortive treatment by nitrate of silver injections is a success. 2. That many injections in common use are not strong enough to do any good, and that they may be made stronger with better effect and without danger of stricture or other harm. 3. That nearly all cases of gonorrhœa should be cured in a time not exceeding three weeks, and that seventy-five per cent. of them should be cured in from ten to fifteen days. These facts I can demonstrate in practice. I have been the entire rounds of injections and internal medication. The former I regard of more importance than the latter. I think it is a mistaken idea to obstruct the posterior urethra with the finger to prevent the fluid from reaching far back, as it can do no harm if the urine be passed immediately before injecting. The sphincters will guard the bladder. The injection should be held in for a few minutes by closing the meatus.

In the beginning of an acute attack, before the dis-

charge becomes purulent, I advise the following injection:

℞. Argenti nit ..... gr. 5.
Aqua dest ..... oz. i.
M. Sig.: Inject after urinating, every ten hours, until the discharge becomes purulent. Use a blunt-pointed syringe, holding two drachms. A calomel purge (five grains) may be given with benefit, followed by alkaline diluents and cannabis sativa in small doses for four days. Then the following:

℞. Plumbi acet ..... gr. 20.
Zinc. acet ..... gr. 12.
Aqua dest ..... oz. i.
M. Sig.: Inject four times a day after urinating.

This injection should cause slight burning sensation. If too severe, add half an oz. distilled water. If after using one or two days it cause no smarting at all, increase the plumbi acet. to 24 gr. to the 4 oz. It will be seen that our aim in the first stage is to destroy the more superficial parts of the infected mucous membrane, and in the second, to lessen hyperæmia by astringents. If the penis is red and swollen, with lips of meatus everted, the second formula will afford prompt relief. Nothing will so quickly disperse a chronic gleet. If the prostate is involved, I give fld. ext. saw palmetto one-half teaspoonful every four hours. When the bladder becomes irritable or inflamed, fld. ext. couch grass idr., with 4 drops fld. ext. gelsemium every four hours. Nothing but distilled water should ever be used as the vehicle for the injection.

For gonorrhœa in the woman, the infected parts should be well swabbed with the following:

℞. Argenti nit ..... gr. 5.
Aqua dest ..... oz. i.

The vagina should be well opened with a speculum before swabbing. Alum, 60 gr. to the oz. of vaseline, may be introduced on a tampon before going to bed. This should be taken out in the morning and the vagina well washed out with warm water.

A PRELIMINARY NOTE ON THE USE OF PHENOL AS A PRESERVATIVE OF DIPHTHERIA ANTITOXIN.

By CHARLES B. FITZPATRICK, M.D.,

NEW YORK.

On the 2d inst., Dr. J. L. Kortright and I had a conversation about the young girl, named Valentine, which he had treated for diphtheria. As is generally known, he administered antitoxin, and the patient died in about three minutes.[1] Immediately after the injection, a "lump" was felt by the patient at the seat of the injection; this was followed by a general tingling sensation, convulsions, opisthotonos, and cessation of respiration. The autopsy showed a congestion of the brain, meninges, liver, and kidneys. No microscopical examination was made.

In the discussion mentioned we went over a number of the possible causes of the death, and could come to no satisfactory conclusions. Finally, it occurred to me that the above-described symptoms could very well have been caused by carbolic acid. I then described to Dr. Kortright some of my experiences with guinea-pigs which had been poisoned by phenol, and he agreed that it could account for the symptoms. The serum he had used in the Valentine case contained phenol as a preservative.

The second point to decide is: Could a poisonous amount of phenol, by some oversight or accident, have been present in a flask of antitoxin which had been preserved by it? By going over the steps of the technique it will be seen that such an occurrence might be readily brought about.

After the blood is drawn, it is put in an ice-box. The serum is then drawn off. The usual way is to collect a large quantity, so as to make one test do for as much as possible. The phenol is then added to this serum.

It is a well-known fact that phenol is not readily dissolved in cold aqueous solutions. If it be added to such solutions, even when thoroughly shaken up, it forms a much stronger solution near the bottom, after it has been allowed to settle.

My experience with guinea-pigs, although incomplete, is interesting, and, taken together with the literture, strengthens the probability that phenol caused the death of the Valentine case.

A guinea-pig, weighing 542 grains, received 2 ctm. of a 1 to 40 solution of phenol, subcutaneously. On the third day it developed fairly well-marked opisthotonos and clonic convulsions, which resulted in death in four hours. Autopsy showed congestion of the brain, liver, and kidneys.

At another time, while testing some serum, I was very much put out to find, in a series of tests, that the guinea-pig which had received the largest amount of antitoxin died within twenty-four hours, with convulsions resembling those in the preceding case. I have no doubt now but that this was due to phenol.

I have also produced convulsions in rabbits. Salkowski[1] records the same, and death in the midst of a convulsion. In the dog similar symptoms are produced.

In man, Dr. Taylor[2] records a case in which the man fell unconscious within ten seconds after taking a fatal dose of phenol; two minutes later he was completely unconscious, pulseless, with irregular respiration, and in less than a minute more was dead.

Convulsions may also be present in man. These observations show that if phenol be administered it can cause death, with practically the same symptoms as those were which occurred in the Valentine case.

It is not my intention to give an elaborate treatment of this subject, but just to indicate what would justify a belief in the probability that phenol might have been the cause of death in Dr. Kortwright's case.

In my article "Notes on the Preparation of Diphtheria Antitoxin,"[3] I have spoken of the use of phenol as a preservative, when the antitoxin is sufficiently strong to be used in doses of 10 c.c., or approximating that. My present judgment is that, although phenol is the best preservative, it is too dangerous to be used. Camphor answers all the necessary indications.

October 14, 1895.

GOLD SPECTACLES AS A CAUSE OF ASTHENOPIA.

By W. H. BATES, M.D.,

NEW YORK.

Case I.—The first case was reported in the Medical Record, February 25, 1893. It is so typical that with its further progress it deserves a brief notice here. The patient was a lady, who had worn steel frames for some years. She desired to wear gold spectacles, but could not do so because of the headache and pain in her eyes, produced by the glasses. It was discovered that she could wear the glasses when the gold nose-piece did not touch the skin. A piece of rubber was vulcanized on the under surface of the nose-piece and the patient wore the glasses with comfort. Since then the rubber has worn through from time to time, and the pa-

[1] Dr. Kortright's article describing this case will appear in an early number of a Brooklyn medical journal.

[1] Pflüger's Archiv., B. V.
[2] Philadelphia Medical Times, vol. ii., p. 284.
[3] New York Medical Journal, April 27, 1895.

tient has been compelled to have it replaced. The patient was seen recently, more than three years after the glasses were ordered, and she still wears her gold spectacles with comfort.

CASE II.—The wife of a physician. She complained of headaches and asthenopia. Her general health is good, and she says that she has never been sick. She does not impress one as being hysterical. The vision of both eyes is $\frac{20}{20}$.

September 25, 1894.—Under homatropine hydrobromate, three per cent. solution: Right eye with + 1.5 D.S. = $\frac{20}{20}$; left eye with × 1.25 D.S. = $\frac{20}{20}$. These glasses were ordered in steel frames, to be worn all the time.

November 2d.—The patient is relieved of her headaches from wearing the glasses constantly. She now obtained gold frames. Her headaches returned at once. If a piece of paper was placed under the nose-piece, preventing the gold from touching her nose, she had no discomfort from the glasses. The optician fastened a piece of cork on the nose-piece to prevent the gold from touching the skin. Headaches occurred as usual. A careful examination of the frames, while worn by the patient, showed that the cork did not prevent contact of the gold with the nose. A piece of rubber was vulcanized on the under surface of the nose-piece of the gold frames, which prevented the gold from coming in contact with the skin. The patient was able to wear the gold spectacles with relief to her headaches and asthenopia.

CASE III.—Mrs. G——, aged thirty-three, has suffered from headaches and asthenopia for several years. Her general health is poor. Under three per cent. solution homatropine, May 16, 1894, her refraction was as follows: O.D. + 1.5 D.S. ⌒ + 0.5 D.C. 60°. O.S. + 1.5 D.S. ⌒ + 1.25 D.C. 90°. These glasses were ordered in steel spectacle-frames for constant wear. Her headaches and asthenopia were relieved. In the following September she obtained gold spectacles. She was unable to wear them because the pains in her eyes and head produced by the glasses were too severe. After having a piece of rubber vulcanized on the under surface of the nose-piece, thus preventing contact of the gold with the skin, the patient was able to wear the gold spectacles.

CASE IV.—Miss W——, aged twenty-eight, has suffered from asthenopia for several years. She had also blepharitis and chronic conjunctivitis. Under homatropine her refraction, October 8, 1894, was: O.D. + 1.0 D.S. ⌒ + 0.75 D.C. 45°. O.S. + 0.5 D.S. ⌒ + 0.5 D.C 120°. These glasses were ordered and worn in steel frames with relief to all her symptoms. About Christmas-time she was presented with a pair of gold frames. She was unable to wear the gold frames because of the severe pain which began in both eyes as soon as the glasses were worn. Wearing the gold frames also increased the redness of the edges of the eyelids and made the eyes stream tears. The patient returned to find out if her glasses were all right. She was anxious to wear the gold frames. In order to determine if the gold frames caused the trouble, a piece of paper was placed under the nose-piece, preventing contact of the gold with the skin of the nose. She now felt all right, wearing the gold frames. With a note to the optician she hurried down town to have her gold frames fixed. The optician placed tortoise-shell on the under surface of the nose-piece to prevent contact of the gold with the skin. The patient felt better than with the gold frames, but they were still troublesome. An examination showed that the tortoise-shell was held fast by metallic pins, which may have caused the trouble. Vulcanized rubber was substituted and the patient was able to wear the gold spectacles with comfort.

Summary.—1, Steel spectacles relieved; 2, gold spectacles could not be worn; 3, gold spectacles with the gold not in contact with the skin, relieved.

64 EAST FIFTY-EIGHTH STREET.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

HOSPITAL NURSES—THE LATE SUMMER PUBLIC HEALTH—CHARGE OF MANSLAUGHTER—DIFFICULTIES FROM INFECTIOUS HOSPITAL OVERCROWDING—MR. ERNEST HART'S STATEMENTS—REPUDIATION FROM MADRAS.

LONDON, September 28, 1895.

THE correspondence on "White Slaves in Hospitals" still goes on, and excites as much interest as can be expected. Many grievances have been named which must fall heavily on the nurses, and after the exposure which has taken place managers must move or the charities will suffer. Surprise is here and there expressed that the nurses do not themselves complain, but the truth is they dare not. The rule of the matron or secretary is absolute, and often these officials are not fit for their post. The matron may be an experienced nurse but unrefined, a housekeeper without the tact or knowledge required to provide an appetizing but economical diet. Even when a lady occupies the position her rule is despotic, and she is apt to forget that some at least of those under her are of equal social position, and often better educated. An appeal to the Board is, I know, almost always hopeless, and results in dismissal with a view of maintaining discipline. The Boards of Management have now had warning. The public requires them to maintain justice as well as discipline. It is admitted on every hand that the women who take to nursing are very easy to manage, as they expect to sacrifice many comforts. They are certainly prepared to endure every hardship incidental to their vocation, but that is no reason why Boards should increase those hardships by neglecting their own duties of supervision, and committing undue authority to any one they cannot or will not control.

No doubt the question of finance will come before these Boards. Let them remember that economy does not consist in buying inferior food for nurses, or in arranging a dietary which is not nutritious. The question of long hours is more serious, as a great increase of the staff would be costly. But it will never pay to knock up the nurses by overwhelming them with work, and the numerous women one meets who have broken down under the strain proves the real urgency of the grievance.

We are enjoying or enduring—according to the temperament—a period of prolonged fine weather and almost unparalleled heat for this time of year.

In town it is oppressive, but in the country delightful, though in the full sunshine it is too hot for many. In the early mornings and evenings I have experienced nothing like it for many years.

The health of both London and country continues good. There was a slight rise of mortality in London last week, but only to sixteen per one thousand, and in other towns the returns were as favorable, while Croydon only registered nine. There is an increase of scarlet fever in some districts, and diphtheria maintains its hold.

A sad case of death in parturition has occurred, and resulted in the arrest of the doctor in attendance on a charge of manslaughter from neglect or recklessness. At the inquest it was alleged that he was intoxicated, but other statements were that he was ill and had taken chloral. He had been in practice some thirty years, and had attended over five thousand labors. He will have to stand a trial, when perhaps it will be shown that the preliminary investigation is incomplete.

An incident at the East End last week seems to point to the need of some further supervision of cases of in-

fectious disease for which the hospitals have not room. A child with scarlet fever was taken to the London Hospital. An ambulance was sent for and the patient removed to the hospital of the Asylums Board, but as this was full the child was conveyed home again in the ambulance. No further steps were taken by the parents, and no bed seems to have been vacant. The child died in ten days, and at the inquest the father said that it was no use sending for a doctor, as he would only have ordered removal to hospital. Either ignorance or carelessness seems to have been partly to blame. The hospital accommodation is sometimes overstrained, and there has been great difficulty in providing more. It is suggested that when a patient is sent back to his home some account should be kept to prevent his remaining unattended; but surely most people would send for a doctor.

The Madras branch of the British Medical Association has, at a special meeting, adopted a vigorous protest against the resolution of the Public Health section on Indian sanitation, which it declares to be based on erroneous statements of Mr. Ernest Hart.

Many members of the Association have been led away by Mr. Hart's statements, some of which are certainly erroneous. The Indian medical officers, too, have been disgusted by the superciliousness and contempt for their experience he has displayed. Some of his remarks respecting the senior officers in the service were most insulting, and coming from one whose knowledge of the matters he spoke of was altogether second-hand, naturally gave offence. Some previous protests have accordingly appeared, in reply to one of which a leading article was issued in the journal of the offensive kind Mr. Hart is so capable of. This article holds up to ridicule a distinguished medical officer as the holder of military rank, lieutenant-colonel, and this after all that has been claimed for officers in the service! also as having been engaged largely in civil practice! Then it extols Mr. Hart and his knowledge, which is purely theoretical, while that of veteran officers is practical. Mr. Hart has never been nice about giving offence, and has delighted to dip his pen in gall, but it is time he gave up his bitter personalities. Already many are remarking that the Association pays him to edit the journal, not to insult members, and a few are anxious to know what he has been paid for his trip to India, and whether the Association has been paying for his other tours? But the financial reformers of the Association are not likely to extract information.

OUR PARIS LETTER.

(From our Special Correspondent.)

MEDICAL PARIS HERSELF AGAIN—BEQUEST TO THE FACULTY—THE PUBLIC AND THE PASTEUR INSTITUTE—HIGH INFANTILE MORTALITY—QUACKS AND CHARLATANS—GOOD RULES FOR BICYCLISTS—MUSIC AS MEDICINE.

PARIS, September 25, 1895.

PARIS, that is medical, professional Paris, is beginning to be herself again; almost all the leading practitioners are back from their long outing, and nearly every day sees the arrival of some distinguished professor of the Faculty. All the buildings making that formidable pile known as the "École de Médecine," are being cleaned, the schedule of lectures and courses are posted, and all will very shortly be ready for the formal opening of the winter semestre, which nominally takes place October 15th; but it will be fully a month later before everything is in full working order.

Professor Brouardel, the Dean, has been authorized by the Faculty to accept the bequest of Mr. Ch. I. Mautter according to the conditions of his will, for the foundation of an annual prize in favor of a woman doctor, authoress of a work on the diseases of children.

The General Council of the Seine, considering that the prefectoral administration has sent to the different mayors of Paris instructions regarding admission to the Institut Pasteur of persons bitten by mad dogs, and that these instructions are not within reach of the public, who mostly ignore them altogether, have voted that precise instructions regarding the formalities to be complied with for the admission of wounded to the Institut Pasteur be posted in every commune; and that they be printed, with all other instructions relative to hygiene, upon the inside covers of copy-books used in the public schools, just as tables of botany or historical synopsis would be. This is an example that your New York Board of Health would do well to follow, at least in so far as hygiene is concerned, and, of course, vaccination. The health of Paris is not quite as good as in the corresponding month in previous years. For instance, the *Bulletin de Statistique Municipale* records 982 deaths during the last week; whereas there were 880 the week before, the average for September being 832. Torrid weather has prevailed in Paris for some days past, the sun has shone mercilessly in a cloudless sky, running the thermometer up into the nineties, and this accounts largely for the increase in the mortality-rate. The number of deaths from infantile diarrhœa, athrepsis, etc., during the first year of life has been 152, almost the double of the ordinary (78) at this season; moreover, those caused by diarrhœa, between the ages of one and four years, have amounted to 36, or nearly triple the average (13). As is always the case, the heat has fallen heaviest upon the poorer population in the sequestered quarters of the city, who do not give sufficient care to cleanliness nor to the alimentation of their young children, and where pure milk and scrupulously clean vessels are the exceptions. Epidemic diseases are rare. Typhoid fever has caused but 8 deaths instead of 13—the average.

Notwithstanding the severe requirements to attain the grade of "Doctor" and the stringent new laws regulating the practice of medicine in France, many quacks and charlatans still remain to be dealt with. All the medical societies have now a legal standing as syndicates; the secretary has only to notify the authorities of any case of illegal practice that may have come to his knowledge, and such person is proceeded against at once. Nevertheless, we counted, only yesterday, ten medical posters giving the name of a "doctor" on each, his address, and hours of consultation, in public urinals on the Boulevards. One of these has just been condemned by the tribunals to a fine of 1,000 francs. Next, the Court of Appeals of Paris has likewise condemned a druggist to 25 francs fine, and 100 francs damages for counter-prescribing, an evil from which physicians and the public suffer in other large cities as well. It seems that the druggist in question prescribed a prolonged application of a two per cent. solution of carbolic acid on an excoriated thumb.

M. Rochebave has just formulated the following precepts, which every bicycle amateur would do well to follow: 1. Only ride on a bicycle after consulting your doctor. An examination should be made, not only before but after riding, as certain cardiac derangements only manifest themselves under the influence of fatigue or over-exertion. 2. Only go at moderate speed, twelve kilometres an hour. Only increase that rate of speed after methodical and daily training. Even after a few days of interruption, recommence at a low speed. 3. Overcome as much as possible the desire to go fast. Bicycles almost roll of themselves. It is very difficult not to yield to the "delirium of rapidity." With a light machine on a good road, the slightest breeze aiding, an amateur can easily do twenty kilometres an hour. This is too much; since at twelve or fourteen kilometres the pulse-beats rise to 150 per minute.

An interesting work has just been given us by Dr. Ferrand, a psychological essay on music.

From a medical stand-point music may truly be con-

sidered a profound moderator of the activity of the nervous system, and deserves a place in therapeutics in the same category as the antispasmodics, that is to say, agents that modify the activity of the nerve-centres in communicating to them impressions other than those which they are accustomed to obey. In varying its different measures, the mechanism of its rhythm, the vivacity of its melody, the complexus of its harmony, music would seem to act as an antispasmodic, either simple, stimulant, or moderating. Finally, music is capable of acting upon the seat of motor and auditive sensations, and upon the seat of images corresponding to those sensations—capable, consequently, of exciting sensory ideas and the sentiments belonging to them. Dr. Ferrand's conclusions are certainly very interesting to those making diseases of the nervous system a specialty. The subject, however, is by no means new and the remedy not difficult of application; only the physician himself should have a thorough knowledge of it in order to know exactly what conditions to fulfil, or what choice to make, how much musical exercise to prescribe, and what works would be best for his patient to hear or perform.

MEDICAL LANGUAGE.

To the Editor of the Medical Record.

Sir: A paragraph in your issue of September 17th, p. 342, under the head of "Hippopyrrhine," suggests to me the following remarks: Of course it is stupid and out of place to use the word "vaccinate" or "vaccination" for anything that has no connection with the cow or with "vaccinia." Dr. Badour takes great pains to forge a new word, which, if not intelligible, is at least barbarous, though being Greek. The term is certainly clumsy, as you well style it. I, a humble member of the profession, not "learned nor fond of word-making, venture to remind you that there are two good old words," which seem to me to hit "off the case neatly and euphonically;" I mean "to inoculate with" or "to imp with." See New High German, *impfen;* Middle High German, *impfen, impfeten, impeten;* Old High German, *impfôn, impffitôn, impitôn, anglosam, impian.*

By the way, I am much afraid that my friend Dr. Achilles Rose's scheme, to have New Greek adopted as the international medical language, has little chance ever to become realized. Greek, old or modern, is just as little known as Hebrew or Chinese in a great part of the world, namely, at least, where people speak Spanish or Portuguese. Honestly though, being a German, I would rather propose to adopt English, which, besides its other advantages, has that the English-speaking people form so great a majority of the civilized world. That is a fact, and there is no fighting against facts. If we are not able to have a soul above national pride and vanities, we are not yet fit for anything really "international."

Dr. Semeleder.

Cordoba, State of Vera Cruz, Mexico, September 26, 1895.

The Health Department and the Examination of Tubercle Bacilli.—The St. Louis Health Department makes free microscopic examinations of sputum for tubercle bacilli. The Health Commissioner asserts that certain doctors send specimens to the Health Department for examination, and then charge their patients $5 each for this. Such a proceeding does not seem right to the Health Commissioner, and is not in accord with medical or other ethics. When a government, however, undertakes the job of providing free examinations, free medicines, free inspections, free vaccinations, free disinfections, etc., it must expect some friction before the state of perfected paternalism is reached.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending October 12, 1895.

	Cases.	Deaths.
Tuberculosis	99	112
Typhoid fever	17	11
Scarlet fever	34	2
Cerebro-spinal meningitis	1	3
Measles	40	1
Diphtheria	151	25
Small-pox	1	1

Dual Personality and the Double Brain.—A favorite theory with some speculative psychologists, and one which appears to be gaining ground, is that the two cerebral hemispheres are capable, to some extent, of independent activity. The theory has been evoked to account for those strange but well-established cases in which an individual appears to possess two states of consciousness, two personalities as it were—such cases as afford the basis of fact for Stevenson's weird romance of "Dr. Jekyll and Mr. Hyde." Dr. Lewis C. Bruce, in the last number of *Brain*, records a case which is more strongly in favor of the double-brain theory than any, so far as we know, previously reported. The man was an inmate of the Derby Borough Asylum. He was a Welshman by birth, and had been a sailor by occupation. He was a lunatic, but his mental characteristics were very different at different times. In one state he was English, in the other, Welsh. In the English stage he was the subject of chronic mania. He spoke English, but understood and could converse in Welsh. He was restless, destructive, thievish, and fond of playing practical jokes. He exhibited a fair amount of intelligence, wrote, drew pictures of ships, related incidents in his past life, recognised the doctors and attendants, and was bold and fearless in his manner. His memory, however, was a blank as to what occurred in the Welsh stage. Thus, on one occasion he burnt his arm during the Welsh stage, but, passing a few days later into the English stage, he could give no account of how he suffered the injury. Yet he could remember events which had happened earlier in an English stage; for instance, a year later he could recall accurately particulars about Christmas decorations. He knew coins and their purpose, he recognized varieties of tobacco, and sought to obtain the weed by fair means or foul. He named the primary colors, and was pleased with the sound of a tuning-fork. Taste, smell, and touch seemed to be unimpaired. His circulation was good (pulse of high tension), he had a good appetite, his bowels acted well, and he was very fond of his bath. Into the Welsh stage he passed either suddenly or by way of an intermediate stage; in the Welsh stage he was in a condition of dementia. He understood Welsh, but talked a gibberish in which, however, some Welsh words were recognizable; he did not understand English. He sat doubled up in a chair for hours, did not attempt to move at meal-times, was sly and suspicious, did not recognize doctors or attendants, his circulation was weak, his extremities livid, his legs often œdematous (pulse of lower tension). He suffered from constipation, disliked bathing, did not recognize coins or tobacco, was alarmed at the sound of a tuning-fork, and appeared to have no power of discriminating by smell or taste. As far as the symptoms so far mentioned go, it might be possible to explain the man's dual states, taking our clew from the fact that he retained some knowledge of Welsh in his demented stage, by suppos-

ing that some variation in the blood-supply might have thrown in and out of action the more recently organized centres, which, as the man was born Welsh, would be the organization for speaking English, while the Welsh part of the speech-centre would still remain capable of some, though a very imperfect, form of activity. This hypothesis, however, appears to be negatived by the fact that he was right-handed while in the English stage, left-handed while in the Welsh stage. While in the intermediate stage, when this was observed, he was ambidextrous, and spoke a mixture of English and Welsh, understanding both languages. This fact seems to leave us no alternative but to conclude that in the English stage the left, in the Welsh stage the right hemisphere was the more active. In the Welsh stage, when he attempted to write, the result was practically illegible, but he used the left hand and traversed the paper from left to right. In the English he wrote with the right hand from left to right, and rather more legibly. He could also write with his left hand, but then traversed the paper from right to left, and his writing had the characters of mirror-writing—that is, it could be read when held up to a mirror. — *The British Medical Journal.*

Provident Associations and the East-Side Doctors.—A writer in the *New York Herald* calls attention to a new kind of co-operative scheme of medication, which has been started in this city, on the plan of an insurance association. Although the scheme is spoken of as "new," it is practically a form of the provident insurance associations, such as have been attempted in England. The writer says: "Nearly every head of a family, in this eastern section of the city, belongs to a secret benefit society of some sort. Until lately these societies confined their activity to life insurance, funeral benefits, and sick benefits, but lately the feature of medical insurance has been added to several of them. The plan is to engage some young physician who, for a fee of seventy-five cents per quarter from each member of the society, undertakes to attend the member or his family in case of sickness. At first sight it seems as if this might be a profitable arrangement in the case of a society with one thousand or more members, but in practice it is not so. Every member of the society has several children, one or more of whom are almost constantly ailing, and the slightest ailment furnishes an excuse to call the doctor when his visit costs nothing extra. One young physician who rashly entered into contracts with three of these societies, having an aggregate membership of fifteen hundred, told me that he estimated that he got three-quarters of a cent for each call he made. 'I can find no time for private practice,' he said. 'To-day I have had forty-two calls from my society patients, and I have an average of thirty a day. I am all worn out with the work, and when my quarter runs out nothing will induce me to renew the contract. Why, if a child scratches its finger I have to go and dress it, and I have even found cases where the society members called on me to visit their neighbors, passing them off as members of their own family and charging them a small fee for the accommodation.' "

The Adventures of a Scientific Paper.—In consequence of his communication on the serum treatment of tuberculosis presented to the recent annual meeting of the British Medical Association, Professor Maragliano, of Genoa, says *The British Medical Journal*, has had an amount of greatness, or at any rate celebrity, thrust upon him which he is probably beginning to find somewhat inconvenient. Though the paper was professedly intended for the British Medical Association, it seems, by a mysterious process of thought transference, to have been brought immediately to the knowledge of the editor of our esteemed contemporary the *Berliner klinische Wochenschrift*, who published it *in extenso* in his issue of August 12th, before we ourselves had had the opportunity of seeing the document. Almost simultaneously it appeared in the *Gazzetta degli Ospitali*, the *Riforma Medica*, and other Italian journals, and copious extracts from it were given in the leading political papers of Europe. Immediately after the London meeting the Professor's philanthropic zeal appears to have led him to Bordeaux, where he presented the same communication to the Congress of Internal Medicine which met in that city. Several of the French medical journals are angry with Professor Maragliano for having offered a second-hand article to the Bordeaux Congress, and have therefore declined to let the paper appear in their report of the proceedings.

Malingering and Miracles.—Pierre Delanay, supposed to have been cured in a miraculous way at Lourdes, has confessed that he only shammed illness. He describes his case as follows: Having served for some time as a hospital assistant, and thus become familiar with the clinical jargon, Pierre one day declared himself the victim of an attack of locomotor ataxia. For five years he fooled the doctors and had a good time in bed, with nothing to do but to dispose of the nourishing diet which his sad case called for. The doctors seem to have had their suspicions, however, and a severe course of "the fire and hanging method" decided Pierre that the game was not worth the candle; so he decided, in the words of the song, to "go where he was respected." At Lourdes he was received with open arms, and when in the sacred grotto he threw away his crutches and proclaimed himself cured, he was received with cries of acclamation. Archbishops and bishops hastened to testify to the miracle, the Marquis de Villeneuve gave him an easy and lucrative post, and the world was made easy for the "brand plucked from the burning."

To Avoid Poisoning by Tinned Food.—Some light is thrown by *The Lancet* upon the mysterious cases of poisoning by tinned food which from time to time are reported. They are believed to be due to neglect of the caution against eating tinned foods that have been exposed to the air for some time after being opened. The exact manner in which poisonous substances, technically known as "ptomaïnes" are generated so rapidly is not known with certainty, but the fact that they are produced in sufficient quantity to cause very grave symptoms of poisoning have been brought out in a multitude of instances. In one well-known case the first half of the contents of a tin of lobster was consumed with no ill effect, but the rest, a few days afterward, proved extremely poisonous. It is suggested that as a safeguard manufacturers might label the tins with some such notice as, "The contents of this tin are perfectly wholesome when eaten fresh from the tin, and afford good food, but the public is advised not to expose the contents for any length of time to the injurious influences of the atmosphere." The writer goes so far as to suggest that some such warning might be insisted on by the Legislature.

Petrifaction of the Human Subject.—There exists in a Florentine museum in Italy a number of examples of the skill of petrifying the dead and preserving their features, which was possessed by the late Dr. Girolamo Segato. *The Lancet* notes the recent finding of a petrified head of a young woman, who had died of tuberculosis, which is the most striking specimen of his art. In the past sixty years there seems to have been no particular change in this head, which preserves the features and even the complexion, with the most weird realism.

Denver's Home for Consumptives, which has been erected by Mrs. W. D. Sloane and Mrs. Auchmuty and others at a cost of $150,000, was opened a few days ago. The home is not a hospital. Only incipient cases are taken. There are to be no nurses and no resident physician, and each will pay for medical at-

tendance. There will be a "mother," or matron, who will preside over the home, and there will be no rules except those that enforce hygienic cleanliness. The cost of living at the home is $6 a week. We take it that the purpose of the home is to help poor people who are in the incipient stage of consumption only.

The Walker Memorial Hall.—Dr. Henry F. Walker, of New York, who was for many years associated in practice with Dr. T. Gaillard Thomas, has presented his native town, Pittsford, Vt., with a handsome building, to be known as Walker Memorial Hall, in memory of his parents, the Rev. Dr. Charles Walker and wife; and the dedication services were held on September 11th. Addresses were made by Dr. Walker, his brother, Rev. George Leon Walker, of Hartford, the Rev. Dr. George A. Boardman, and others. The building is to be mainly occupied by the MacClure Circulating Library, which was founded nearly a century ago. Dr. Walker, besides being the donor of Walker Memorial Hall, has furnished Pittsford with an excellent system of water-works and sewerage.

The Three Kinds of Doctors.—The *St. Louis Medical Journal* divides physicians into three classes: Those who read, those who do not read, and those who pretend to read. Our contemporary does not make any attempt to give the census of these different classes, but intimates that the third class is unduly prominent in this country.

Absorption of Drugs by the Bladder and Urethra.—Dr. J. P. Walsh says that absorption takes place from the bladder, vagina, and urethra (*University Magazine*). Absorption is a matter of lymphatics, not of epithelial cells. The various forms of cells lining different parts of the respiratory, digestive, and genito-urinary tracts play mainly a protective part for the lymphatic structures beneath. That in some places they have a heightened activity, and seemingly a selective action in absorption is true; but at no part do they absolutely prevent absorption. Even the cutaneous epithelium, with its horny epiderm will allow the passage of a number of substances. Rapidity of absorption, then, depends on the richness of the lymphatic structures in a part, and not on the character of the mucous membrane covering it. The lymphatics in the bladder are not numerous, but they are easily demonstrable. Absorption should take place then, though not rapidly. His specific conclusions are that: 1. The bladder absorbs somewhat slowly the drugs that are injected into it, but it has a true absorptive power. 2. The urinary constituents, water and solids, are, to a certain extent, reabsorbed from the bladder, when allowed to remain in it for some time. 3. The anterior urethra absorbs more readily and rapidly than the bladder. The posterior urethra, about as the bladder does. 4. The vagina absorbs very readily ordinary drugs that are injected into it.

Nine Days Asleep.—An experiment which the *Western Reserve Medical Journal* calls interesting, but which we should say was dangerous and uninstructive, was recently conducted in Cleveland by a professional hypnotist. A boy was put to sleep on July 15th and told not to wake up for seven days About 2 A.M. on the morning of July 18th the boy awaked, however, but was at once put to sleep again by the hypnotist and remained so until the evening of July 25th. He had then slept seven days and gone without food nine days. Two physicians were in charge of the experiment, and watches of eight hours each were assigned to students of the second-year class of the Western Reserve Medical College, so that at no time was the boy alone, and at no time were less than two students present. The experiment, says the *Journal*, was unquestionably scientifically conducted, and is of no little interest to medical men in showing that the hypnotic state may be prolonged at least a week, during which time tissue-change goes on as in natural sleep (Sohn lost some twenty pounds in the week), but the natural sensation of hunger does not seem to awaken the subject.

Aristocratic Doctors.—According to the *Gaulois*, Count de Goyan, a prominent Royalist, and formerly a member of the Chamber of Deputies, has taken the degree of Doctor of Medicine at the Paris Faculty, with the object of giving himself up to the treatment of the sick poor. In this, Count de Goyan has followed the example of the Duc de Rivoli (also a former Deputy), Count de Sinéty (a member of the Jockey Club), and M. Rembielinski (well known in Paris society). All these gentlemen began the study of medicine after the age of thirty, and went through the prescribed course, passing their examinations and taking their degree in the ordinary way. Baron Henri de Rothschild, who is also preparing for the medical profession, entered himself as a student when very young. He has a pronounced taste for surgery, and his present intention is said to be to found a surgical hospital at his own expense.

The New McLane Hospital.—This hospital, which is winning a good deal of reputation for its hospitality, as well as its architectural appointments, held a reception to the officers of kindred institutions, and the physicians of Boston and neighborhood, on October 1st.

Dr. Frank Parsons Norbury, who recently removed to St. Louis to assume the editorial management of the *Medical Fortnightly*, has been elected to the chair of Practice of Medicine and Clinical Medicine in the St. Louis College of Physicians and Surgeons.

Snake-bite Antitoxin.—In British India alone there are each year from eighteen to twenty thousand deaths from snake-bite. Hence the unusual interest of Professor Fraser's recent lecture before the Royal Society of Edinburgh, giving data obtained by him during several years experimental work on an antidote for snake-poison, obtained by following principles similar to those utilized in the antitoxin treatment of diphtheria. The *Popular Science Monthly* states that he first immunized an animal by repeated small doses of the snake-poison, slowly increasing the quantity, until the animal was taking at a single dose many times the minimum lethal amount for a non-immunized individual. Into another animal was then injected some of the blood-serum from the immunized case, and it was found that this prevented any ill effects from a subsequent injection of venom. Still a third animal was given an injection of pure venom; and, when distinct symptoms of poisoning appeared, was treated with the immunizing serum with the result that the symptoms of poisoning disappeared and no ill effects followed.

Therapeutic Use of Extract of Bone-marrow.—In a paper by Dr. John S. Billings, Jr., read before the Johns Hopkins Medical Society, the efficacy of bone-marrow was considered, and its use illustrated by the history of selected cases. The first case of anæmia treated by this agent was reported by Fraser. Results were excellent. Bigger gave an account of a boy suffering from leucocythæmia, who also was treated with bone-marrow. There was rapid diminution in the size of the spleen and marked improvement within a week. In the author's cases, those of chlorosis, were benefited, while the persons suffering from pernicious anæmia were not improved. The conclusion is that the extract of bone-marrow may be of value in cases of ordinary anæmia and chlorosis that would be benefited by iron in other forms. The marrow was given in a glycerine extract. Twelve ribs of sheep were carefully scraped and chopped into small fragments, then rubbed up in a mortar with one pound of glycerine. This was allowed to macerate for three or four days, being kept in a refrigerator during that time. It was then strained through gauze, and the resultant liquid given in teaspoonful doses three times a day.

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Medical Address.

THE PRACTICE OF MEDICINE IN THE LIGHT OF BACTERIOLOGICAL RESEARCHES.[1]

BY A. ALEXANDER SMITH, M.D.,

NEW YORK.

THE scientific and accurate demonstration of the relationship of micro-organisms to disease is of comparatively recent date. Although prior to 1882 a large number of observations had been published in the attempt to establish the relationship of cause and effect between microbes and disease, the medical profession was slow to accept the conclusions. Koch's researches, published in 1882, marked a long step in advance. His method was the first exact one, and by its aid he was able to discover many new points in the morphology and biology of micro-organisms. His method, an account of which was published at that time (1882), has been very little modified to the present day, and "Koch's law," to the postulates of which a micro-organism must conform before it can be considered the cause of a certain disease, is still the authority. Scientific men had been prepared by the labors of earlier investigators to accept Koch's conclusions. Indeed it is doubtful if, without such earlier investigations, Koch's conclusions would have been so readily accepted. Koch's investigations demonstrated the relationship of a specific micro-organism to disease, first by showing the constant presence of such micro-organism in the tissues or fluids of the individual suffering from such disease; then its absence in all other diseases; then its isolation, growth, and repeated cultivation, and finally its power of reproducing that disease after inoculation in certain animals.

The pioneer worker in modern bacteriology was Colm, professor of botany in Breslau. He had students but no systematic course. Koch was probably the first to give a systematic course; this was given in Berlin in 1880 and 1881, but was not open to all applicants, being under governmental control. The first open courses were given in Munich, by Frobenius, and in Göttingen, by Flügge, in 1883 and 1884. Dr. Welch, now of the Johns Hopkins Hospital, took these courses, and in 1886 and 1887 gave, in the Pathological Institute of the Johns Hopkins Hospital, the first open course in instruction in bacteriology in the United States. This was modelled after Koch's course. In the spring of 1885 Dr. Herman Biggs gave instruction in bacteriology in the Carnegie Laboratory in this city, he having taken instruction in the winter of 1884 and 1885 from Müller, a director in the Dental Institute of the University of Berlin. In the last ten years courses of instruction have been established in many places in Europe and this country, and medical students are given the opportunity for instruction in this important branch of medical study. In this country, recently, laboratories have been established in connection with boards of health, local and State, for the prosecution of bacteriological work.

[1] Being the Address on Medicine delivered before the New York State Medical Association, October 15, 1895.

It may prove not uninteresting to glance at the work of the past.

Leuwenhoeck first observed micro-organisms in 1675.

Pleuciz, a contemporary of Leuwenhoeck, was the first to advance the idea that micro-organisms are the cause of disease, and that each disease has its specific organism, transmitted through the air. He was unsparingly ridiculed, however.

Müller, in 1773, was the first to make any close study of micro-organisms; he first classified them (yeasts, fungi, etc.).

Davaine, in 1863, first demonstrated the probable relation of a specific organism to a specific disease.

Rindfleisch, in 1866, first demonstrated the presence of micro-organisms in pathological lesions.

Pasteur may be said to have been the first to thoroughly study micro-organisms. He was originally a chemist, but noticing one day that certain solutions of the tartrates, after standing, underwent changes in their polarizing properties, he investigated the subject and thus started on his life's work, the results of which have been so wonderful and valuable. In 1857 he published his investigations of the lactic-acid fermentation, following this up with his work on the diseases of vines, beer, etc. He proved each fermentation to be due to a certain organism, and that if its entrance be prevented fermentation could not take place. While his early work does not come directly into the field of medicine, it influenced it greatly. The process which destroyed grape-vines was a true disease; he considered it as such, and after determining its etiology, pointed out a mode of cure. His later work on anthrax, gangrenous septicæmia, and suppuration, brought him directly into human medicine. The value of his work is inestimable. Our ideas of sterilization are based on this work, and he first succeeded in isolating an organism by means of his method of "successive cultures." Koch's solid media method is simply an advance on the same line. Pasteur first stated that micro-organisms are absolutely essential to life on the globe, that they occupy a middle position between the animal and higher vegetable kingdom, and by decomposing animal matter into its component elements, renders it available as food for the plant world, which in turn supplies the animal world with food and oxygen. In a word, he demonstrated the fallacy of "spontaneous generation."

Lemaire discovered the value of carbolic acid as an antiseptic, and believing suppurations of wounds to be due to germs from the air, he treated such wounds with carbolic acid. This was the first step toward the antiseptic treatment of wounds which Lister worked out to such brilliant results afterward.

Villemin, in 1865, first demonstrated the infectious nature of tuberculosis, by showing that it could be transmitted to animals by inoculation.

In the early half of this century it was enough to say that a disease was due to inflammation of a particular organ or organs, and that such inflammation could be caused by cold, sudden changes, and so on. The contagious and epidemic nature of the various acute diseases was well recognized. Thirty years ago the spread of such diseases was thought to be through the air. Cholera and typhoid fever alone were thought by many to be transmitted by means of drinking-water or food. We now know that transmission through the air plays a very minor rôle, at least in those diseases in which the

micro-organism has been demonstrated. It has been proven that solid particles of matter, such as micro-organisms, do not rise from moist surfaces. Bacteria are mainly diffused by adhesion to the hands, to clothing, etc., or by drying up, when they take the form of dust and are blown about. How easy to demonstrate from this the great value of prophylactic measures. It is comparatively easy to destroy the vitality of micro-organisms in the moist state, as in typhoid-fever stools, for example, and correspondingly difficult where they are all around us in the atmosphere in the form of infected dust.

The changes brought about by our present knowledge of bacteria are more marked in surgery than in internal medicine. The discovery of the organisms of suppuration, of the effects produced upon them by bichloride of mercury, carbolic acid, and other substances, and the demonstration that an operator can go almost anywhere in the body so long as he keeps everything clean and aseptic—these facts have revolutionized surgery and obstetrics. We no longer hear that a wound is "suppurating nicely," but if it does suppurate the surgeon wants to know the reason, whether it is his fault or that of his assistants. There is blame somewhere.

In obstetrics, if proper precautions are taken, the many dangers from sepsis which formerly surrounded the patient have been reduced to the minimum. In internal medicine, on the other hand, there has been no such marked progress. While the discovery of the bacterial nature of certain diseases has been of great value in prophylaxis, and has demonstrated the futility of certain lines of treatment, no material advance has been made in the actual treatment of disease by internal medication. Exception may be made in the case of diphtheria, which will be discussed later. This is chiefly due to the fact that in diseases we do not find the specific organisms localized in limited and accessible areas. Where surfaces are accessible, such as the skin and mucous membranes, and cavities like the pleural and peritoneal cavity, specific local treatment based on the knowledge of the microbe origin of many diseases affecting them, has been of great practical utility. We have not yet found an agent which, if given internally, will surely and rapidly kill the micro-organisms, and not at the same time kill or injure the living tissues of the body. Antiseptic and aseptic methods are, for this reason, only beginning to be employed in internal medicine. The tendency now is to prevention of the spread of the disease by individual prophylaxis. The application of the various methods can only be thoroughly and effectively carried out when the physician understands the reasons for his actions, keeping clearly in mind the objects to be attained. It is the practising physician to whom is intrusted the application of the discoveries and advances made by the laboratory workers; hence the importance of a familiarity with the theories and principles of bacteriology on the part of every physician. The present ideas as to the contagion and diffusion of disease have been extended to other diseases, the precise micro-organism of which we are as yet ignorant of; for example, scarlet fever, measles, small-pox, etc.

The study of the products of micro-organisms, the toxins, antitoxins, bacterio-proteins, toxalbumins, etc., has become most important. In the early bacteriological work it was thought the bacteria themselves were the direct cause of the manifestations of disease. It has now been proven, however, that these manifestations are due to the toxins produced by the bacteria. It is through the study of the action of these substances that our modern ideas of immunity have been evolved. Many observers hold that it is by the artificial production of immunity that we shall be able to combat the infectious diseases in the future. There are three chief ways of producing it in man.

First, by producing a modified form of the disease (vaccination). Over a hundred years have elapsed since Jenner first applied in medicine the principles of immunity against disease, by employing vaccination as a protective means against small-pox. Neither he nor his immediate followers understood the principles of immunity as brought about by vaccination. His first observations, however, have stood the test of time, and clinical facts have only served to strengthen his position. It was reserved for the genius of Pasteur to make a satisfactory scientific demonstration of their truth by his eminently brilliant discoveries concerning the protective power of inoculation in animals and fowls. Pasteur's method of securing immunity depended essentially on submitting the individual or animal to the attack of the disease-producing organism itself in an attenuated form—at least in a form modified in such a way as to lessen its virulence. Soon, however, other methods were devised. These later methods of securing immunity do away with the necessity of any contact whatever between the individual and the bacteria themselves. One of these methods is by the introduction into the system of the bacterial poisons produced by the specific organisms, but without the bacteria.

The third chief method, the latest, is by the introduction into the system of the serum of an animal, which is either naturally or artificially immune to the disease in question. Koch, Chauveau, Buchner, and in later times Behring, Roux, and Kitasato, have done the most important work on this subject.

So far, the treatment of disease by injections of the toxic products or toxins of the specific micro-organisms has not been of marked value. It has been tried in tuberculosis (Koch's tuberculin), typhoid fever, and latterly in cancer, by injection of the toxins of the micro-organism of erysipelas. Serum-therapy offers the most promising results, and in view of the wonderful effects of the antitoxin treatment of diphtheria we may look for a similar treatment in typhoid fever, lobar pneumonia, and cerebro-spinal meningitis; in fact in all the diseases produced by micro-organisms in which the micro-organisms themselves are the source or the cause of the production of the curative substances.

The very fact that recovery from infectious diseases is spontaneous, suggests that there is in such diseases a power on the part of the blood to produce an agent which is antagonistic to the toxins which have caused the manifestations of the disease; and after the toxins have been neutralized by such antitoxin, the remaining antitoxin affords such immunity as is generally observed. It has long been known that in many of the infectious diseases one who has suffered one attack is usually immune against a subsequent attack.

Let us glance at some of the infectious diseases in detail, and trace the influence bacteriology has produced upon our views concerning them.

In lobar pneumonia early treatment was based upon the idea of its being an inflammation pure and simple. Bleeding and purging were resorted to, counter-irritation in its various forms was thought highly of. The necessity of stimulation was well recognized. Relief, as far as possible, of the main symptoms occupied an important place. The occurrence of pneumonia in so-called epidemic form was recognized by Läennec.

The discovery of the bacillus of Friedländer in 1883, and that of the "diplococcus pneumoniæ" by Fraenkel in 1886, while modifying and confirming some of the existing views, has had practically very little influence upon the treatment of the disease. Sternberg, in our own country, discovered this micro-organism in the saliva in 1880. Other bacilli than those named have been demonstrated as present in different forms of pneumonia, such as streptococci, staphylococci, tubercle bacilli, and influenza bacilli. The pneumonia due to the diplococcus of Fraenkel is believed to be the one which runs the typical course of a lobar pneumonia, and constitutes about seventy-five per cent. of all cases. Those pneumonias running an irregular course are ex-

plained by the bacteriologist on the ground of the presence and influence of one or more of the other bacteria named. It has been proven, too, that in a pneumonia due to the pneumococcus alone, the prognosis is more favorable than in the irregular forms alluded to. For some years prior to the discovery of these organisms the recognized treatment was an expectant and supporting one, and in the main is so still.

The only attempts that have been made to evolve a line of treatment from our knowledge of the pneumococcus were those of the brothers Klemperer. They believed that the pneumococcus produced an "antipneumotoxin" which, when present in sufficient quantity, put an end to the disease by crisis. They claimed to have isolated this substance, and the first results by its use were promising. Further investigation has not substantiated their claims. While pneumonia is occasionally contagious, it is of such rare occurrence that prophylaxis, even if we knew how to bring it about, would be superfluous. The pneumococcus being a very frequent inhabitant of the mouths of healthy individuals, it seems impossible to make use of any prophylactic measures other than avoidance of constitutional depression of any kind. The frequent association of otitis media, cerebral meningitis, pericarditis, and the occasional occurrence of endocarditis and peritonitis in the course of an attack of pneumonia, was formerly thought to be accidental accompaniments. Their occurrence is now explained by the presence in the exudate of the pneumococcus of one or more of the other organisms named.

The cholera spirillum, discovered by Koch in 1884, is generally admitted to be the specific organism present in the production of cholera. Our knowledge of this fact has had little effect on the actual treatment of the disease, unless the large tannin and water injections be considered an outcome of this knowledge. It was found by experiment that tannin was to a certain extent antagonistic to the virulence of the cholera spirillum. Because of this fact and its known astringent effects it was suggested in the treatment of cholera.

The discovery of the specific organism has been of the greatest value in preventing the spread of the disease.

It is also possible to determine, by means of the proper bacteriological methods, at the beginning of an epidemic of some diarrhœal disease, whether it is true cholera or not. In quarantine work this method of diagnosis is especially valuable, and leads at once to the use of proper precautions to prevent the spread of the disease. Work is now being done in Germany upon a cholera antitoxin, but the reports so far published are insufficient to warrant our forming any conclusion as to its value.

Tuberculosis has been one of the most thoroughly studied of diseases, and was generally ascribed to a micro-organism before Koch, in 1882, reported his discovery of the tubercle bacillus. The climatic and dietetic treatment of tuberculosis cannot be said to have been advanced by this discovery. On the other hand, in diagnosis, prognosis, and prevention of the spread of the disease, it has been of the utmost service. The demonstration of the presence of the bacillus in the sputum, the stools, the urine, the secretions from sinuses —indeed its presence in many situations—have often made definite a suspected diagnosis. It has shown that at least many of the so-called scrofulous conditions are tuberculous. While the communicability of tuberculosis was recognized long before 1882 by clinical observation, the discovery of the bacillus and subsequent researches served to emphasize the fact that tuberculosis must be placed among the infectious communicable diseases, and that communicability must be recognized under certain conditions. Since the discovery of the bacillus the modes of infection by it have been more definitely demonstrated. Our views of heredity in regard to tuberculosis have been greatly modified. The disease was formerly thought to be directly transmitted from parent to child. Now it is believed to be transmitted very rarely, and that only by the mother. Heredity does play an important rôle in many cases, in that it transmits a soil ready for the reception, growth, and development of the specific germ when this is implanted.

The importance of infection by inhalation was recognized early after the discovery of the bacillus. It led quickly to the thorough sterilization of the moist sputum. The sputum is found to contain the virus in large quantity, and when dried takes the form of dust and disseminates everywhere. It has been demonstrated that the dust of rooms and wards of hospitals which have been occupied by tuberculous patients is in many instances infective. Any condition under which the dust infected with tuberculous virus can be inhaled may be the means of infection. The importance of this fact cannot be too highly emphasized in the direction of the prevention of the spread of the disease. Direct intimate contact may communicate the disease. It may be communicated by inoculation, but it then usually remains localized. Milk may be the means of infection. We are all constantly exposed to the infection from the presence of millions of the micro-organisms in the air we breathe at times. Some of us escape because of the fortunate lack of vulnerability of our tissues. All possible means should be resorted to for the prevention of infection. Koch's tuberculin has been a disappointment. It still, however, retains the confidence of a few observers in a modified form, but is now mainly used in the diagnosis of tuberculosis in cattle.

It is generally believed that the bacillus discovered by Eberth in 1880 is the cause of typhoid fever. Based upon this discovery efforts have been made to introduce methods of treatment directed toward the destruction of the bacilli or their toxic productions, but without definite success. It is only in prophylaxis and in the prevention of the spread of the disease that this discovery has had any great effect upon internal medicine. It has confirmed the belief, held by many before its discovery, that milk and water and food are the chief modes of infection. In many instances the bacteriologist has been able to definitely trace the source of an epidemic of typhoid fever by discovering the bacillus in the water-supply. The typhoid bacillus has wonderful vitality. The bacteriologist has demonstrated that it is capable of withstanding for a brief period a dry temperature of 194° F., but if exposed to a moist heat at a temperature of 140° F. for twenty minutes its vitality is destroyed. Enclosed in a block of ice at a temperature considerably below freezing-point, it maintains its vitality for months, but if the water in which it is contained be alternately frozen and thawed five times a day its vitality is destroyed in three days. I only name these among the many points illustrating its vitality.

The Germans have lately tried treating typhoid with sterilized cultures of the typhoid bacillus grown in thymus bouillon. The results at first were promising, but subsequent trials have been far from satisfactory.

Tetanus was first shown to be infectious and the bacillus isolated in 1884. Soon after Nicolaier demonstrated the presence of the same bacillus in various kinds of soil, and inoculation of animals with the soil containing these bacilli produced tetanus.

It is interesting to note the extraordinary virulence of tetanus toxin, it being from two hundred to four hundred times as virulent as strychnine. Immunity to tetanus has been procured by inoculating an animal with the blood-serum of another which has had the disease. An antitoxin prepared from the blood-serum of immunized animals has been used and reported as successful. The testimony in regard to the results is conflicting and the treatment by this method is still on trial. Perhaps with improved methods of preparation

of the antitoxin, and a better knowledge of the quantity required in any given case, better results may be obtained.

The greatest influence exerted over internal medicine by bacteriology has been in connection with diphtheria. The profession has been slow in accepting the view that the bacillus discovered by Löffler in 1884 is the cause of diphtheria, and there are still many who disbelieve it. The prevailing opinion now is, however, that this bacillus is the cause of true diphtheria. The first effect of the discovery was the abolition of certain useless lines of treatment, and the recommendation of others. Constitutional and local treatment were not displaced by this discovery, nor are they now. The greatest change in treatment brought about by the discovery at first was the more persistent and intelligent use of local treatment. The next step was the recognition of bacteriological methods and results in diagnosis, many believing the presence of the Löffler bacillus the only positive criterion of diagnosis. Diphtheria had long been recognized as highly contagious. The discovery of the specific organism but served to emphasize that fact. It is now possible to find out how long the micro-organisms remain in the throat and nasal passages after the patient is apparently cured, and how long it is necessary to resort to quarantine.

One very important feature has been the demonstration that many of the milder forms of inflammation of the mucous membrane of the throat and nasal passages are diphtheria and are capable of communicating the disease. It has recently been shown that this bacillus is not infrequently found on the mucous membranes of the throat and nasal passages of persons otherwise apparently well. This is true, too, of other bacilli in this and other situations. The mere presence of a bacillus of any kind is not sufficient to account for the manifestations of the disease of which such bacillus is the specific cause. Some additional factor seems necessary. Some agency causing such bacillus to show its pathogenic activity.

As to the final and greatest steps in advance, the results of the researches of Löffler, Behring, Aronson, Roux, and others, "the antitoxin treatment of diphtheria," it has been the foremost subject in the medical world the past year. It has had, and still has, its op ponents, some claiming the serum acts harmfully on the kidneys, others, that it causes destruction of the blood-corpuscles, enfeebles the heart's action, and favors the occurrence of paralysis. All these objections have been met and contradicted. Even admitting there are possibilities of occasional deleterious effects, the wonderful beneficial results many times outweigh the possible harm.

The first publication demonstrating the principles of serum therapy were made in 1890. In the autumn of 1891, the first trial of serum-therapy in human diphtheria was made. The first attempts were with a weak serum and insufficient doses. From time to time articles on the subject appeared up to August, 1894, when the serum prepared at Höcht was placed on sale.

Roux's address at Budapest, in September, 1894, aroused the attention of the whole medical world to the possibilities of the serum-therapy of diphtheria. During the past year it is estimated that 100,000 injections will fall far below the number. It needs no argument now to establish its value. The testimony is overwhelmingly in its favor as a curative agent. From all sources in Europe and this country comes the clinical evidence of its power. It has reduced the mortality enormously. Not only have its wonderful effects been shown on the disease when established, but its power of securing immunity to those who have been exposed to the contagion is marked.

The results of serum therapy in diphtheria being so favorable, the field for work of like character in connection with other infectious diseases is almost without limit. The outlook for the future is most promising. Bacteriological researches of a most important kind have been made in connection with veterinary medicine. Of interest to us as physicians is particularly the work in connection with such diseases as can be communicated to man. I need only mention them here. Hydrophobia, anthrax, actinomycosis, glanders, and we may include tuberculosis in this group. To name hydrophobia without associating with it Pasteur's name would be a neglect of recognition of eminent scientific work. It was his investigations in connection with this disease which may be said to have led up, in part at least, to the study of immunity by means of serum-therapy.

Bacteriological researches have made clear many points in the etiology of diseases which before were obscure. It offers a satisfactory scientific explanation of the communicability of certain diseases. It has made diagnosis more definite, and in some instances aided in diagnosis which was impossible by any other method. It has led to more accurate prognosis. It has explained complications which before were considered accidental occurrences. It has revolutionized surgical and obstetrical practice. It has made it possible by intelligent sanitary surveillance to restrict and prevent the spread of dangerous epidemics. It has led up to the specific treatment of diphtheria (and possibly tetanus), and to conferring immunity for a longer or shorter period to those exposed to it.

A recognition of these conclusions brings the bacteriologist and clinician into most intimate relationship, each one as a necessary aid to the work of the other. The results of the work of the laboratory must be confirmed by the careful, conservative tests of the clinician. By their combined work only can the results of laboratory investigations be made of wide-spread practical benefit.

An Epidemic of Toothache.—One of the most curious features of the Chitral campaign is the extraordinary prevalence of toothache—"the hell o' a' diseases" Burns calls it—among the officers. The matter is receiving the serious attention of the medical authorities, and it is hoped that some very interesting statistical results will be gained from the careful investigation which is now taking place. The epidemic first made its appearance after the active operations were over, and the various regiments had received orders to stand fast for the summer, and reached its most violent form just before the long-expected order to partially evacuate the country had arrived. An epidemic of toothache is something unusual.

Knives should never be placed in carbolic lotion, for even a diluted solution of the acid quickly impairs their edges.

Reform Needed in German Insane Asylums.—That a thorough reform of the German system of dealing with the insane and with those wrongfully charged with being insane is needed admits now of no doubt. Since the sensational Forbes case, which proved the convent asylum at Mariaberg, in the Rhine district, a veritable torture-chamber worthy of the dark ages, a number of similar discoveries have been made in other institutions, such as the one in Bremen, and one in Dortmund. With that quite a string of individual cases have been brought into daylight, of persons wholly sane, yet detained for years, at the instigation of powerful enemies or greedy relatives, in private or public institutions for the insane. Just at present the National Association of Physicians for the Insane is holding a conclave in Hamburg, the principal theme of their discussions being "Reform of Insane Practice." Under existing laws and methods nobody is safe from the danger of being, at a moment's notice and without any formality, torn from his home and confined in some mad-house.

Original Articles.

TENDON GRAFTING.

A New Operation for Deformities Following Infantile Paralysis, with Report of a Successful Case.[1]

By SAMUEL MILLIKEN, M.D.,

NEW YORK.

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Believing this to be the first case reported where a healthy muscle has been made to do the work of one which was completely paralyzed without in any way interfering with its own function, the following details are presented, as the success of the operation speaks for itself. It is a well-known fact that cases of anterior poliomyelitis, where the muscles of the lower extremities are paralyzed during early childhood, offer little encouragement from electrical treatment beyond the development of certain muscular fibres which escaped the inflammatory process; while the mechanical appliances are only employed with the hope of aiding the victim in locomotion and preventing deformities, such as tendinous and muscular contractions and bony displacements. The neurologist and orthopedic surgeon have learned long ago that, combined with the above conservative measures, so far as offering a cure, it was folly to even anticipate it; thus thousands of cases of infantile paralysis are doomed to the wearing of braces all their lives.

The delay of most two years in reporting this case was for the purpose of allowing sufficient time to elapse without the use of the brace that I might be sure the deformity was permanently relieved.

Joseph H——, nine years of age, came under my observation in December, 1893, and at that time was wearing the ordinary club-foot brace on the right side. The previous history given was that of the ordinary cases of infantile paralysis. When about eighteen months of age, and quite healthy, the child was attacked with fever, which was sufficiently severe as to cause him to be put to bed and the family physician called in. The attack was of only a few days' duration, and although apparently recovered so far as the disposition to take nourishment was concerned, it was noticed that the right leg was almost powerless, so much so that the child could not walk. The case was subsequently treated by massage and electricity, and at the age of two years a brace was applied which enabled him to walk.

Examination.—When I first saw the case, on removing the brace with the patient sitting on a chair, it was easily seen that the trouble was with the anterior tibial group of muscles, as the right foot dropped into the position of equinus. On attempting to voluntarily flex the foot on the leg, all the toes were seen to respond, but the whole foot was forced into extreme valgus. This led me to conclude that it was the innermost muscle of the group, viz., the tibialis anticus, which was mostly, if not solely, involved; this muscle, from its prominent position in a healthy condition antagonizes not only the peroneal group, but the tibialis posticus as well. Owing to the paralysis of the tibialis anticus the power of flexing the foot on the ankle was limited to the three remaining muscles of the group, viz.: the extensor proprius pollicis, the extensor longus digitorum, and the peroneus tertius, which, from their distal attachment, were of little use in this direction; while, on the other hand, in the absence of such an important antagonist it is easy to account for the extreme valgus into which the foot was forced. In addition to the above deformity there was a marked "hammer toe," due to the over-exertion of the extensor proprius pollicis. An electrical examination only verified the above, and as the anterior tibial nerve supplied all four muscles, it was decided to take part of the extensor proprius pollicis tendon and graft it into the tendon of the tibialis anticus, which was paralyzed.

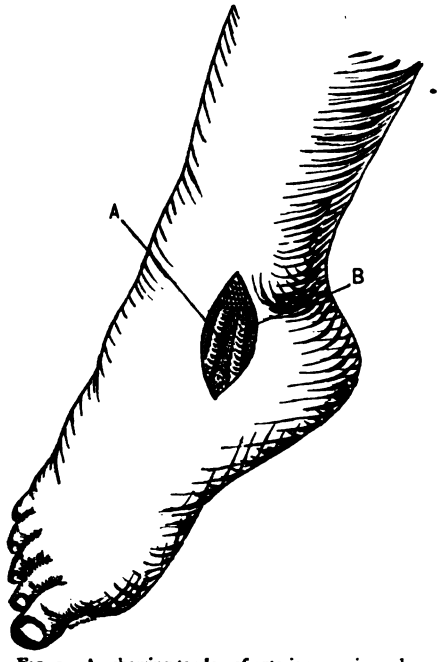

Fig. 1.—A, showing tendon of exterior proprius pollicis; B, showing tendon of tibialis anticus.

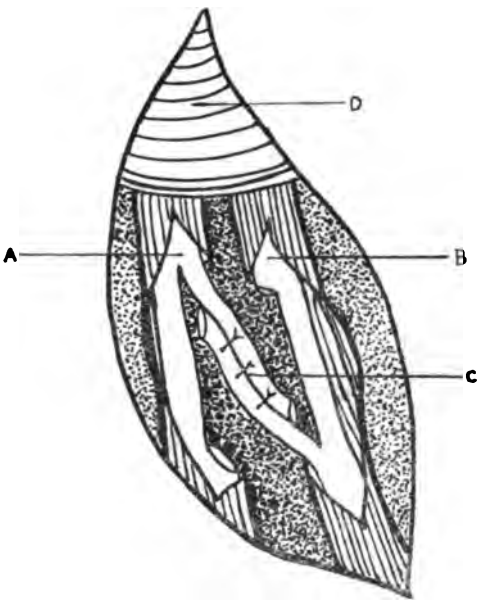

Fig. 2.—A, tendon of exterior proprius pollicis; B, tendon of tibialis anticus; C, flaps united with interrupted sutures; D, annular ligament of ankle.

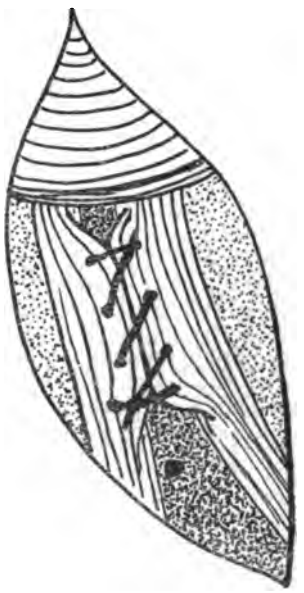

Fig. 3.—Showing Sheath of the Tendons United with Continuous Suture.

Operation.—On February 14, 1894, under ether anæsthesia, an incision one and a half inch long was made, extending from just below the annular ligament obliquely over the tendons of the extensor proprius pollicis and tibialis anticus. (See Fig. 1.) The sheath of each tendon was carefully opened for a distance of about one inch. The tendons were then split with a small Adams fascia knife, and an inch flap taken off of each. The flap from the tibialis anticus, of course, being left attached to the distal, while that from the extensor of the great toe was attached at its proximal or muscular end.

Before incising the tendon of the extensor of the great toe, it was pulled down by means of a blunt hook, so that a flap could be gotten as high up as possible.

[1] Read at the meeting of the New York State Medical Association, October 15, 1895.

This was done for two reasons: 1st, so as to relax the tendon, thus relieving the "hammer toe," and 2d, so as to insure the action of the extensor proprius pollicis on its new insertion if union was obtained. The cut surfaces of the flaps were adjusted and sutured with three fine kangaroo tendons interruptedly (Fig. 2). The outer flap of the sheath of the extensor proprius pollicis was then sewn to the inner flap of the sheath of the tibialis anticus (Fig. 3), with a continuous suture, so as to prevent the newly united tendons becoming adherent to the overlying structures, thus making a new sheath which would not interfere with the action of the muscle, which was to do its own work and that of the one which was paralyzed. The skin was closed with fine interrupted catgut-sutures, and dressed aseptically.

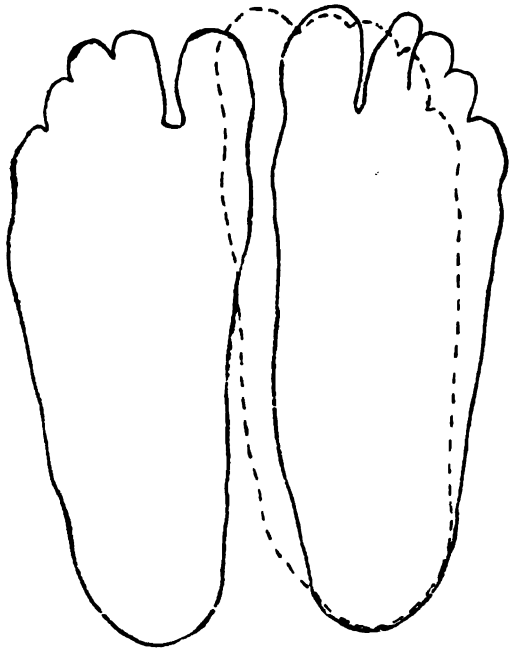

FIG. 4 – Showing Adduction of Right Foot following Operation.

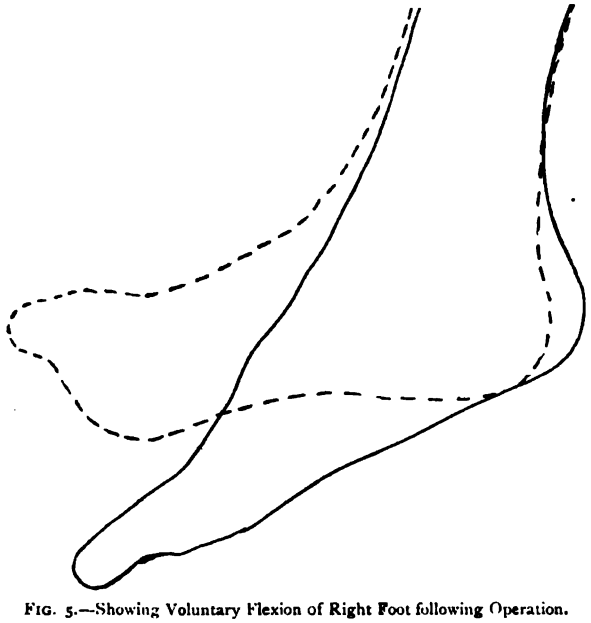

FIG. 5.—Showing Voluntary Flexion of Right Foot following Operation.

The foot was immobilized with a plaster-of-Paris splint, the deformity having been previously corrected by manual force. The case progressed uninterruptedly, and it was dressed for the first time on the tenth day, a window being made over the wound in the plaster for that purpose. The catgut sutures had been absorbed, but the skin had not united primarily, as I had hoped it would; however there was no pus, nor had there been as much as one degree elevation of temperature since the operation. The non-union was caused by the pressure of the plaster-of-Paris splint which had been put on rather snugly. Under balsam-of-Peru dressing the skin wound healed in ten days. Every day for three weeks after the operation gentle passive motion of the great toe was made, so as to prevent the tendon becoming adherent to its sheath. The foot was kept in a plaster-of-Paris splint for six weeks, when a very light brace with a limited joint at the ankle was applied. The immediate improvement in the case was even noticed by the parents, as the foot no longer became abducted when an attempt was made to raise it, such having always resulted before the operation was performed. It is now five months since the brace was left off altogether, and although there has never been any electricity or massage employed, the boy has been encouraged to take all the exercise possible. He is now quite an expert on roller-skates, walks without a limp, and can adduct the foot to almost normal (Fig. 4). There is still a slight "hammer toe" on extreme flexion of the foot, but nothing as compared to the condition before operation (Fig. 5), while flexion of this foot on the leg is almost as good as the unaffected side (Fig. 6).

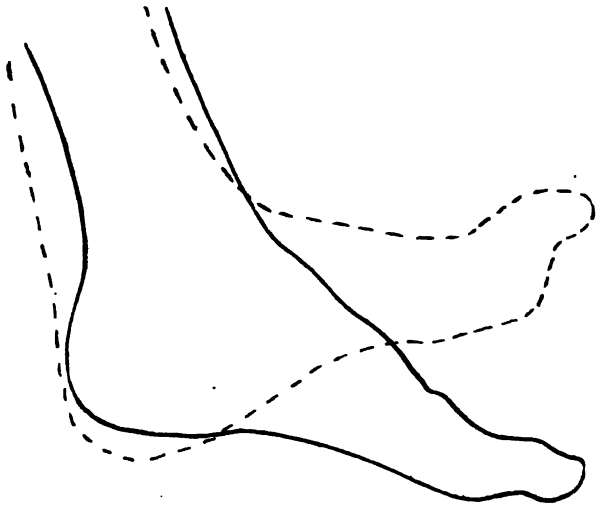

FIG. 6.—Showing Voluntary Flexion of Left or Normal Foot.

My other work in this line is so recent as to prevent further report of cases at present, but I think with this excellent result the field has been opened for tendon grafting in these otherwise hopeless cases of infantile paralysis.

640 MADISON AVENUE.

Vacancies in the Medical Corps of the Army.—Despite the fact that the last Congress reduced the number of officers in the medical department of the army, it is reported that the corps is already nearly down to the new limit. With two retirements recommended some time ago, and that of another officer which occurs in less than ten days, and a fourth in December, the corps will then be three below the maximum. Accordingly an examination for the vacancies will be held during the next few months.

Prince Edward of York, who may some day be the king of England, was reported to be deaf and dumb. This story is, however, denied "authoritatively" by *The Lancet*, which says that "he is in every respect a fine child, that he displays remarkable intelligence for his age, and that he can already repeat a number of words." Our esteemed contemporary thinks the Americans, to whom it credits the origin of the report, are very unreasonable to expect a child, even the great grandson of a queen, to be able to converse fluently in several languages during the first year of its existence.

OBSERVATIONS ON PELVIC CONTRACTIONS.[1]

By AUSTIN FLINT, Jr., M.D.,

NEW YORK.

CONTRACTIONS of the pelvis in which the deformity is marked occur but rarely and are always easy to recognize. Contractions of a minor degree, however, occur very frequently, and the diagnosis is often very difficult. To prove that this is true, I have analyzed six thousand cases of confinement with reference particularly to the diagnosis, the frequency with which contractions occur, and, if possible, to draw some general conclusions in regard to prognosis and treatment.

The influence which even a moderate degree of contraction has upon labor is not entirely mechanical. So many other conditions must be taken into account, such as the size and compressibility of the fœtal head, a faulty presentation or position, or a prolapse of the cord, due often to the existence of contraction, that rules for treatment cannot be based on measurements alone. A pelvis with certain diameters may in one case permit the spontaneous delivery of a well-developed child, and a pelvis with the same diameters may in another case demand operative interference, often of a serious nature. Such examples are frequently met with and are difficult to explain. I have, therefore, not attempted to fix upon any exact measurements under which all pelves are strongly contracted, and over which all pelves are moderately contracted, but shall take all cases together, remembering, however, that the vast majority belong to the latter class. In the first place, I may define what I have called "contraction," explaining at the same time the methods of diagnosis.

As it is rare, if not impossible, to find two pelves with the same diameters throughout, some standard must be fixed separating the normal from the abnormal. In describing the size of a pelvis, we speak of the distance between the spines and crests of the ilia, the external conjugate diameter, which is measured from the fossa beneath the spine of the last lumbar vertebra to the middle of the upper border of the symphysis in front. The diagonal conjugate diameter extends from the lower border of the symphysis to the promontory of the sacrum. The true, or obstetrical conjugate, is the distance between the promontory and a point on the inner surface of the pubis just below its upper border. All of these diameters can be measured accurately, with the exception of the last, which must be calculated from the diagonal conjugate. I have not considered as contracted, pelves in which the distances between the spines and crests of the ilia alone were diminished. In all cases in which these measurements were very much below the normal standard, the other diameters were also diminished. When the normal proportion was disturbed, that is, when the distance between the spines was as great as, or greater than, the distance between the crests, a diagnosis of rachitis was made, and in these cases the other measurements were usually found to be abnormal. This leaves but two diameters which must be measured—the external and the diagonal conjugates. The true conjugate is the more important, and is the one which is designated in defining the degree of contraction. The method of determining the true conjugate is to subtract from the diagonal two-thirds to three-fourths of an inch, or, in my experience, even more, this depending on an estimate of the height and inclination of the symphysis and the position of the promontory. The personal equation—the individual skill and experience of the examiner—enters so largely into the determination of this diameter, where a difference of even one-fourth of an inch is of the utmost importance, that it seemed to me safer, in collecting cases, to rely on the diagonal and external measurements, which can be determined exactly.

We owe much of our knowledge of pelvic deformities to the investigations of Litzmann; and I have followed as nearly as possible the limits as defined by him. The same limits have been adopted by all the German observers whose reports I have been able to examine or have seen quoted. Litzmann places in the class of contracted pelvis all cases in which the external conjugate measures 18 c.m. or less, or 7.2 inches. I have taken only pelves with an external conjugate of 7 inches or less. For the true conjugate, he places the limit at 9½ c.m., or 3.8 inches. I have adopted a diagonal conjugate of 4½ inches or less, which, reduced to the true conjugate, would make 3⅝ inches for the largest by the subtraction of only ⅜ of an inch.

The statistics which I have to present will be better understood if I first explain briefly certain details of the manner in which they were obtained. The records are from the written histories of six thousand consecutive cases of confinement, cared for by the Society of the Lying-in Hospital of the City of New York.

A woman applying for care during confinement is first subjected to a thorough physical examination, including careful pelvic mensuration. At this time the history of previous confinements, an examination of the urine, and other minor details are inquired into and recorded on a blank which is called a Pregnancy Sheet. This is numbered and filed away until the onset of labor, when it is taken out, brought to the case, and is finally bound with the record of the labor and puerperium, making a complete history of that individual case. If, at the time this "ante-partum examination" is made, there exists any abnormality, it is first verified by one of the resident staff, or the attending physician on duty, and a special "abnormality blank" is filled out and filed, thus guarding as far as possible against error.

A consideration of the class of patients from which these observations have been obtained is of interest. Comparing ordinary hospital statistics with statistics obtained from private practice, it is natural, and usually correct, to assume that complicated and difficult cases come to the hospitals; and therefore, abnormalities, including contractions, occur more frequently in institutions. In my statistics, however, the patients are all "out-door cases" of the poorer class, attended in their own homes, and thus fulfil more exactly the conditions met with in ordinary private practice. In other words, they represent, as nearly as is possible, the actual average condition. It is only recently, since the figures here presented have been analyzed, that an in-door service has been added to the hospital.

I have looked over the pregnancy sheets of these 6,000 cases and noted the confinement number of each one in which the external conjugate measured 7 inches or less, and the diagonal conjugate 4½ inches or less. Contractions were noted in 654 of the 6,000 cases, or in 10.9 per cent.

In round numbers, the frequency of contractions in Germany is said to be fourteen per cent. The report from Leopold's clinic for 1895 gives 610 cases out of a total of 2,512, or 24.3 per cent., nearly one-quarter of all cases. This is the largest proportion in any report that I have seen. Schwarz, in Göttengen, reports twenty per cent.; Spiegelberg, fourteen per cent., and sixteen per cent. is reported by Müller from the clinic at Berne. As, however, the Lying-in Hospital in New York is often called upon to treat premature cases and abortions, which are entered in the history numbers among these 6,000 cases, it would be more exact, in computing the frequency, to disregard them. Subtracting 347—the number of abortions and premature cases—from the total, the percentage of contractions would be raised to 11.56, which is nearer the conservative estimate of Litzmann and Schroeder. In 563 of these 654 cases of contraction, or in 86.08 per cent., the

[1] Read before the New York State Medical Association, October 16, 1895.

presentation was a vertex, and the delivery was without operative interference. A study of these spontaneous deliveries shows that in all cases the contraction was slight, a true conjugate of 3½ inches or more, but 3 cases of 3¼, and 1 of 3⅓ being noted. A certain proportion had a protracted first stage, in some cases as long as twenty-four hours. Frequently I would find it recorded that the head was delivered in the right occipital position; but in one or two cases only was the occiput posterior. I have not attempted to obtain exact figures on the frequency of right positions, for the reason that I have doubts about the accuracy of diagnosis. Many of these were undoubtedly occipito-posterior positions at the beginning of labor, and rotated anteriorly before delivery. Some of the cases of protracted first stage were undoubtedly due to a slow forward rotation of a posterior occiput. The percentage of spontaneous deliveries reported from Leopold's clinic was 69.5.

It is well known that the size of the pelvis is not the only factor that must be considered, but that the diameters of the child's head are of equal importance. I had hoped to be able to report some definite conclusions in regard to this point also, but regret that, although the measurements of the head are in every case taken, as well as the weight and length of the child, a comparison of the figures gave no definite results. In some instances, when the labor was protracted and difficult, the head measurements were found to be large and the weight of the child above the average; but in other cases the reverse was true.

In the remaining cases in which interference became necessary, 101 operations were done as follows: Forceps, 43; version, 29; breech extraction, 18; symphyseotomy, 5; craniotomy, 2; Cæsarean section, 1; decapitation, 1; induced labor, 1; conversion of brow to vertex, 1.

In some instances more than one operation was done on a single case, as, for example, symphysiotomy followed by version, so that the number of operations is greater than the number of cases—101 operations on 91 cases. A study of the results of these operations is interesting as regards the effect on the child. In the 43 forceps operations, 6 children were stillborn, and of the 37 born alive, 1 died in a few hours, 2 on the second day, and 2 on the fourth day. The remaining 32 were alive and apparently healthy when discharged from observation, usually about the tenth day. This is an infant mortality in forceps cases of 25$\frac{2}{43}$ per cent. It must be remembered, however, that forceps were applied to only the more difficult cases. A patient is reported as not progressing satisfactorily, and a call for assistance is sent back to the hospital. The case is then visited by one of the staff, and finally the attending physician is summoned. The result of this routine is that practically only those cases were delivered by forceps which could not have been delivered without aid, and some of them were exceedingly difficult.

Of the 29 versions which were done, the operation was undertaken in only 9 cases by reason of the pelvic deformity alone. The remaining 20 cases were complicated: 7 times by a prolapse of the cord; 5 times by a previous symphyseotomy; 4 times by a placenta prævia, or "hemorrhage;" twice by traverse presentations; and once each by a prolapsed arm and a face presentation. Of the entire 29 cases only 3 children were stillborn. One child died on the second day. What is remarkable, none of the stillbirths occurred in complicated cases. In the version cases the total infant mortality was 13$\frac{3}{29}$ per cent. As regards the other operations mentioned, all were done in strongly contracted pelves, with the exception of the 18 cases of breech extraction. An analysis of these operations would necessitate a detailed history of each case, which would be beyond the scope of this paper.

The general results in the 654 cases of contraction observed, are as follows: One maternal death; a case of placenta prævia, almost exsanguinated when seen, dying from shock four hours after delivery. Twins occurred nine times, making a total of 663 children. Of these 31 were stillborn. In only 4 cases was I unable to find a cause for death; 4 were premature; 4 macerated; 2 craniotomy cases, and, of course. dead before operating; 3 died from hemorrhage from a placenta prævia; 2 deaths were due to a prolapse of the cord; 1 child was hydrocephalic; 1 was decapitated; 1 during a breech extraction; and, finally, the 6 forceps and 3 version cases mentioned before, leaving 4 deaths unexplained. Including the 5 deaths subsequent to a forceps delivery and the 1 following a version, the total infant mortality is 37 out of 663, or 5.58 per cent., an exceedingly small proportion when we consider that all were in cases of contracted pelvis, and some of them operative cases, as difficult and under as unfavorable surroundings as could well be imagined.

The most important conclusion that can be drawn from these observations is in regard to the frequency of contraction. Using the standard of measurements adopted in the German hospital reports, contractions occur here with nearly the same frequency—ten or eleven per cent. here, as against fourteen per cent. abroad. To determine the average frequency, it is necessary to collect a large number of cases. In making up the figures which I have reported, the cases were taken in groups of one hundred each. In three different series of a hundred, but one case of contraction was noted; while in one series of a hundred, twenty cases were noted. Observations on only 100 cases, therefore, might in one instance show a frequency of one per cent.; and in another 100, a frequency of twenty per cent. Grouping the cases in series of 500, the smallest number in a series was 9 and the largest number 83, a very wide variation. In groups of 1,000 cases, the variation was from 53 to 137. In three groups of 2,000 cases each, the frequency was respectively 154, 249, and 251.

Diagnosis of contraction is possible only by careful actual measurements. A pelvimeter should form part of the obstetrical outfit of every practitioner. Pelvic mensuration should be employed as a routine practice in every case of confinement. Referring once more to the frequency, it will be observed that the number of cases progressively increases, showing that with practice and increased skill slight degrees of contraction may be recognized which are ordinarily overlooked. In the last two groups of 2,000 cases each, the variation is only 2, viz.: 249 for the first group, and 251 for the second. The diagnostic value of a shortened external conjugate is questionable. I have included such cases in my statistics, for the reason that they are included in other statistics with which I desired to make comparisons. An external conjugate of seven inches or less may be said to render the existence of a true contraction extremely probable. If the pelvic bones are slight, the external conjugate may be seven inches or even slightly less and still there be no actual flattening.

It has been shown that the majority of cases of contraction are spontaneously delivered, and the results are good for both mother and child. When there is only a slight degree, a true conjugate of three and a half inches or more, the treatment which gives the best results is expectant and non-operative; aid the natural forces; keep the bladder and rectum empty; stimulate pains; support the strength of the patient, and, when considering operative interference, be guided by other conditions. The obstetrician knowing the pelvic diameters, the presentation and position being normal and the pains good, who treats his patient expectantly, will have better results than one who operates simply because labor is delayed.

In pelves with a true conjugate of less than three and a half inches, operative interference usually is imperative. Only four such cases were spontaneously

delivered. The nature of the operation depends both on the degree of contraction and the size of the child's head. Just under three and a half inches, either forceps may be used or version done. The infant mortality in the use of forceps was a little more than twenty-five per cent., and in version a little more than thirteen per cent. This seems to show that version is the better operation; but a larger number of observations may demonstrate the reverse. Pelves in which the true conjugate is much less than three and a half inches call for more severe operations, and each case must be treated according to its individual requirements. At present the indeterminate factor is the size of the child's head. It is to be hoped that the instrument recently invented by Farabeuf for measuring the size of the head will prove of value. Should this be so, one of the main difficulties in treatment, namely, the necessity and choice of operations, will be at least partially removed, and a plan of procedure based on ascertained mechanical conditions alone, will become practicable.

SOME FRACTURES AND EPIPHYSEAL SEPARATIONS OF THE UPPER EXTREMITIES IN CHILDREN.[1]

By JOHN F. ERDMANN, M.D.,

NEW YORK.

Mr. President and Gentlemen: In considering the subject of fractures of the upper extremities of children it is not the intention of the writer to enter into the classification of fractures, so well understood already, but to present instead some cases with their means of diagnosis and treatment.

Considerable has been written upon simple fractures in children, but comparatively little upon the subject of epiphyseal separations. It is this latter subject that will be largely dealt with, particularly those occurring at the shoulder, elbow, and wrist joints. Although fractures in children are usually considered green-stick, or incomplete, the individual work of the writer in this class of cases, both on the living subject and the cadaver, leads him to believe that the majority of these cases are complete fractures with no displacement. This is due to the dense periosteum found in the young acting to a great extent as a fibrous splint.

During the past summer the long bones were fractured in all situations with varying force, and upon dissection in the majority of cases it was found that the fractures were complete, but held firmly by the periosteum that remained intact, while in a few cases only there were a few bony bands of connection between the two fragments.

Owing to the greater elasticity of bones in children due to the vascularity and less compactness, the bones are able to withstand a greater relative amount of violence, without sustaining fractures, than those of adults, in whom the bone is more compact, less vascular, and supported by a thinner layer of periosteum.

Causes.—In the greater number of cases reported in this paper the injury was the result of a fall from a low chair or out of bed. The well and ill nourished, suffered about equally. In several instances it was found that one of the patients had suffered from one or more fractures. The season of the year has no relative influence in these cases. Age is a predisposing factor only when considering the diagnosis of epiphyseal separations. As a predisposing factor we are well aware that the epiphyses can be separated from the diaphyses by trauma and disease up to eighteen or twenty years.

Anatomy.—The upper epiphysis of the humerus unites with the shaft at about the eighteenth or twentieth year, and consists of the tuberosities and the head. The line of epiphyseal union corresponds internally with the lower margin of the articular surface of the humeral head. The lower epiphysis unites with the shaft about the sixteenth or eighteenth year, and the line of union is such that most separations take place backward. In the lower end of the radius and ulna the epiphyseal union takes place about the twentieth year.

Fractures of the Clavicle.—There are four cases of fracture of this bone to report, two of which were seen some ten days after the injury, with a history of a fall, slight pain over the clavicle upon manipulation, and inability on the part of the patients to use the arm as usual. Also that immediately after the injury was received nothing diagnostic of fracture of the clavicle was to be observed. After the eighth or tenth day either a mass or overriding of the fragments was found. Two of these cases were seen shortly after the injury, *i.e.*, within a few hours to a couple of days; in these latter cases nothing was found except the sensitiveness or pain at or near the seat of the injury, and upon asking the child to take some object held upward and outward from the shoulder, but feeble attempts would be made. With the history of the first two cases a diagnosis was made of fracture of the clavicle and so treated. Upon the patient's return in each of the latter cases, in the second week following the injury, a nodule of callus was found over the original site of pain, thus verifying the diagnosis.

In the cases of deformity reduction was followed by the application of a bandage to retain the fragments in proper position. In cases where no deformity was present, the bandage was placed upon the patient to prevent the laceration of the periosteal splint and making a complete fracture in case a few bony bands remained intact at the time of the injury. The dressings were removed in three weeks, in each case, at the latest, and upon examination, firm union and good results were found.

Case I.—A. G——, three years of age, girl, was knocked down four or six steps by the slamming of a door, on September 2, 1894; complained to her parents of pain, especially so when she made efforts that required abduction and extension of the arm. She was treated for a sprain for several days. Examination revealed a slight deformity over the junction of the outer and middle thirds of the right clavicle, with considerable pain upon pressure and no ecchymosis. Diagnosis: Fracture of the clavicle. Treatment: A flannel bandage to retain the reduced fragments.

Discharged with excellent results on September 28th. I am indebted to Dr. W. H. Guilfoy for this case.

Case II.—M. Van W——, aged three, girl; fell from an ordinary chair on August 28, 1894, striking directly upon her right shoulder. She was seen September 8th, twelve days after the injury, having been treated during these twelve days for a dislocation of the sternal end of the clavicle.

For the first ten days she gave evidence of pain, as in Case I., and on the night of the 11th a prominence was noted by her parents and the family physician. Examination revealed an overriding at the inner and middle thirds of the clavicle, pain and ecchymosis.

This case was treated exactly as Case I., and was discharged in twenty-one days, with a slight prominence that was supposed, from its shape, to be callus.

Case III.—A. K——, aged five and one-half, on May 17, 1895, was knocked down, falling on her right shoulder. For three days she complained of pain near her right shoulder, especially while being disrobed or lifted into bed. Her mother also noticed that she reached very gingerly for her food.

[1] Read before the New York State Medical Association, October 17, 1895.

She was seen on May 20th, three days after the injury. Upon examination no deformity was present, but pain upon pressure over the clavicle, and also upon abducting and extending the arm, was found. Having the histories of Cases I. and II. in mind, diagnosis of fracture of the clavicle was made. Treatment, same as the previous cases. June 3d, or fourteen days after seeing her, there was an ovoid mass at the original site of pain, that was diagnosticated as provisional callus. This mass disappeared within three weeks.

CASE IV.—M. W——, two years of age, fell out of bed June 29th; could not use her left arm in play, owing to pain near her left shoulder. Examination revealed only pain upon pressure over the outer and middle thirds of the clavicle, and also pain at this point when she made an effort to grasp anything held above her head. Diagnosis: Fracture of the left clavicle. Treatment: The same as in the preceding cases.

July 15th.—Small mass near the original site of pain, and on August 12th discharged, cured.

Throughout the remainder of this paper only epiphyseal separation of the upper and lower ends of the humerus, fractures of the lower end of the humerus, and epiphyseal separation of the radius and ulna in their lower extremities will be considered.

Epiphyseal separation of the upper extremity of the humerus does not occur later than the twentieth year, owing to the union of the epiphysis with the shaft about this period of life. The average age in these cases, according to Tubby, in "Guy's Hospital Reports of 1889," is eleven years. Causes of separation of the epiphysis are a fall from a height, or a glancing blow from above downward upon the shoulder, or disease of the epiphysis.

Anatomy.—As previously stated the epiphysis of the humerus consists of the articular surface of the bone with the two tuberosities; as a result of its separation, owing to the attachment of the capsular ligament to the anatomical neck of the bone, we have the joint involved at its inner aspect. The capsular ligament is attached to the shaft by fibrous expansions at the internal aspect of the head of the bone, and blends with the periosteum throughout the circumference of the shaft. By this blending there is formed a strong resisting fibrous tissue and an agent that limits, to a great degree, the displacements one may find in these cases. When a deformity is marked, it is due to laceration of this tissue, allowing the upper fragment or the epiphysis to be displaced forward and downward toward the subcoracoid region, resembling a subcoracoid displacement.

Signs: The arm hangs helplessly to the side; the elbow projects little or none at all; there is a striking and abrupt projection, slightly round, beneath the acromion. In the absence of swelling we can frequently outline the border of this projection as the upper part of the shaft with its bicipital groove, as shown in Case VII. Crepitus, if present, is of a soft, velvety character. The shoulder is broadened from before backward, but the natural roundness may be present; while in case of complete separation of the head and displacement of it, there is a characteristic flattening, and, as a rule, a mass downward and forward, in the region of the coracoid. Shortening is present only in cases of complete separation, and then usually about one inch. Little or no ecchymosis except that due to contusion.

Differential Diagnosis: These cases are liable to be mistaken for dislocations of the subcoracoid of subclavicular variety, but the usual manifestations of dislocation are absent.

Mobility is present, crepitus very frequently is found, and compression symptoms of the brachial plexus are absent.

Fracture of the upper extremity of the shaft of the humerus can be diagnosticated by the age of the patient, false motion, shortening little or none in fractures, shape of the upper portion of the shaft, ecchymosis usually marked, and grating crepitus.

Prognosis: Union usually occurs early, and is due, according to Mr. Tubby, of England, to the rich vascular supply of the rotator muscles attached to the tuberosities sending to the epiphysis the required nutrition. The upper epiphysis is chiefly instrumental in the growth of the shaft of the humerus, and as a result of its separation the growth of the length of the bone is liable to be materially interfered with. In a number of cases reported by Tubby, in "Guy's Hospital Reports of 1889," shortening of five inches has been noted. The prognosis referring to shortening is modified with the age of the patient; the younger the patient, the greater the danger of considerable shortening; the older the patient, the less the shortening.

Shortening and vicious union also is frequently caused by inability to properly replace the epiphysis.

Treatment: As in fracture of the surgical neck of the humerus. In cases in which it is impossible to reduce the displaced epiphysis, the author would recommend cutting down upon the head of the humerus, using the ordinary guide for an excision, reducing the deformity, then retaining proper apposition by means of sutures through the periosteum of the shaft and the capsule of the joint.

CASE V.—J. D——, boy, thirteen years of age; was knocked down in 1891 by a mail wagon and thrown forward upon his right shoulder. He was seen within half an hour after the injury. Swelling was very slight, pain considerable, no deformity; high up false motion could be felt; by grasping the shoulder with the left hand, and moving the arm with the right at the same time, grating of a peculiar soft character was obtained. He was discharged at the end of the third week by his regular family physician. The family report "that you would not know the arm had been broken." Measurements in this case, four years after the injury, reveal a shortening of three-quarters of an inch.

CASE VI.—P. B——, seventeen years of age, was seen on August 15, 1895, with the following history: While jumping down the stairs of an elevated railroad station, four days before, he fell forward and down about ten steps, striking on his left shoulder. Upon examination broadening of the shoulder from before backward, flattening, and a movable body high up in the joint region, soft crepitation, a slight amount of ecchymosis, considerable swelling, and an inch shortening were found. Diagnosis: Epiphyseal separation of the upper extremity of the humerus. He refused anæsthesia and further treatment.

CASE VII.—M. McG——, aged sixteen, was seen on the same date as Case VI., with a history of a fall upon his left shoulder, as the result of a push while skylarking some five weeks before. He had been an inmate of one of our large hospitals and was being treated for a dislocation of the head of the humerus of the subcoracoid variety.

Upon examination no swelling, but marked flattening, broadening from before backward, and shortening one and one-quarter inch were found. A slightly convex deformity, continuous with the shaft, with the bicipital groove well marked upon it, was found beneath the acromion, and downward and in front, practically subcoracoid, a round fairly movable mass was felt.

Diagnosis of epiphyseal separation was made and further hospital treatment suggested, it being the intention to cut down upon the joint and reduce the head and retain it by silkworm sutures. Refused further treatment.

I am indebted to Dr. George Stewart for the following case:

CASE VIII.—Girl, fifteen years of age, fell upon the right shoulder about September 1, 1895. On October 10th the condition is as follows: Arm helpless to the side of the body, no tilting of the elbow, one-half inch

shortening, flattening of the shoulder, apparent broadening from before backward, no swelling, a mass downward and inward from the joint and solid with the shaft immediately beneath the acromion, with internal rotation slightly marked. Diagnosis: Epiphyseal separation with vicious union.

Elbow.—Too great stress cannot be placed upon the proper diagnosis and treatment of fractures occurring at and about the elbow-joint; how frequently ankylosis is seen at varying angles, as a result of these injuries. In some cases there is a moderate degree of function of the extremity, while others are practically useless. The most frequent injuries occurring at this region are fractures of the condyles of the humerus, epiphyseal separation of the lower extremity, and dislocation of the bones of the forearm.

The cause of these injuries is usually a fall upon the elbow or upon the volar surface of the hand. The symptoms and signs vary with the conditions; if seen shortly after the injury diagnosis is readily made. Later the swelling is frequently so extensive as to obliterate all landmarks of the bony joint, and an accurate diagnosis can only be made after the swelling has subsided to a great degree, or by the assistance of an anæsthetic.

In cases of epiphyseal separation seen early there is a broadening from before backward, with a sharp, shelving border presenting below and posteriorly, as a rule, and extending across the entire width of the bone. Anteriorly the shaft projects with a sharp border over the backward displaced lower fragment. Motion of the joint is perfect, upon holding the lower fragment between the thumb and forefinger. The head of the radius bears its usual relationship to the external condyle. Crepitus, when elicited, is of a soft, velvety variety, in contradistinction to the grating found in fractures.

Prognosis: No extensive shortening is to be expected, as the length of the humerus depends mainly on the growth from the upper epiphysis.

Treatment: Reduction can be accomplished without much difficulty, then a posterior splint is placed upon the arm and forearm, with the latter almost completely extended.

In these cases, it has been the custom of the writer to remove the dressing in from ten to twelve days, and make slight passive motion, while the lower fragment is grasped and held firmly in contact with the shaft. The splint is removed at the end of the third week; then have the patient carry his arm in a sling for a week, allowing him to exercise the arm gradually.

Fractures of the condyles are due to the same causes as the former, but more frequently due to violence directly received, as in falls and occasionally a blow upon the condyle. The signs are broadening of the joint, movable body on either side, depending on the condyle broken. Displacement can be made of the forearm to the side of the fracture; the head of the radius is frequently pushed upward in case the external condyle is fractured, impairment of joint motions, and deformity of an oblique variety.

Treatment: Reduction; the use of adhesive strips to hold the condyle in place, and the limb treated in almost complete extension, slight passive motion in ten to fourteen days, then placing the forearm at an angle of 90° with the humerus, or continuing the third week with extension.

One factor in treating fractures of the elbow should be emphasized, and that is never to forget that the forearm should be placed in a position of slight abduction, so as to preserve its carrying properties, and that no upward pressure should be made upon the internal condyle. In fractures of both condyles the treatment has been the same as in cases of fracture of a single condyle, with the exception of the retaining strip of adhesive plaster.

Fracture of the Epicondyle.—Of this injury the writer presents the clinical history of but one case. The violence is direct and, upon examination, a small foreign body is found, usually forward, and downward below the elbow-joint. In the case cited, the internal epicondyle was pulled upward.

Treatment: Reduction, if necessary, by flexing the elbow; retain the fragment by an adhesive strip and bandage over all. Remove the dressing on the fourteenth to twentieth day.

Differential Diagnosis: Fractures of the lower extremity of the humerus are to be diagnosticated from dislocation backward of both bones.

The signs and symptoms of fracture in a recent case are so evident that this error should not be made, but in a case of epiphyseal separation, it is more likely to occur.

In dislocation, there is immobility of the joint, the head of the radius is pushed backward, or backward and upward, the olecranon protrudes posteriorly as a rounded or conical mass, while anteriorly there is a depression over the site of the elbow. These signs, when compared to the signs of epiphyseal separation as given, should enable one to arrive at a proper diagnosis.

Case IX.—D——, boy, aged ten, fell from a tree during the summer of 1892. Came to me through the kindness of Dr. E. T. T. Marsh during the fall of the same year. Upon examination, a ridge fully one-quarter inch wide and flat was found protruding backward and continuous with the lower end of the humerus, while anteriorly there was a ridge protruding forward and continuous with the shaft of the same bone. Extension was perfect. Efforts at flexion were checked with a dull sound, as if some object were being struck by the coronoid of the ulna, as the forearm came to about 90°. The elbow was not widened nor deformed, as is usual in cases of fracture.

Diagnosis: Old epiphyseal separation. Operative interference was advised, but not accepted. The boy's father stated recently that the condition was still the same.

Case X.—M. D——, two and one-half years of age, came under observation on May 12, 1894, with the history of a fall from a chair, striking on her left elbow. The ordinary signs of epiphyseal separation were present.

Treatment: The deformity was readily reduced and easily retained. The forearm was then placed in a condition of almost complete extension and bandaged to a posterior splint, extending from the upper third of the arm down to the wrist-joint. The splint was removed in twenty days and the limb bandaged for a week. Result excellent.

In connection with cases VIII. and IX. the writer refers you to the history of Case XV. for another epiphyseal separation at the elbow-joint.

Case XI.—M. O——, five years of age, fell down two steps August 2, 1894, striking upon her left elbow. She was seen on August 4th, with a straight splint upon the dorsal aspect of the arm and forearm. Upon examination, false motion, and deformity over the internal condyle and grating crepitus were found.

In this case there was also considerable swelling and ecchymosis. The deformity was reduced. A small strip of adhesive plaster was wound around the inner aspect of the forearm to retain the fractured condyle, the forearm was then abducted slightly and extended, and a posterior splint applied. She was discharged, with a good result, on September 2, 1894.

Case XII.—A. K——, five years of age, in June, 1893, fell four stories, striking the roof of an extension, then bounded off, falling to the ground. The case was seen immediately by Dr. DeGarmo, who very kindly referred it to the writer.

The boy was seen about an hour after the injury; upon examination, false motion at the site of the external condyle, deformity, some swelling, ecchymosis, and crepitus were found, with general contusion of the

trunk; otherwise he was in excellent condition. The limb was put in extension under chloroform anæsthesia and kept extended for three weeks, at the end of which time the splint was removed permanently. A week later the result was excellent, and owing to the boy's activity, he had regained complete function of his joint about the fifth week.

CASE XIII.—C. O——, five years of age, fell down stairs about four steps on March 17, 1895, striking his right elbow. He was treated four weeks at two hospitals, previous to coming to St. Vincent's Hospital Dispensary. He was seen on April 19, 1895, one month after the injury, at which time the following conditions were found: forearm flexed at right angle, the external condyle displaced outward and downward, a cutaneous slough, the result of pressure, about the size of a ten-cent piece, over the tip of the condyle, joint ankylosed, and atrophy of the muscles of the arm and forearm. Under chloroform anæsthesia, the ankylosis was broken up, and the fractured and displaced condyle was reduced, and the limb treated in extension for three weeks. At the end of this time, there was no union of the fragments. For four weeks the boy remained under observation without union taking place, and was then sent into the hospital to keep him off the streets. He was discharged in two weeks, with union and a fair result.

CASE XIV.—E. M——, aged seven, referred to the writer by Dr. Joseph Collins, three years ago, fell from an iron fence, striking upon his left elbow. He was seen four days after the injury with an enormously swollen arm and forearm.

Evaporating lotions were applied for almost a week, with the forearm extended. Then ether was given and a diagnosis of fracture of the external condyle was made; the usual treatment by extension was carried out for about a week, when the limb was encased in plaster, with the forearm flexed. The plaster was removed in two weeks. Within six weeks, the boy had almost complete flexion and extension. Recent reports in this case are entirely satisfactory.

CASE XV.—Boy, seven years of age, was struck upon the inner side of his left elbow. Examination revealed a hard mass, about the size of a large pea, upward and backward from the internal condyle. No ecchymosis or swelling. Some pain at the elbow.

Diagnosis: Fracture of the epicondyle. Treated by adhesive straps and pad for fifteen days. Result good.

Radius and Ulna.—There is but one case of interest to report, that involves the bones of the forearm. This was an epiphyseal separation occurring in both bones at the wrist and a separation of the lower epiphysis of the humerus. The injury was received by falling down a flight of stairs, fourteen or fifteen in number.

As the main growth of the forearm depends upon the lower epiphysis, the importance with a view to prognosis, in cases of epiphyseal separation at this extremity, can readily be estimated. This injury is due to direct violence or by hyper-extension of the hand. The signs of this injury are a marked transverse deformity just above the wrist posteriorly, as compared to the oblique deformity in Colles's fracture; an anterior prominence due to the lower ends of the shafts of the radius and ulna, also of a transverse variety, and abnormal mobility above the wrist.

Treatment: A dorsal splint after reduction, extending to the fingers and retained for about three weeks.

Cases of epiphyseal separation of both bones are extremely rare, as compared to those of the radius or ulna alone. Dolbeau reports a multiple case, in which both, radius and ulna on the one side and the radius on the opposite side, suffered separations.

Owing to the fact that the main growth of the forearm depends upon the lower epiphysis, prognosis with a view to shortening is bad; in single separations, lateral deformity is usual. Numbers of cases of separation of the lower epiphysis in either bone have been reported, and a large proportion were followed as a result of the diminished growth of the injured bone by marked lateral curvature, the normal bone during its growth curving toward the injured side. In these cases it is advised to excise a length of the uninjured bone sufficient to overcome the deformity.

CASE XVI.—M. D——, girl, four years of age. On May 17, 1894, fell down stairs and was brought to St. Vincent's Hospital Dispensary for treatment. She complained of pain in the wrist and elbow of her right side. Upon examining the wrist, a peculiar transverse deformity, sharply outlined, presenting upon the posterior aspect of the forearm about a half inch above the wrist-joint, was observed, while anteriorly there was a deformity continuous with the shafts of the bones of the forearm. At the site of the deformity during manipulation a soft crepitation was apparent. At the elbow there were the characteristic evidences of an epiphyseal separation of the lower end of the humerus.

Diagnosis: Epiphyseal separation of the lower end of the radius and ulna, and also at the lower end of the humerus. The separations were reduced and the limb was then placed upon a long posterior splint, extending down to the metacarpo-phalangeal articulations. She was discharged in four weeks with a good result.

In conclusion, the author desires to express his indebtedness to Drs. Joseph D. Bryant and Carl Beck for their kind permission to use such of their hospital material as might be of service to him.

149 WEST FORTY-FOURTH STREET.

A CASE OF INVERSION OF THE UTERUS OF FIVE DAYS' STANDING—SUCCESSFUL REDUCTION.

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AND
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THE rarity of this accident is shown by the statement of Braun, who says that, in the clinic under the charge of Spaeth and himself, not one case of complete inversion of the uterus occurred in one hundred and fifty thousand labors. At the Rotunda Hospital in Dublin there was one case in one hundred and ninety thousand confinements.[1] Meadows had only one case in his practice. Probably most physicians—even those in extensive obstetrical practice—never meet with a case in a lifetime. We report the following case, believing that it will be found of unusual interest to the profession:

Mrs. B——, aged twenty-eight, primipara, was taken with labor pains early Sunday morning, September 29, 1895, and was delivered of a living child with forceps under chloroform at about seven o'clock the same evening, the perineum and vagina being much torn. The placenta was removed with some difficulty and a severe hemorrhage followed.

When the patient came out from under the influence of the chloroform, she complained of intense pelvic pain and a feeling of impending dissolution. Symptoms of collapse ensued. The attending physician had already gone to his home, two miles distant, so that it was necessary to call in a neighboring physician, who did what he could to help the patient through the night.

The next day, September 30th, patient had some fever. Temperature, 100° F.; pulse, 80; respiration, 20; and complained of pains which were thought to be the ordinary after-pains. Hemorrhage about double the amount of the usual lochial flow. Retention of urine. Catheter used once.

October 1st, 12 M.: Temperature, 101¼° F.; pulse, 120; respiration, 20. 4 P.M.: Temperature, 100⅘° F. Pain and flow about as yesterday.

[1] Lusk's Midwifery, p. 563.

October 2d.—Temperature, 100½ F.; pulse, 112; respiration, 25. Flow diminishing. Uterine pains about every half hour.

October 3d, 11 A.M.—Temperature, 102½° F.; pulse, 128; respiration, 26. 1 P.M.—Temperature, 103° F.; pulse, 130; respiration, 30.

The preceding notes I make from chart records kept by a trained nurse, and from the mother of the patient who was with and took care of her during Sunday and Sunday night.

I first saw patient at 6 P.M. of this day, October 3d, the husband bringing me a note from the attending physician, asking me to see the case and write my suggestions in a note to him, as he was not able to meet me in formal consultation.

I found Mrs. B—— with the following symptoms: Temperature, 103⅘° F.; pulse, 128; respiration, 40. Face pale and anxious in expression. No great pain, but quite restless and wearied, having had but little sleep since Sunday. Lochia free and not particularly offensive. Bowels just freely opened by sulphate of magnesia; hypogastrium very prominent from tumor, reaching quite to the umbilicus. The nurse telling me that after the catheterization on Monday the patient had passed considerable water every two or three hours, I came to the conclusion that she had had an internal hemorrhage just after delivery, thus accounting for the symptoms of collapse upon coming out from under the influence of chloroform; that the uterus was now filled with clots, and that her fever was due to sepsis. I did not make a vaginal examination, not feeling at liberty, under the circumstances, to pursue my investigations any further. I accordingly stated my conclusion in a note to the doctor, who, however, did not visit the patient again, but withdrew from the case the next morning. At the request of the husband I now took charge of the patient.

Friday, October 4th.—Saw the patient at 11 A.M. Temperature, 103⅘° F.; pulse, 130; respiration, 30. General condition, in aspect, worse than when I saw her last evening. I proposed to clear the uterus of supposed clots and then wash it out with a hot carbolic solution. Upon placing her in position for this purpose and introducing my finger into the vagina, I found it filled nearly to the perineum by a large mass, quite hard, and with a surface not unlike a placenta to the feel. I did not succeed in finding the cervix. An inverted uterus occurred to my mind, but I was puzzled by the presence of the hypogastric tumor. I now directed the nurse to pass the catheter and draw off what water there was in the bladder, although she had reported that the patient had urinated just before my arrival. The result of the catheterization was forty-eight ounces of dark-colored urine and a great diminution in the size of the tumor. But still feeling what I thought to be the uterus above the pubes, I desisted from further attempts to complete my diagnosis, judging it to lay between an inversion of the uterus and a large hæmatocele. I accordingly sought the advice and aid of my friend, Dr. C. W. Packard, who saw the patient with me at 3.30 P.M. the same day. His report is herewith presented.

At the request of Dr. Davis I met him in consultation in the case of Mrs. B—— on Friday afternoon, October 4th, nearly five full days after her instrumental delivery at full term. I found the patient lying on her back with the legs extended, and apparently indifferent to all that was going on around her. Her face was pale, and its expression staring and apathetic. She roused sufficiently to answer "no" to my inquiry, as to whether she felt any pain. Her pulse was 126; respiration, 36; temperature, 103⅘° F., per rectum. The abdomen was slightly tumid, but soft, and a distended bladder was easily outlined through its walls. Fifty ounces of urine were at once drawn off by catheter, although forty-eight ounces had been drawn only four hours before. It then became easy to discover that no uterus could be felt in the abdominal cavity, but that there was a hard mass behind the pubis, and low down in the pelvis. Examination per vaginam revealed a hard tumor, the size of a child's head, just inside the vulva, and that completely filled the pelvic cavity. It was sensitive to touch, and felt like the inside of the uterus after delivery. Passing the finger high up, a thin flap of the cervix could be felt on the right side of the tumor. The patient was then turned gently upon her side, and by means of a large Sims speculum a part of the tumor was brought into good view. Its surface was moist with lochial discharge of normal odor, and covered here and there with films of loosely adherent coagula. The tumor as a mass was pale and anæmic from the diminished blood supply through the vessels of the constricted cervix.

Having determined that we were dealing with an inverted uterus, it was decided to etherize the patient and at once attempt its reduction. At the request of Dr. Davis I prepared to begin the operation that most certainly promised to be more tedious than successful. The finger-nails were trimmed short, and the usual antiseptic precautions observed. The patient was brought to the point of full surgical anæsthesia. The patient, lying upon her back, with my two fingers within the vulva, and with the other hand passed deep behind the pubis, it was found that the tumor was to some extent movable, and that it moved as a solid mass. The deep-seated pelvic portion as felt through the abdominal wall presented to the touch a hard and round surface, but no cupping of the cervix, such as writers describe, was distinctly appreciable. The whole mass, above and below, was very firm and hard, as if from tonic contraction of the entire organ.

The operation was begun by pressing the index and middle fingers firmly and steadily against the presenting fundus, at the same time making gentle counter pressure through the abdominal wall. Gradually the uterine wall yielded, so that at the end of fifteen minutes the two fingers were buried in the tumor as far as the distal joint. The whole hand was now passed into the vagina, and four fingers pressed firmly against the mass, thus pushing it toward the cervix by continuous pressure, the elbow meanwhile resting on the bed as a point of support. With the help of the thumb, some degree of massage to the uterine walls was accomplished, with a view to rendering them more pliable and thus more tractable to further manipulations. Very soon the uterine walls began to soften, whether from the relaxing effect of the anæsthetic, or from the manipulations, or from both combined, and the cervix as felt behind the pubis grew appreciably softer. At the end of half an hour it was possible to carry the fundus before the four fingers fairly into the mouth of the constricting cervix, where they were steadily held as a wedge. The cervix now dilated rapidly before the advancing hand. At this stage of procedure something was gained by seizing the cervix through the abdominal wall, and pressing it down behind the pubis in opposition to the fingers inside the cervix, which were pressing the fundus up—very much as in the manœuvre for reducing a strangulated hernia by pushing down the neck of the sac, and at the same time pushing up the contents of the sac. After this process had gone on for some time, it became evident that the mass in the vagina was rapidly diminishing in bulk, and that in the abdomen growing larger. The fundus was still held in the cervix, and seemed almost, but not quite, ready to pass through. Meanwhile, under the steady pressure from below, and with increasing dilatation of the cervix, the uterus was slowly returning itself, not by movement at the fundus, but at the cervix. The body of the uterus was unfolding itself back through the cervix, the tissues nearest the cervix returning first. At the end of forty-five minutes the uterine walls had become soft and completely relaxed, and the uterine mass in the abdomen had steadily accumulated

in volume, until it was estimated that three-fourths of the bulk of the uterus had been returned through the cervix. In the now completely relaxed condition of the uterine walls no help toward further reposition could be expected from muscular action, such as is reported to have suddenly completed the reposition in other cases, and it became evident that the paralyzed fundus must be carried to its place. In the early stages of the operation occasional contractions of the uterus were observed, but they gradually grew less frequent, and had now entirely ceased, so that the fundus clung around the hand in a flabby mass. At the end of an hour's hard work, and at this stage of the operation, my hand had become so benumbed and powerless that I was compelled to resign my work to Dr. Davis, by whom the reduction was soon happily completed.

"Owing to the patient's very low condition much anxiety was felt lest she should prove unable to bear the shock of operation added to the depressing effect of the necessarily long-continued administration of ether, but so far as could be determined no such ill effects were produced, and her condition at the end of the operation seemed to be quite as good as at the beginning.

"In considering this case the following points appear to be of special interest: 1. The remarkable softening and relaxation of the uterus, without which reduction of the inversion would have been impossible. 2. The absence of all hemorrhage from the relaxed uterus during and after its reduction. 3. The *order* in which the uterine tissues slowly found their way back to normal position, *the tissues nearest the cervix rolling back first.*"

I now take up the report where Dr. Packard leaves it. When I followed Dr. Packard in his attempts to accomplish complete reduction, I found the change in the condition of affairs surprising and very gratifying. The vagina was now entirely empty of any portion of the inverted uterus, the cervix well dilated, and the unreduced fundus could be felt, I should judge, two inches within the cervix as a singularly flabby and elusive mass. The latter quality prevented my making any gain in attempts at reduction, until I introduced my whole hand into the uterus. Then by grasping the uterus with the left hand through the abdominal walls, and by exercising steady pressure with the fingers and thumb of the right hand upon the tumor in its circumference rather than upon the centre, in about five minutes complete reduction was accomplished. I hesitated at first to withdraw my hand lest reinversion should take place. But this accident did not take place upon withdrawal, and there has been no symptom of it since.

The patient bore the ether well, and suffered less from shock than we had a right to expect. No hemorrhage occurred, either during or after the operation. The condition of the patient for ten days following the operation was exceedingly precarious, and then seemed so much better for a few days that hopes were entertained of her recovery. She, however, became worse again October 17th, rapidly sank, and died October 19th of pelvic peritonitis and metritis.

Epilepsy.—Every case of epilepsy subjected to operation should be kept on proper medical treatment for at least two years.—LANPHEAR.

Felon.—The application of fuming nitric acid to a felon in any stage will produce entire relief.—HIRSCH.

Snuff for Hiccough.—Dr. P. Slevin reports in the *Lancet* a case of obstinate hiccough which had resisted a great variety of remedies for twelve days. The patient was seventy-eight years of age, of good physique. Finally, in the hope of exciting a new reflex, he was ordered one evening to take several pinches of snuff. This he did, and the following morning was found free from hiccough. The cure was a permanent one.

TUBERCULAR PERITONITIS.

By C. M. LENHART, M.D.,

ZANESVILLE, O.

PHYSICIAN TO ZANESVILLE CITY HOSPITAL.

In presenting this subject, it is with special reference to the difficulties in diagnosing some cases, and also the treatment.

As is well known, tubercular peritonitis, per se, in children or adults, is rare without a previous or simultaneous manifestation of tuberculosis in some other part of the body. In the case which I will presently present, the invasion of the disease was slow and insidious, without the ordinary symptoms of this affection which are laid down in text-books, viz., tubercular disease in some other part of the body, hereditary tendency, irregular fever, diarrhœa or alternating with constipation, abdominal enlargement from gas, fluid, pus, or mesenteric glands, nausea or vomiting, abdominal pains, growing weakness, and emaciation. These symptoms may develop so suddenly in acute cases, that this disease has been mistaken for typhoid fever, which it may closely simulate, or enteritis, or simple peritonitis; or it may be so latent as to not present a single symptom of abdominal disease, only to be discovered during a laparotomy for some other disease.

Was called November 3, 1894, to attend Mrs. A. W. B——, white, aged thirty-three. Found her in her third pregnancy, between the seventh and eighth months. The previous labors had been normal, and her children, aged three and five years, are in perfect health. No history of miscarriages. The patient has always enjoyed good health, and appears healthy at this examination, except that she has had a diarrhœa for two weeks past. The diarrhœa was checked only for a day or two. She was delivered December 23, 1894, of a healthy baby. The secretion of milk was plentiful and recovery was uninterrupted. After the diarrhœa had lasted about four months a thorough examination was made. The thoracic, abdominal, and pelvic organs, as well as the rectum, were found normal. Pulse, respiration, and temperature were normal, appetite fair, no nausea or vomiting, stools from six to twelve in the twenty-four hours, but the patient is gradually losing flesh and strength. No permanent benefit has been derived from treatment. Has very slight abdominal pains, not localized, or severe enough to call for an opiate.

In the fifth month a swelling was discovered over the region of the appendix, about the size of a goose egg, slightly tender on firm pressure. The case was now thought to be appendicitis, with probably the formation of an abscess discharging into the bowels, or a catarrhal condition of the cæcum. In either case we would have diarrhœa alone or alternating with constipation. The case was watched closely, and in the sixth month of the disease this swelling had perceptibly diminished, but never entirely disappeared. An operation was proposed, but was given up for the time. Subnormal temperature was noticed at times in the morning. The baby had been healthy up to this time, but weaning was advised because a latent tubercular trouble had been thought of.

In the seventh month of her sickness the woman had become very weak; temperature from 97° in the morning to 99° in the afternoon, under the tongue; pulse, 100 to 120; takes large doses of morphine to relieve pain; bowels are now obstinately constipated.

A laparotomy was consented to and she was removed to the Zanesville City Hospital for operation. The abdomen had been repeatedly examined, but nothing abnormal was found excepting slight tenderness and a little swelling over the appendix. The operation was performed June 17, 1895, by Dr. J. G. F. Holston, assisted by Dr. G. Warburton and myself. The appen-

dix was found inflamed, and about as thick as the little finger; a particle of hard fecal matter was found in it, otherwise it was normal; it was amputated and the stump cauterized over a previous ligation; about a half-pint of fluid was drained from the peritoneal cavity and the latter was thoroughly dried out; the peritoneum was found studded with hard miliary tubercles over a limited extent. The other abdominal and pelvic organs were found healthy. The abdominal cavity was completely closed. Her recovery was uninterrupted; on the eighth day there was complete union. She has continued to improve, appetite better, bowels fairly regular, little or no pain in abdomen, and looks brighter. She left the hospital eighteen days after the operation, her health improving in every respect. It is now four months since the operation, and her health continues good.

Now, here was a case in which it was impossible to diagnose the morbid condition. The only signs we had of the existing disease were diarrhœa, growing weakness, emaciation, and a general cachectic appearance. In this case the loss of flesh and strength were attributed to the diarrhœa and defective assimilation. A subnormal temperature was frequently noted, and it appears[1] that subnormal temperature for weeks or months is frequent in cases of fibrous tubercles, where there is slight inflammation and small effusion, or there may be slight fever and subnormal temperature. It appears that my case was after this type. Tubercular peritonitis was formerly thought to be one of the most fatal of diseases. Alonzo Clark[2] says "it is believed to be uniformly fatal." Evidence, however, has lately accumulated to show that, in a certain proportion of cases, spontaneous recovery in this disease is possible both in children[3] and adults.[4] It also appears that the cases most likely to terminate favorably are those where the infection is confined to the peritoneum, and that to a limited extent. It is even possible that the disease may run a latent course and a cure be effected without any sign of existing peritonitis.[5] There is no reason why tubercles in the peritoneum may not undergo involution the same as in other parts of the body.

The anatomical changes are in brief: the tubercles undergo fibroid pigmentary induration, exudations are absorbed, and there is a transformation of the fibroid material into connective tissue with adhesions.

Osler[6] and others[7] describe three varieties of this disease—miliary, fibroid, and caseous; clinically, however, it is not always possible to classify all cases of tubercular peritonitis. Infection of the peritoneum may come through the blood, intestines, Fallopian tubes, tubercular ulcers of intestines, mesenteric glands, or pleura. We have tubercular peritoneal tumors which are very difficult to diagnose in every case; they may be omental, sacculated exudations, retracted and thickened intestinal coils, or mesenteric glands. The serious difficulty is best shown by the fact that in 96 cases of laparotomy in tubercular peritonitis, in not less than 30 ovarian disease was thought to be present. In 1862 Spencer Wells performed laparotomy for a supposed ovarian tumor, and he found a tubercular condition of peritoneum; the fluid was drawn off and his patient recovered. As we have seen above, many mistakes in diagnosis, with consequent opening of the abdominal cavity, have been made, and a cure of the patients has been the result in the majority of cases. The beneficial effect of opening the peritoneal cavity and draining off the fluid has caused this to become a generally recognized operation. As Mr. Lawson Tait[1] says, "the great majority of cases are cured by these simple means." According to Morris,[2] eighty per cent. of these cases are cured by exposing the peritoneal cavity to the air.

It is of much interest to inquire why so simple a treatment produces such radical changes in this disease. Whether the curative action is due to the removal of the ascitic fluid, or the removal of the ptomaines of the bacilli, or because the bacteria of putrefaction produce a toxalbumin which is fatal to the tubercle bacilli in the peritoneum, or because of the action of the light, dryness, and air exerted during the removal of the fluid, it is difficult to say. "The absorbent action brought about by traumatic inflammation, so common elsewhere, may make itself felt on such an occasion, and it may favor the removal of the broken-down products of the disease" (Warren). Undoubtedly the removal of the fluid and other irritating products leaves the peritoneum in a condition to remove the products of inflammation and thus favor fibroid changes, or to the "reaction processes," round-celled infiltration, phagocytosis, active connective-tissue development.

As has been mentioned before, the cases most likely to be benefited by operation are those similar to the one presented above, and also those accompanied with considerable exudation, either free or encysted. Such cases are most likely to be primary in the peritoneum, the chances of general infection are less, and the general condition of the patient is usually better. In cases with purulent exudation and large caseous masses in the peritoneum the prospect for recovery is less hopeful, but many cures are recorded, and surprising results often follow abdominal section in these cases.

In chronic adhesive or dry tubercular peritonitis, when there is little or no serum or purulent exudate, and the coils of intestines are matted together, with probably enlarged caseous masses, little or no benefit can be expected to follow an operation.

Tuberculosis is a common cause of peritonitis in children. Ashby, in 105 autopsies in children dead of tuberculosis, found tubercles in the peritoneum in 38 cases, and of 127 cases of tuberculosis noted by Woodhead, caseation of the mesenteric glands was found in 100 cases, or seventy-nine per cent. The general treatment will not be discussed here, as it is on the same plan as that of tuberculosis elsewhere in the body.

The results which have been obtained by incision and drainage are very encouraging, demonstrating the impunity with which the abdominal cavity can be opened in children, and proving that a large percentage can be benefited, and some cured, by an operation. Successful cases have been reported by Treves,[3] Knaggs, Clarke, Conitzer,[4] and many others.

The figures given by Aldibert are exceedingly interesting. Of the 52 cases in which laparotomy was performed in children, there were 45 recoveries and 7 deaths; of these 45, 9 had lived for more than one year, and 2 for more than two years. Of 32 cases of laparotomy performed for ascites, there were 29 recoveries and 3 deaths; 4 had lived for more than one year. In the ulcerative variety, if the process is generalized, the results are not so satisfactory, and it also appeared from a study of these cases that in the chronic adhesive form an operation is hardly indicated, as in the majority of cases nature is healing the tuberculosis; but even here, where there is much pain associated with adhesion, cases have been relieved by an exploratory incision.

It is to be remembered, however, that cases both in adults and children, if the symptoms are not urgent, and the patient's strength is not failing, good authority advises us not to interfere surgically, but to treat the case by medical measures and to wait on nature's efforts to effect a return to health.[5]

[1] Johns Hopkins Hospital Report for 1890, by Osler.
[2] Pepper's System of Medicine, vol. ii., page 1168.
[3] Keating: Cyclopædia of Diseases of Children, vol. iii., page 280, and 214.
[4] Pozzi: Medical and Surgical Gynecology, vol. ii., page 216.
[5] Warren: Surgical Pathology and Therapeutics, page 572.
[6] Johns Hopkins Hospital Report for 1890, quoted by Pozzi.
[7] American Text book of Gynecology.

[1] Edinburgh Medical Journal for June, 1889
[2] MEDICAL RECORD, October 6, 1894.
[3] Lancet, November 5, 1887.
[4] Deutsche med. Wochenschrift, 1893, No. 29.
[5] American Text-book, Diseases of Children.

Other methods of treatment have been practised—thus Rendu[1] has used, with apparent success, camphorated naphthol. After draining off seven litres of ascitic fluid, he injected, through the cannula, still in the abdominal cavity, ten grains of camphorated naphthol; his patient completely recovered. Beck, in a paper read before the Eleventh International Medical Congress, reports five cases treated by injecting into the peritoneal cavity iodoform, one part, and glycerine, ten parts. Of the cases treated by this method only one resulted fatally, the others were apparently cured.

Progress of Medical Science.

Puncture of the Spinal Meninges.—Professor Fürbringer states that he has now punctured the membranes more than 100 times in 86 cases. The procedure is easy. He recommends that the patient should sit up, at the same time bending well forward, and that the needle be introduced on a level with the under surface or exact extremity of the spinous process. An anæsthetic is unnecessary. Sometimes the aspiration of the fluid was found to cause pain in the neck, back, or head, so that the author uses the Pravaz syringe almost exclusively. The amount of fluid withdrawn varied from a few drops to 110 c.c. The amount evacuated does not always correspond to the amount present or to the pressure. Occasionally a bloody or blood-stained fluid was withdrawn. Once, owing to pain in the legs, it was: hought that a nerve-root had been pierced. In four-fifths of 37 cases of tuberculous meningitis the diagnosis was established with certainty by the presence of tubercle bacilli. Improvement is so rare that any curative action can hardly be thought of. In the author's opinion the symptom-complex of this disease is not in any great measure the direct result of increased pressure. In 2 cases with meningeal symptoms in which no tubercle bacilli were found, the after-examination showed a serious meningitis. In 1 case of chronic hydrocephalus the fits lessened after the puncture; the necropsy eventually showed the hydrocephalus to be due to a tuberculous nodule in the cerebellum. In 1 case pus was withdrawn. In 3 cases of cerebral tumor there was slight improvement in the headache in one case. There was but slight change in a second case, which subsequently recovered under antisyphilitic treatment. In a third case sudden death occurred the day after the puncture. In a fourth case, much improved by trephining, lumbar puncture was practised owing to a relapse. The symptoms improved slightly, but death occurred twenty-four hours later. It cannot be said whether the puncture had anything to do with the sudden deaths. In two uræmic cases 90 and 50 c.c. of fluid were withdrawn without result. In one case of cerebral hemorrhage with rupture into the ventricles blood was withdrawn, as well as in a case of hemorrhage into the cerebellum rupturing into the fourth ventricle. For diagnostic purposes spinal puncture is most valuable in tuberculous meningitis and when pus is withdrawn. In hemorrhages into the ventricles or subarachnoid space it may also be of service. Therapeutic results are either absent or only rarely to be seen.—*Berliner Klinische Wochenschrift.*

Antral Empyema of Tuberculous Origin.—A case of antral empyema, apparently of tuberculous origin, is recorded by J. Kekwick (*British Medical Journal*). The patient, a woman, aged thirty, complained of the usual symptoms indicative of antral empyema. The left upper second bicuspid was extracted and a free opening into the antrum made through the socket. For twelve months local treatment combined with change of air and the administration of tonics was carried out, but to no avail, the patient's condition remaining practically unchanged. The pus being of a curdy character and the history of the patient led to a suspicion of tubercle, etc., and on the discharge being examined microscopically, the tubercle bacillus was found in large quantities. Constitutional treatment for tubercle, combined with the insufflation into the antrum every day of powdered iodoform, led to rapid improvement in the patient's condition, the discharge becoming less and the hectic condition which the patient had commenced to acquire being lost. The following reasons are given in support of the diagnosis: 1, The chronic course of the case, with no local causes, such as loose sequestra; 2, the tuberculous character of the pus; 3, the amenability of the disease to iodoform; 4, the history of the patient (uncle died from phthisis; sisters suffering from phthisis; no signs of tubercle in the patient herself, but a queried history of tuberculous cervical glands—cicatrices); and 5, the bacilli in the pus which was washed directly out of the antrum through the nose.

Acute Non-suppurative Encephalitis.—Dr. Oppenheim believes that the separation of the non-suppurative from the suppurative disease is most important. The etiology of the hemorrhagic form of the disease is not always the same. By some it has been attributed to alcohol, by others to influenza, and there are a number of cases of no known etiology. It begins with severe symptoms, but usually runs a favorable course. The author gives short details of five cases observed by him, all of which recovered. Three cases were acute, occurring respectively in girls aged sixteen and ten, and in a young woman. In two subacute cases in a girl aged twelve, and a man aged twenty-one, the lesion lay in the floor of the fourth ventricle, and a complete ophthalmoplegia developed itself. In none of these cases was there any evidence of syphilis. In the literature of this disease the prognosis has not always been looked upon as very favorable, but in recent writings recoveries have been noted. The author's experience has been most favorable. Polioencephalitis must be distinguished from disseminated sclerosis, which not very rarely takes an acute form and which, according to the author, may end in complete recovery. Acute course, rapid development, high temperature, etc., are unfavorable signs, whereas low temperature and a protracted course make the outlook favorable.—*Centralblatt für innere Medicin.*

Physometra or Tympanites Uteri.—Dr. Hermes observed this condition in a primipara, aged thirty-seven, and syphilitic. The child had evidently died some time before labor, which lasted over five days, and was mismanaged (*British Medical Journal*). The child's thigh was broken in an attempt to deliver with the blunt hook. The practitioner sent the patient into hospital. She was in a sinking condition, the abdomen greatly distended. The perineum was torn. The pelvis was slightly contracted in all diameters. On passing the finger into the os a great quantity of fetid gas escaped. The child, very large, and in an advanced state of decomposition, was extracted. The placenta, quite putrid, had to be removed manually. The uterus contracted bodily; it was carefully washed out with a solution of carbolic acid at 122° F. There was no severe flooding. The patient died about one hour after delivery. There were no air emboli, said to be the main cause of fatal results in tympanites uteri. There was perimetritis. Under the endocardium in the left ventricle were abundant ecchymoses; the pericardium contained a considerable amount of serum. The fetid air which issued from the uterus, clearly came from the dead fœtus. The frequent attempts to deliver, badly followed up, admitted air and germs from without. In other cases it has been found, that when the fœtus had died quite recently, fetid gas rapidly collects if air be admitted into the uterus.

[1] Bulletin Médical, No. 86, 1893.

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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THE REORGANIZATION OF THE CITY HOSPITALS.

THE recent reorganization of the attending staffs of the different city hospitals by the Commissioners of Charities and Correction has naturally given rise to much discussion in medical circles. Considering the radical changes effected, the manner in which they have been made, and the apparent motives that actuated them, it is no more than could have been expected. In order to understand the wide-spread character of the movement and the many different interests involved, it is only necessary to state that the Commissioners have directly under their charge a large number of important hospitals, namely, Bellevue, Gouverneur, Fordham, City Hospital, the Workhouse and Almshouse and the Randall's Island Hospitals, besides the Maternity Hospital and the Hospital for Nervous Diseases, which are in close relations with the City Hospital proper, or, as it used to be known, the Charity Hospital. The medical appointments to these institutions are entirely under the control of this Department of Charities, and the various attending staffs hold their positions at the pleasure of the appointing power. While much can truthfully be said of the political elements entering into these appointments, the latter, of late years especially, have in the main met with a general approval by the profession. The desirability of the positions, particularly those of Bellevue, in affording clinical facilities, tempted the various medical colleges to fight for what they considered their rights. By skilful wire-pulling and the ostensible exhibition of a charitable and generous rivalry in promoting the interests of medical education, the Commissioners were forced to make a deal with the colleges, and give them the lion's share of the patronage. This much was done with Bellevue, and to a certain extent with old Charity. It was then agreed, as a forced compromise, that each of the three colleges should have an equal share in three-fourths of the available positions, while the profession at large should have the remaining quarter. The colleges named their candidates when vacancies occurred in their respective divisions, and the appointments were made accordingly. The remainders, who represented the profession at large, skirmished around as best they could, and meekly dodged into the few places left.

It appeared to be a necessity of the situation that Bellevue should be so delivered to college privileges, particularly as two of the latter institutions were in such close and convenient neighborhood to the hospital. Meanwhile the positions in the other hospitals of the department were apportioned indiscriminately to different applicants with as much fairness as could be expected under the conditions of political pull and ordinary professional fitness. At all events the appointments were generally acceptable to the profession, and fairly represented its distributive interests. These latter gentlemen did their work well, and there was no apparent cause for any complaint on the part of the Commissioners, save that a few of the bolder spirits in different medical staffs rightfully protested against the bad food supplied to the patients, and the want of suitable appliances for the proper treatment of their diseases. Such men were either promptly dismissed or snubbed into submission by unnoticed appeals.

Now, with an ostensible awakening to the necessities of the reforms, so long delayed and so urgently requested by the different medical attendants, it has been decided by the Commissioners to make a clean sweep along the whole line, declare all places vacant, and model the patronage of all the hospitals on the Bellevue plan. This gives the three colleges three-fourths of the patronage of appointments to all these hospitals, and the profession at large but one-fourth.

In the matter of equitable representation of interests it is not difficult to estimate the justice of the so-called reform. If we mistake not, the voice of the profession of this city will yet be heard in no uncertain sound of earnest protest against the position taken by the Commissioners. While willing to accept the situation for Bellevue proper, there is no good reason, even on the score of better or more available clinical teaching, for expanding such a policy to the other hospitals. The Commissioners may yet learn to their sorrow that the large majority of competent medical men not connected with the colleges, have some rights for proper representation, which may yet command respect when the department itself is reorganized and new appointments in its own board are to be made.

This entirely unnecessary, unjust, and discourteous removal of medical men from positions they have so acceptably filled, involves a great deal more than the question of the outs against the ins. It is an arrogant assumption of partiality by the Commissioners that deserves a becoming rebuke. Every medical man who is not directly connected with a college consistently asks why so much favor is shown such institutions, and so little to the profession at large. Are the colleges themselves altogether innocent in the matter?

Statistics of the Antitoxin Treatment of Diphtheria in Berlin.—Dr. Behring has recently published a comparison of the results of the treatment of diphtheria in two of the Berlin hospitals. In the Charité, where antitoxin was employed, there were 299 patients with 53 deaths, or 17.7 per cent.; in the Bethania Hospital, where antitoxin was excluded, there were 249 patients with 112 deaths, or forty-five per cent.

Strychnine Delirium.—An item with this title appearing in a recent issue should have been credited to the *Therapeutic Gazette*. Through inadvertence this credit was not given.

RECKLESS SELF-DOSING.

A RECENT death in this city, directly traceable to self-dosing with nitrite of amyl, serves to emphasize once more what we have so often insisted upon, the danger in lay people prescribing for themselves and for each other. In no other condition of life is a little knowledge a more dangerous thing, and yet in none is this little knowledge presumed upon to a more reckless extent than in the treatment of disease. Sensible and prudent men, who would never think of writing their wills or even of signing a lease without consulting a lawyer, will yet take large doses of antipyrin or of some equally dangerous drug if they have but a slight bilious headache. Even babies are dosed with soothing sirups compounded of opium and other poisons, and of late years the drug which forms the text of this warning, nitrite of amyl, has acquired a most alarming popularity with the mothers of croupy children.

The responsibility for this practice of self-dosing often rests upon the physician, who puts a remedy into the patient's hands with directions to use it as occasion arises. In this way the patient acquires a knowledge of one of the effects of the drug, and when another person presents symptoms which seem to be in some respects similar to his own, he at once, with that peculiar passion for prescribing that has become an instinct of the human race, recommends the new medicine which had helped him. The other takes it and becomes in his turn a new centre of self-dosing infection.

But even if the administration of the drug went no further than the first patient, the physician takes a grave responsibility upon himself who gives a poison to a person ignorant of its dangers with permission to take it whenever his own judgment regards it as indicated.

It is quite true that nitrite of amyl will relax spasm, and if this were its only action it might be safely and pleasantly employed to put an end to the distress of an infant gasping for the breath cut off by laryngeal spasm. But unfortunately the drug is a powerful spinal and heart poison, the action of which is evanescent, it is true, yet so rapid that death may be caused almost instantaneously, before any antidote, even were such at hand, could act. And yet physicians have actually given this violent poison to mothers to use on their babies during an attack of whooping-cough, or of laryngeal spasm from any other cause! It is little wonder, when physicians are so reckless, that laymen come to think they too can prescribe drugs as though they were chocolate drops or maple sirup.

THE NATURE AND TREATMENT OF LUMBAGO.

A YEAR ago Dr. Albert Robin, of Paris, published an article in collaboration with Dr. Londe in the *Revue de Médecine*, in which he contended that lumbago and many cases of torticollis were articular affections, rather than muscular. He returns to this subject in a current issue of the *Bulletin Général de Thérapeutique*. The view, as he admits, is not entirely original with him, but he asserts correctly that most authorities look upon lumbago, at least, as essentially a muscular affection, being often described as a rheumatic myositis. Dr. Robin bases his theory of the articular nature of the trouble upon a number of facts, of which we can only summarize a few: He says, in the first place, that the points of greatest pain are usually in the median line over the vertebræ, or else over the sacro-iliac junctions. He calls attention also to the fact that the position of the patient is such as would not be easily tolerated if the muscles were mainly at fault. The sufferer stands with the body bent slightly forward, sometimes bending to one side, a position which would put the erector muscles of the back in a state of tension that should be uncomfortable and painful. On the other hand, this position is, he thinks, best adapted to relieve the articular surfaces from pressure. The muscles themselves, also, he states, are usually less painful than the joints. Dr. Robin's reasoning is ingenious, and we believe that there can be no doubt but that in many cases, at least, the joints and their supporting ligaments are really the most at fault. The more practical point connected with this subject is that of the treatment of lumbago. In most cases, of course, patients get well rather promptly by simply being put in bed, kept warm, and their symptoms relieved by local applications and the milder anodyne remedies. The old-fashioned treatment of a piece of flannel and a hot flat-iron still has its advocates. Electrical applications, blisters, and various forms of counter-irritation also are useful. Robin asserts, however, that he has discovered a drug which he thinks has a certain specific action on lumbagoes, namely, jaborandi. In acute cases, and in many of the more chronic forms, the use of the infusion of the leaves is attended, according to this writer, with the greatest success. He gives the infusion of the leaves, a form of preparation which we believe is rarely employed in this country. This infusion is taken in the morning, and repeated in a day or two, if needed. It produces profuse perspiration and salivation, with, in acute cases, immediate relief of symptoms. In the more chronic cases the dose is to be repeated three or four times. We see no reason why, if the drug is really valuable, the simpler preparations, such as pilocarpin or the fluid extract, should not prove equally serviceable. Dr. Robin cautions his readers against the use of this drug, however, in all cases where there is any heart lesion.

ALLEGED FAILURE OF NEW YORK CONSULTING PRACTICE.

IT will furnish some wonder, and perhaps amusement, to New York physicians to learn that the medical papers are publishing editorials and various comments upon the fact that the New York consulting practice has become a failure; that many consultants who have had large practices have lost them gradually but well-nigh completely.

There are ups and downs, in the course of the consulting practice, in all great centres of population. At one time, probably, the consulting gynecologist had a larger share of work, proportionally, than he does now, and this may be true of some other branches of medicine, especially among young men who started life as

consulting specialists; but where the consulting practice diminishes in one direction it increases in another, and, taking it upon the whole, we presume that there is probably more consulting work done now in New York than there ever has been in the past history of the city. The work of the general consultant, who is called upon for diagnosis and help in all kinds of diseases, has certainly not fallen off, as those who are acquainted with the few men in this city who make general consultation a specialty can abundantly testify.

Meanwhile the general practitioner is doing as well as can be expected in a city of wealthy dispensaries and palatial hospitals.

ANOTHER MEDICAL POET.

OUR French contemporaries celebrate in somewhat doubtful praise the poetical work of Jean Lahor, M.D. Dr. Lahor, unlike a good many medical men who are poets, indeed, unlike most medical men who are real poets, selects largely medical topics for his artistic labors. We note a poem called "Songs of Love and Death," and another, the "Drunkenness of the Lovers," a poem on the "Hospital," and a good many poems which have a bearing on emotions connected with certain physiological conditions.

> "Be then drunk, oh, my soul, and be always drunk,"

sings Dr. Lahor.

> "It is only illusion that makes things beautiful,"

he adds.

> "My thought is serene and my dream perfumed,
> Like the happy chamber where my true love died,"

is another exquisite but not very loyal verselet of the poet. The professional poem about the "Hospital" seems to be in much the same cheerful spirit. The Hospital, according to the doctor, consists of children who suffer because they were born, women who die because they had to bear them, men who are howling as though they were damned, and all begging for death and extinction of suffering. Dr. Lahor seems to have gathered all that is unpleasant and pathological and pessimistic in his medical studies, and turned it into most depressing rhymes. For our part, we hope when doctors turn poets they will take a little more as models the late Dr. Holmes, or the still later Dr. Oliver Goldsmith. It is better to be a very healthy and happy poet than to be an extremely great one, if the greatness is so intertwined with the pathological.

Typhoid Fever Prevails to an Unusual Degree in Toronto, due, apparently, to the fact of an insufficient supply of pure water. According to the returns of the Board of Health, during the first fifteen days of the present month, there were 77 cases of typhoid fever against 29 in the whole month of October last year, and 27 in October, 1893. There are many patients suffering from typhoid fever at the different hospitals. At Grace Hospital there are 36, at St. Michael's 22, and at the General 40 cases.

News of the Week.

Reorganization of the City Hospitals.—The following is the text of the resolutions adopted by the Commissioners of Charities and Correction, and providing for the reorganization of the city's hospitals:

Resolved, That the College of Physicians and Surgeons, the University Medical College, the Bellevue Hospital Medical College, and the Fourth Division of Bellevue Hospital be requested each to nominate one physician and one surgeon, who shall constitute the consulting staff of Bellevue Hospital, and who shall be members of the Medical Board of Bellevue Hospital, but without service in Bellevue Hospital proper.

Resolved, That the Consulting and Medical Boards of the Gouverneur Hospital, the Fordham Hospital, the City Hospital, the Maternity Hospital, the Hospital for Nervous Diseases, the Workhouse and Almshouse and Incurable Hospitals, and the Randall's Island Hospital be and are hereby abolished, to take effect November 1, 1895.

Resolved, That the College of Physicians and Surgeons, the University Medical College, the Bellevue Hospital Medical College, and the Fourth Division of Bellevue Hospital be requested each to make the following nominations, which, when confirmed, shall take effect on November 1, 1895:

1. For the Gouverneur Hospital, one physician and one surgeon each, making a Medical Board of eight.
2. For Fordham Hospital, one physician and one surgeon each, making a Medical Board of eight.
3. For the City Hospital, two physicians, one surgeon, one genito-urinary surgeon, one gynecologist, one ophthalmologist, and one dermatologist each, making a Medical Board of twenty-eight.
4. For the Maternity Hospital, one obstetrician each, making a Medical Board of four.
5. In the Hospital for Nervous Diseases, one neurologist each, making a Medical Board of four.
6. For the Workhouse, Almshouse, and Incurable Hospitals, one physician and one surgeon each, making a Medical Board of eight.
7. For the Randall's Island Hospital, one physician, one surgeon, one ophthalmologist, and one dermatologist each, making a Medical Board of sixteen.

Resolved, That the Medical Board of Bellevue Hospital be and is hereby constituted a Consulting Board for the Gouverneur Hospital, the Harlem Hospital, the Fordham Hospital, the City Hospital, the Maternity Hospital, the Hospital for Nervous Diseases, the Workhouse, Almshouse, and Incurable Hospitals, and the Randall's Island Hospital.

Resolved, That the Medical Boards of the Gouverneur Hospital, the Harlem Hospital, the Fordham Hospital, the City Hospital, the Maternity Hospital, the Hospital for Nervous Diseases, the Workhouse, Almshouse, and Incurable Hospitals, and the Randall's Island Hospital shall be governed and conducted in strict accordance with the plan of organization of the Bellevue Hospital adopted by this Board on May, 12, 1882.

The Hospital Sunday Association.—At a regular meeting of this Association, on the 21st, the question of uniting with the Brooklyn Association was discussed. The Hahnemann Hospital has applied for admission to the Association.

Sir Joseph Lister has been elected President of the British Association for the Advancement of Science, which is to hold its next meeting in Liverpool.

Professor Hafkine has been compelled, by ill-health, to leave India, where he has been experimenting with cholera antitoxin. It is reported that he has inoculated more than forty thousand persons, and the results of his experiments are said to have been most encouraging.

A Doctors' Stable Club.—An organization has been formed by a number of physicians, residing in this city, for the care of their horses and carriages. The services of a carriage-maker, a harness-maker, and a horseshoer will be engaged for a fixed monthly sum, and all repairs on the outfits of the members of the association will be made by these men. The cost of the whole service to each member of the association will be about thirty dollars a month.

Women Students Decreasing in Number.—At a meeting of the Board of Regents of the University of Michigan, held a few days ago, President Angell reported that the attendance of women at Ann Arbor had fallen off in percentage in the past two years.

The Committee on the Treatment of Leprosy, established by the Board of Health of the Hawaiian Islands, is composed of the following physicians: Drs. C. B. Wood, *President;* R. P. Myers, *Recording Secretary;* N. B. Emerson, *Corresponding Secretary;* G. Herbut, F. R. Day, and H. N. Howard.

The Medical Association of the Hawaiian Islands.—The officers of this association, elected at the annual meeting in May last, are: Drs. John S. McGrew, *President;* Henry W. Howard, *Vice-President;* and Robert P. Myers, *Secretary.*

Practising Homœopathy in Peru.—Despatches to the daily press announce the important fact that an American physician, after five years of struggle, has secured the right to practise homœopathy in Peru.

Death of Dr. Harry B. Conrad.—Dr. Conrad, of this city, died suddenly on October 20th, aged forty-three. Dr. Conrad was born in Philadelphia, and graduated at the University of New York, in 1877.

Dr. Abbey J. Seymour.—Dr. Seymour, one of the most prominent medical women of Buffalo, was killed by the West Shore train, on October 17th. Dr. Seymour was born in Batavia, N. Y., in 1853, and graduated from the Rush Medical College, of Chicago.

The Fifth International Congress of Otology has been holding its meetings in Florence, Italy, beginning September 3d. A correspondent of *The Lancet* describes the sessions and the discussion as being very satisfactory. Professor Gradenigo, of Turin, read a paper on the "General Treatment of Internal Otitis," and Dr. Delstanche, of Brussels, a paper on the "Employment of Liquid Vaseline in the Treatment of Affections of the Middle Ear." Dr. Macnaughton Jones read an elaborate paper on "Hypertrophy of the Turbinated Bones, and its Relations to Deafness." Dr. T. Barr read a paper on "Treatment of Intracranial Abscess following Ear Diseases," and Professor Politzer was credited with an original and "epoch-making" memoir on the "Present State of the Pathological Anatomy of the Labyrinth." One feature of the meeting was an exhibition of otological instruments and appliances. Dr. Jones showed his auto-insufflating aural bag for respired air and vapors, and also his magnifying aural speculum and nasal bougies and dilators; also his turbinotome and scale with rule for operation on the mastoid, antrum, temporo-sphenoidal lobe, and cerebellum. Professor Gradenigo exhibited an original and ingenious diapason. The Congress adjourned to meet next year in London.

The New Pirogoff Museum of Anatomy and Surgery is now being erected in St. Petersburg, with the help of the Government and private subscriptions. While the foundations were being dug, a large quantity of human bones were found in the earth, giving a somewhat grewsome appropriateness to the selection of the site. The bones are still a matter of investigation.

A Poet to the Doctors.—Sir Edwin Arnold recently delivered the address at St. Thomas's Hospital, on the occasion of the distribution of prizes to the students in the Medical School.

Presentation to Dr. Hughlings Jackson.—At the opening day of the Medical Session of the London Hospital Medical School Dr. Hughlings Jackson was presented with his portrait and a silver ewer and stand. Sir James Paget presided and made the presentation speech. Sir James referred to the statement of Mr. Jonathan Hutchinson, that the greatest work he (Hutchinson) had ever done was to discover Dr. Hughlings Jackson.

New York State Commission on Lunacy.—The Sixth Annual Report of the State Commission on Lunacy of the State of New York has just been received. It shows that there are now 20,000 insane patients under the care of the State and in city and private institutions. This means an increase, during the year, of 736. The cost to the State of maintaining the State hospitals for the year was $1,627,766. This means a reduction, per capita, during the year, of $30; in other words, it now costs the State $184.84 yearly to take care of each lunatic. The percentage of recoveries during the year was 6.03 per cent. and the mortality rate was ten per cent. Of 16,000 persons admitted to the State hospitals within the last six years, 6,000 were foreign born, and forty-four per cent. were of foreign parentage. In the New York City Asylum nearly eighty per cent. were of foreign parentage. The Commission recommend that appropriations be made to provide for the erection on the grounds of the State hospitals of some buildings designed for the specialized treatment of recoverable cases; also, that a pathological laboratory be established for the benefit of all the State Hospitals.

Reviews and Notices.

THE MEDICAL REGISTER OF NEW YORK, NEW JERSEY, AND CONNECTICUT. New York Medico-Historical Society. JOHN SHRADY, M.D., Editor. Vol. xxxiii. New York: G. P. Putnam's Sons. 1895.

A WELCOME manual, evidently printed and bound for permanency. It contains, besides the list of physicians in the three States, much valuable information regarding associations, hospitals, colleges, and executive departments. The chronological record and necrology cannot fail to throw many side-lights upon the medical history of the times. At all events, the literary terseness and compactness of the work make it very readable.

THE SCIENCE OF VITAL FORCE. Its Plan, Division of Function, and Operative Methods in Health and Disease. By W. R. DUNHAM, M.D. Boston: Damrell & Upham. 1894.

INTERESTING and well written, this little book scarcely reaches the exhaustive ideal of the preface, which is to designate and demonstrate the fundamental principles of the science of vital force, and also to revolutionize the imaginary fundamental principles upon which medical practice, both regular and irregular, is based. The four ultimate properties of vital force, the author states, are sensibility, instinct, sensation, and contractility. The term sensibility is used to represent certain life abilities comprised in all the varieties of brain functions and conscious intelligence. This vital property is implied in the ability to command and execute voluntary acts, having perceptive abilities that may recognize things, conditions, and relations both in contact with the organism and external and beyond contact. It superintends all the voluntary acts. Instinct presides over involuntary acts, superintending the construction of the organic body. Sensation is a vital property expressed by certain nerves, whose function is implied in conveying information of existing conditions and the presence of material contacts both to sensibility and to instinct. It is a kind of telegraph, and was created for no other purpose than to express feeling from contact. Contractility is an invisible instrument of motion in hands of both instinct and sensibility. It is the animal strength property. These four are the only properties by which life is carried on. Material does not act; nature—vital force—does the acting. It may act spontaneously or by invitation, as from medicine. Medicinal contact causes a sensation, to which instinct responds with an involuntary act. Medicine has no active principles of operative influence within itself; but its presence may cause the involuntary active vital principle to act differently. What constitutes physiological action? Pathological action? The involuntary active vital principle acting in relation to nutritive material for organic constructive purpose and for the elimination of normal waste and wornout tissues is physiological action. Pathological action is vital action acting on surplus nutritive material, or on foreign material not of possible use at the time. They are both manifestations of instinct for unlike purposes. Dr. Dunham's treatment of his subject is sincere and earnest. Evidently the present exposition of his views is intended as an introduction to a larger work.

THE URIC-ACID DIATHESIS Gout, Sand, and Gravel. By DR. F. LEVISON, Kreisarzt in Copenhagen. Translated from the German and edited by LINDLEY SCOTT, M.A., M.D., Aberd. New York: Cassell & Co. 1894.

THE uric-acid diathesis has of late been the subject of valuable and important research. These investigations and a plan of treatment based upon the newer view, is the subject of this interesting and valuable treatise. The theory that urea and uric acid excreted stand in constant proportion (the normal ratio said by some to be as 1 of uric acid to 33 of urea), is completely overthrown by the experiments of Horbaczewski, Bleitsen, Schultze, Hirshfeld, and Busquet. The excretion of uric acid in each individual is a fairly constant quantity, while that of urea has a wide range of variation. There exists, however, a constant proportion between the number of white blood-corpuscles and the amount of uric acid, for its production is increased in a whole set of abnormal conditions, characterized by the formation and destruction of large numbers of leucocytes, as leucocythæmia, anæmia, pneumonia, carcinoma, and extensive burns. Certain poisons increase it: Carbon, monoxide, pilocarpine, alcohol. Exercise also adds to its production. Normally present in urine, the author thinks it will one day be clearly demonstrated that uric acid is also normally present in blood. The constitution of blood and urine may be so altered that uric-acid salts are readily deposited or decomposed. If not eliminated by the kidney, the increased quantity tends to its deposition in the body as a biurate. There are only two ways in which this overcharging of the blood by uric acid appears possible: It must either be formed so abundantly that some is stored up in the blood in spite of the fact that the normal quantity is still excreted; or, the production being normal or even diminished, an abnormal quantity is retained in the blood, owing to functional irregularity of the kidney. Against this supposition that *retention* of uric acid is the origin of gout, the reply has been made that the disease would progress quickly and uniformly if this were the case. Why, when its production is influenced in such marked degree by various conditions and diseased processes, and when it may frequently return to the normal? The entire extent of the kidney is not simultaneously attacked, and the anatomical changes are very few, the primary cause being a decrease in the secretory power of the kidney, whereby certain constituents of urine are less easily eliminated. Though this pathogenesis of gout requires further proof, it has the advantage over other theories that it brings into one category all the etiological and pathogenetic factors with which we are acquainted, and gives a plausible explanation of the gout of wealth, the gout of poverty, and the gout of lead-poisoning. It also makes possible a rational form of treatment.

URIC ACID AS A FACTOR IN THE CAUSATION OF DISEASE. A Contribution to the Pathology of High Arterial Tension, Headache, Epilepsy, Mental Depression, Gout, Rheumatism, Diabetes, Bright's Disease, and other Disorders. By ALEXANDER HAIG, M.A., M.D., Oxon., F.R.C.P., Physician to the Metropolitan Hospital, etc. Second edition, with thirty-six illustrations. London: J. & A. Churchill. 1894.

THIS second edition, the *résumé* of some twenty-five papers, is in a measure a new book, as much of the earlier work required revision in reference to new discoveries. Instruments and methods receive attention in response to requests from readers of the first edition. Dr. Haig's theories are too well known to need explanation, and his suggestions in regard to the management and treatment of the uric-acid diathesis are embodied in all general practice.

THE CARE OF THE BABY. A Manual for Mothers and Nurses. Containing Practical Directions for the Management of Infancy and Childhood in Health and in Disease. By J. P. CROZER GRIFFITH, M.D., Clinical Professor of Diseases of Children in the Hospital of the University of Pennsylvania, etc. Philadelphia: W. B. Saunders. 1895.

THE result of much experience and observation here finds expression in plain, practical directions for persons of intelligence who are not physicians. The right way, easier always than the wrong way, is clearly emphasized and made attractive. Dr. Griffith's manual is of great value to the young and inexperienced mother who earnestly is seeking guidance. In no sense does it aim to take the place of a physician, or to do away with sound medical advice. It simply states every-day facts familiar to all acquainted with childhood, but which are unknown to others. The author's object is to diffuse necessary knowledge in non-technical form.

THE PREVENTION OF EPIDEMICS; and the Construction and Management of Isolation Hospitals. By ROGER MCNEILL, M.D., Edin., D.P.H. Camb., etc. With Illustrations. Philadelphia: P. Blakiston, Son & Co. 1895.

IN this thoughtful and carefully arranged survey of an important subject the author has endeavored to bring out points that affect chiefly small towns and rural districts, where preventive measures are far from being traditions. As long as infectious disease spreads in such localities, it will be impossible to prevent epidemics from breaking out in more populous centres. The term "isolation hospital" is used instead of fever or infectious hospital, as more acceptable and conveying the true meaning, which is that of a sanitarium where, by isolation, the patient ceases to be a source of danger to others. The nine chapters treat respectively of the dissemination of infectious diseases; the influence of effective measures against the spread of infection; the gain to the community; the nature of infection and its influence upon the construction and management

of isolation hospitals; the establishment and erection of isolation hospitals; hospital construction; disinfection; remarks on hospital management; and private sanitary aid associations. The appendix contains illustrated plans of isolation hospitals now in active and efficient operation.

THE DYNAMICS OF LIFE. An Address Delivered before the Medical Society of Manchester, October 3, 1894, by W. R. GOWERS, M.D., F.R.S. Philadelphia: P. Blakiston, Son & Co. 1894.

THIS is a reprint from *The Lancet*, with minor alterations and additions. No novelty is claimed for the ideas expressed. As their form seemed to possess some freshness when the address was first delivered, they are now given to a larger audience as of possible usefulness to others. "Life eludes our search and resists our efforts. We may, indeed, trace the relations to vitality of matter, and of the energy it bears. . . . We must be content with what knowledge we can gain, secure or insecure; and, while using it as best we may, should realize, in all humility, how much there is we cannot know, yet cannot doubt."

TRATTATO DI PATOLOGIA E TERAPIA CHIRURGICA GENERALE E SPECIALE. Del Professore FRANCESCO DURANTE, Direttore della Clinica Chirurgica della R. Università di Roma. Volume I., Puntata 3a. Roma: Società Editrice Dante Alighieri. 1895.

THIS fasciculus completes the first volume of the excellent surgical manual of Professor Durante. In the preface addressed to his students the author very modestly disclaims the intention of writing an exhaustive treatise on surgery, his aim being to provide an elementary guide to surgical practice suitable for students and young practitioners who are just beginning their work in this art. As to how well he has done this we cannot so readily judge from this first volume, which is of a general nature, dealing with the subjects of inflammation, surgical fever, traumatisms, and tumors. We can assert, however, that the learned and skilful Roman professor has written a work that no surgeon who is familiar with Italian can afford not to have in his library, and in which few, no matter what their attainments, cannot find much that is new and practically helpful. We hope before long to learn that English readers will be able to enjoy the work in a translation. This third part, which is before us, deals entirely with tumors.

STATISTISCHE BEITRÄGE ZUR PATHOLOGIE DES GEHÖRORGANS, Gewonnen aus den Daten in Bd. i.–v. des Klinischen Jahrbuches. Von PAUL KRUSCHEWSKY, M.D. Mit Acht Lithographiesten Tafeln. Jena: Gustav Fischer. 1895.

THIS is a most exhaustive collection of statistics relating to diseases of the ear, which the author has gathered from the first five volumes of the Klinisches Jahrbuch, published in Berlin, 1889–93.

UEBER DIE AUTO-INTOXICATIONEN DES INTESTINALTRACTUS. Von DR. ALBERT ALBU. I. Assistenten an der Inneren Abtheilung des Städtischen Krankenhauses Moabit in Berlin. Berlin: August Hirschwald. 1895.

AUTO-INTOXICATION the writer defines as a poisoning of the organism through the products of its own metabolism, which products may be normal but in too great amount, or abnormal; among the latter are to be distinguished those which usually undergo a further change in the body and those which are not formed in the healthy body, or, if formed at all, are in very minute quantities. Under this etiological head the author includes a great variety of affections of the blood, nerves, skin, and organs of the body. The monograph is well considered and well written, and is one that has a tendency to cause the reader to think a little closer, and to speculate a little for himself. Few books in these times have the power to do that.

MODERN MATERIA MEDICA, WITH THERAPEUTIC NOTES. For the Use of Practitioners and Students of Medicine. By DR. OTTO ROTH. Seventh edition. Revised by DR. GREGOR SMITH, Director of the Royal National and Provincial Board of Health in Würzburg. New York: William Wood & Co. 1895.

THE first edition of this popular treatise on materia medica formed one of the series of Wood's Medical and Surgical Monographs. The present is a translation of the seventh edition, recently published in Germany, and contains references to many of the newer remedies. The work is exceedingly practical. Very little space is occupied with discussions on the physiological action of drugs, almost all being devoted to the use of remedies in disease and to the best modes of their administration. The latter are illustrated by numerous prescriptions, which add greatly to the value of the work to the practitioner.

PERSONAL REMINISCENCES AND RECOLLECTIONS OF FORTY-SIX YEARS' MEMBERSHIP IN THE MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA, etc. By SAMUEL C. BUSEY, M.D., LL.D., President of the Medical Society, Washington, D. C. 8vo, pp. 373. Washington, D. C. 1895.

THIS pleasantly reminiscent contribution to medical literature comprises, as its title indicates, a history of the doings of a medical society in Washington, in which the usual differences of opinions as to ethics and other matters provoked much discussion, and which is possibly of interest to some of the surviving participants. Outside of such a limited field of interest it is difficult to imagine why the book was ever written.

DR. BAILEY'S PHYSICIAN'S COMPLETE POCKET ACCOUNT BOOK. Chicago: Gross & Delbridge Co.

THIS is a very convenient and practical account book, compactly arranged, irrespective as to order of dates, and for one or more patients, on a conveniently sized page.

A MANUAL OF OBSTETRICS. By A. F. A. KING, A.M., M.D., Professor of Obstetrics, Medical Department of Columbian University, Washington, D. C. 12mo, pp. 533 Philadelphia: Lea Brothers & Co. 1895.

THE sixth edition of this useful manual within a comparatively short period proves its popularity and its well-merited success.

TRANSACTIONS OF THE SEMI-CENTENNIAL MEETING OF THE OHIO STATE SOCIETY, May, 1895. 8vo, pp. 478 Toledo: Blade Printing Co. 1895.

THIS volume contains a large number of short, practical papers on the various topics that interest and edify the general practitioner. The frontispiece is a fine steel engraving of the President of the Society.

AN INTRODUCTION TO PATHOLOGY AND MORBID ANATOMY. By T. HENRY GREEN, M.D., F.R.C.P., Physician and Lecturer on Clinical Medicine, Charing Cross Hospital, London. Seventh American, and eighth English, edition. Revised and enlarged by H. MONTAGUE MURRAY, M.D., F.R.C.P., Physician to Out-patients and Lecturer on Pathology, Charing Cross Hospital. 8vo, pp. 598. Philadelphia: Lea Brothers & Co. 1895.

THE distinguishing features of the seventh American edition of this work are, aside from numerous interpolations by the editor, made necessary by the rapid advances in pathological study; there are added sixty new illustrations and a colored frontispiece; a chapter on "Diseases of the Nervous System," by Dr. Mott; and a Section on "Tubercular Diseases of the Bones and Joints," by Mr. Boyd. The general character of the work is maintained throughout, notwithstanding the numerous additions by various collaborators, as all have imitated the admirable conciseness and lucidity of the author. From a practical stand-point the work made for itself long ago an enviable reputation. No space nor words are wasted in theorizing elaboration of the subject in hand, but the simple facts and general principles are given in the fewest possible words and in the most refreshing perspicuity of style. It is fair to say that few books within the scope of the present one could give a better idea of the present state of pathology than the one in question.

THE DISORDERS OF SPEECH. By JOHN WYLLIE, M.D., F.R.C.P. Ed., Physician to the Royal Infirmary, Edinburgh, etc. Edinburgh: Oliver & Boyd. London: Simpkin, Marshall, Hamilton, Kent & Co., Limited.

THE text of this work has already been published as a series of articles in the *Edinburgh Medical Journal*, between October, 1891, and May, 1894. The Appendix consists of (a) Notes of three illustrative cases of speech disorders which have been under observation too recently to be available for the text of the work; and (b) a reprint of the author's graduation thesis (1865) on the physiology of the larynx, which was also published in the *Edinburgh Medical Journal*. There are twenty chapters, devoted in turn to stammering, hysterical mutism, aphonia, functional spasms; the troubles of professional voice-users; the functions of the voice; the speech of idiots and imbeciles; the development of language in the normal child; congenital aphasia; the devel-

opment of speech in the human race ; speech in its relations to insanity ; aphasia in relation to organic disease of the brain ; disturbances of speech in relation to evanescent organic affections and functional disorders of the cerebral cortex ; and dysarthric and anarthric disturbances of speech due to lesions affecting the motor speech tracts. These contain an immense amount of valuable information, and make Dr. Wyllie's book one of rare usefulness for study and reference. It is probably the most complete work on speech disorders in general that has ever been given to the English-speaking public.

Society Reports.

NEW YORK STATE MEDICAL ASSOCIATION.

Twelfth Annual Meeting, held in New York, October 15, 16, and 17, 1895.

AUSTIN FLINT, M.D., PRESIDENT, IN THE CHAIR.

FIRST DAY, TUESDAY, OCTOBER 15TH.

DR. CHARLES E. DENISON, of New York, Chairman of the Committee of Arrangements, stated that about fifty papers would be read.

Report of the Council.—DR. E. D. FERGUSON, Secretary of the Society, read the report. The Treasurer's account showed total funds, October 1, 1895, of $5,694. The net increase in the funds of the Association for the year was $443.

The question had arisen whether a member who had resigned from a branch association could remain a member of the State Association. The decision of the Council was that resignation from a branch association carried with it loss of membership in the State Association.

The Secretary, DR. FERGUSON, stated that inasmuch as he had acted as Secretary of the Association since its inception, twelve years ago, he thought it would be in the interests of the Association to elect a successor to the office.

Library.—There had been added, since the last report, two hundred and seventy-seven volumes, over two hundred of which were from the library of the late Dr. A. L. Carroll.

Amendment to the Constitution.—The constitution was so amended as to permit members of branch associations to all the privileges of the State Association, except voting on amendment to the constitution and by-laws. Dr. McLeod alone voted in favor of their having all privileges without exception, while others were opposed to this, inasmuch as full members had to pay dues to both branch and State Associations.

A Clinical Report on Orthopedic Surgery.—DR. S. E. MILLIKEN, of New York, read this paper. (See p. 581.)

DR. A. B. JUDSON thought the tendon operation would prove a valuable help in the treatment of poliomyelitis cases.

A Domestic Test for Albuminous Urine.—DR. JOHN G. TRUAX, of New York, read this paper. He first stated objections to the heat and nitric-acid tests, the picric-acid and other tests, the greatest being their inconvenience. The test which he had to propose he called the alcohol test. It consisted in pouring alcohol into a test-tube, say an inch or an inch and a half in depth, and dropping upon this a little urine. If albumin were present it would be precipitated as a white streak, not as a general cloudiness, which would result if mucus were present. If the alcohol were placed on the urine a white ring would form if albumin were present, a general cloudiness if mucus. Further, in order to exclude mucus as a cause of the precipitate, the urine could be filtered. The alcohol need not be of full strength, and a tumbler would answer for a test-tube.

Dr. Truax said he offered this method because of its great convenience, and the fact that after using it for a year he had found it even more reliable than any other single test. Like with the nitric-acid and other tests, this one required control tests in doubtful cases. It would reveal albumin present 1 to 10,000 of urine, being indeed a more delicate test than others which he had tried, some thirty in number.

DR. J. W. S. GOULEY said he had tried the alcohol test and had found it of greatest convenience. Control tests with other agents could be resorted to if thought necessary.

DR. TRUAX added that alcohol did not precipitate urates and phosphates, this element of doubt which applied to the acid test being therefore eliminated.

A Cause of Much Sickness which is Often Overlooked.—DR. W. H. ROBB, of Amsterdam, read a paper with this title. The cause referred to was dry-rot in wood, so common in damp, warm, badly ventilated cellars. Whether dry-rot in wood was due to chemical process, as had been claimed by some, or to fungous growth, had not been fully decided, but the latter cause was the more probable. From the damp, dark cellar, with its decaying substances, various disease germs were spread to all portions of the house. Where other known cause for disease in a family could not be discovered, this one should be thoroughly investigated.

Dr. Robb cited two examples. In one instance there was diphtheria and a persistent case of malaria in the house, for neither of which he could find a cause except decaying wood. The cellar was altered, with the result that there had been no sickness in the house since. The second instance was similar, except that the maladies present before the change made in the cellar were one case of pneumonia and two fatal ones of cerebro-spinal fever.

DR. A. T. VAN VRANKEN, of West Troy, thought Dr. Robb had not proven that the diseases named were due to decaying wood or old houses. They were known to occur at times in new houses as well.

DR. T. H. MANLEY thought the paper was an extremely valuable one in that it called attention to a possible cause of a great many diseases. The kinds of moulds in cellars were very numerous, and he believed that microscopists and bacteriologists would yet be able to prove their etiological relation to many diseases whose origin was still obscure or quite unknown. He cited a case of peculiar membrane in the throat which seemed to have been due to dry-rot in wood.

The Present Status of Obstetrics.—DR. HENRY MCM. PAINTER, of New York, read the paper, which will be published in a future issue.

Recent Studies on Diphtheria and Pseudo-Diphtheria.—DR. W. H. PARK read this paper. In the table constructed by Dr. W. H. Welch it was found that in 5,777 cases of diphtheria treated with antitoxin in hospitals, there was a mortality of but 18.7 per cent. These same hospitals gave an average mortality of 43.6 per cent. during the years preceding the use of antitoxin. This, he said, was too great a difference to explain by any remarkable lessening of the virulence of diphtheria all over Europe, at the very moment of commencing the use of antitoxin, nor could it be explained on the supposition that many more cases were sent to the hospital than formerly. In private practice, Dr. Welch summarized 663 cases with a death-rate of only 6.6 per cent.

It was interesting to note the effect of antitoxin in laryngeal diphtheria. With hardly an exception the statistics showed that a less proportion of laryngeal cases came to operative relief now than before the use of antitoxin. The mortality in cases coming to operation was also reduced in all hospitals. In 1,016 cases there was a mortality of less than thirty-eight per cent., as contrasted with the average mortality before the use of antitoxin, of over seventy per cent.

In New York City the mortality statistics were very interesting. The average mortality for the past four

years for all cases reported had been over thirty-four per cent. During the past nine months the mortality had been only seventeen per cent.

Dr. Park believed that if antitoxin had been used in all cases the mortality would not have been more than ten per cent. In Willard Parker Hospital the mortality had been reduced one-third, and, lately, one-half. Regarding the ill-effects, in some the injection caused a slight temporary rise in temperature. In about ten per cent. a local or general urticaria or other form of rash made its appearance between the fifth and twentieth days, and lasted twelve to forty-eight hours. In a few this was accompanied by a rise of temperature. In about one per cent. of the cases with this rash one or more joints became tender; the temperature might be considerably elevated. As a rule these symptoms subsided within forty-eight hours, but in a few there was swelling of the joints some weeks or even for months, as in one case. In a small per cent. albumin appeared in the urine, but with this there were no other symptoms showing any deleterious effects on the kidneys. He had seen at the hospital during the past nine months no serious effects upon the heart, kidney, or nervous system which seemed attributable to the antitoxin. Those who had read Dr. J. E. Winter's remarks might wonder at this, but as a matter of fact he had not seen, after careful observation, the evil effects mentioned by him.

Regarding the use of diphtheria antitoxin in preventing, by immunization, the development of diphtheria, he referred to its use in four asylums in the city, where outbreaks of diphtheria had occurred, the entire number of inmates being over six hundred. In every instance after commencing the injections no further cases of diphtheria developed. The following is an example: At the Reception House of the Juvenile Asylum four cases of diphtheria developed during the week ending April 11th. On the 12th the children (about seventy) were injected with from 200 to 400 units. No cases occurred afterward except that an attendant and an engineer who handled the clothes from the diphtheria children, and who had not received immunizing injections, developed diphtheria.

Dr. Park said to him these results seemed conclusive as to the immunizing power of injections of from 100 to 400 units of antitoxin. About one-sixth of the children developed albuminuria, and a much smaller percentage developed it to a greater extent. In none, however, were there any other symptoms pointing to any deleterious action on the kidneys, and in none was the albuminuria more than transitory. On the blood there was noticed a slight temporary diminution in the number of the red blood-cells. No other changes were noticed.

Dr. Thornton, of Buffalo, had noticed in a good many cases, after the pseudo-membrane had disappeared, that recurrence took place in a few days.

Dr. Park answered questions put by Dr. Didema and Dr. Ferguson, and stated that the antitoxin was manufactured by the Health Department, and was supplied to the poor, free.

The Emergency Treatment in Acute Diseases and Injuries of the Eyes.—Dr. John E. Weeks was the author of this paper. The subject was considered systematically under the headings acute diseases of the lids, of the conjunctiva, of the cornea, etc. Abscess of the lids should be treated as abscess in other parts of the body is treated; when it pointed, make an incision parallel with the edge of the lid. In this and various other conditions and operations antiseptic irrigation was employed, solution of boric acid, or bichloride, 1 to 5,000. In purulent conjunctivitis, whether gonorrhœal, diphtheritic, or other form, every precaution should be taken to prevent spread of the disease to other persons and to the other healthy eye. A watch-glass might be sealed over the healthy eye, leaving ventilation at the lower edge. As a wash, use boric acid by pipette or absorbent cotton. Sponges should not be used about the eye, solution of nitrate of silver, one or two per cent., once or twice during twenty-four hours. If much swelling of the lids, cold applications. But continue the cleansing. In phlegmon of the lachrymal sac, apply moist heat (not over the entire eye), and when fluctuation developed make a free incision into the sac, remove the contents, scrape with curette, wash with bichloride. In cellulitis of the orbit, remove cause, apply cold, then heat, when pus, open. In bruises or contusions, the first six to twenty-four hours apply cold. Then absorption of serum or blood would be hastened by hot water. In burns with acids, neutralize the acid by alkaline application. Foreign bodies should be removed if possible by cotton probang, or, if embedded, with knife, or be dislodged with pointed instrument. Carefully cleanse wound with bichloride, 1 to 5,000.

The whole paper was not read.

Some Unusual Cases of Orbital and Intra-ocular Tumors, Emphasizing the Necessity of Careful Differential Diagnosis.—Dr. C. S. Bull read the histories of the cases. The first was one in which, placing too much importance upon the family history of cancer, he made a diagnosis of malignant disease, while operation showed the case to be one of abscess of the ethmoid cells. In two weeks the patient was discharged, at the end of a month diplopia and exophthalmos had disappeared. In the second case the diagnosis was made of tumor of the lachrymal gland, probably malignant. Removal was advised, and done. It proved to be an adeno-sarcoma of the gland. There had been no recurrence. The next case proved on operation to be a fibro-sarcoma instead of an hypertrophy of the lachrymal gland. The patient subsequently had a suspicious tumor in the neck, and died of exhaustion.

The next case was one of sarcoma of the sphenoid and ethmoid bones. It extended after removal. Still another case was cited of malignant tumor involving the bones of the orbit and dura mater, and extending backward, causing optic-nerve atrophy. A cystoid angioma of the orbit was removed in another case; no recurrence.

Notes on the Diagnosis of Interstitial Cerebritis.—Dr. Neil J. Hepburn read a paper, giving the histories of two cases.

The Practice of Medicine in the Light of Bacteriological Researches.—Dr. A. A. Smith, of New York, read the Address in Medicine. (See p. 577.)

Empyema of the Antrum.—Dr. William Carr, of New York, read a paper on this subject. In considering the question of the causation of this condition the author referred to the research of Fletcher, who found that out of fifty-seven cases of ulcerated teeth only four had perforated into the antrum. From this, this observer inferred that suppuration of the sinus was usually the result of some nasal affection, and not from diseased teeth. To this view, however, the reader of the paper took decided exception, believing that in about eighty per cent. of the cases the empyema was due to disease of the teeth and their alveoli. The first step in the treatment of this condition is the establishment of an opening into the antrum, either by way of the nose or through the alveolus. The latter method he preferred, and where possible, the opening would be made at the second molar tooth. Having made the opening, a flexible probe should be inserted, and the cavity carefully explored to determine the existence of foreign bodies or of septa. The cavity is next irrigated with some weak antiseptic solution, and a plug of sterilized gauze placed in the opening that has been made. Silver drainage-tubes, the speaker said, became corroded very quickly, and in general it might be said that drainage-tubes were unnecessary and harmful in the treatment of this condition.

General Suggestions Regarding the Diagnosis and Treatment of Acute Aural Inflammation.—Dr. Ed-

WARD B. DENCH, of New-York, read the paper. He said that primary inflammation of the external auditory meatus was exceedingly rare in infancy, while acute otitis media was quite common. In cases of acute inflammation of the external canal the onset of the pain was usually sudden and severe, and there was associated with it more or less fever. In the mild cases a serous discharge appeared in the course of a few hours, and quickly gave relief, but in the severer form of the affection the pain and constitutional disturbance rapidly increased in severity. It should be remembered that while tenderness on moving the auricle, or by pressing near the meatus in an adult, was almost pathognomonic of inflammation of the external canal, it would indicate in a child, with almost equal certainty, the existence of an inflammation of the middle ear. In a case of external otitis in an adult, examination with a speculum showed the drum-membrane to be of normal color, and the deeper portions of the canal of normal size, but the introduction of the speculum was often a difficult and painful procedure. If seen early, the local abstraction of from one to four ounces of blood often gave marked relief, and checked the inflammatory process. One dose of morphine was allowable, but it should not be repeated. Further relief was obtained by the application of dry heat, which could be conveniently done by the use of the miniature salt-bags made out of glove-fingers, or, more elegantly, by the use of the Japanese pocket-stove. The use of moist heat should be avoided, as its tendency was to favor tissue necrosis. If these simple measures failed to relieve the urgency of the symptoms, no time should be lost in making a free incision with the object of depleting the tissues and controlling the inflammation. This little operation does not require the aid of the specialist; it can be safely done by the general practitioner if he will take care to use sterile instruments, and to have the canal thoroughly aseptic both before and after the incision. There is very little pain connected with making this incision, and the previous application of cocaine is unnecessary and useless. When the case is seen later on, when there is already a discharge from the ear, the physician should see that the discharge is kept free and aseptic.

SECOND DAY, WEDNESDAY, OCTOBER 16TH.

Preamble and Resolution on the Late Reorganization of the Harlem Hospital Staff and the Ethical Questions Involved.—DR. THOMAS E. MANLEY offered the following:

Whereas, As the action of the Bellevue Hospital Medical College and the University Medical College in the late reorganization of the Harlem Hospital medical staff, whereby the members of the said staff were displaced without charges of any description having been preferred against them, after years of faithful and gratuitous service, has seemed in wide contravention to the spirit of the Code; and

Whereas, This action is without precedent, and involves a principle which concerns the entire profession, and has imposed an injustice on members of this Association; therefore, be it

Resolved, That the Council of New York State Medical Association be instructed to institute a searching investigation into this transaction and report their conclusions thereon before this annual meeting adjourns.

On motion of DR. FERGUSON the matter was referred to the Council with power.

A Case of Extra-uterine Pregnancy; Death of Fœtus; Unusual Complications.—DR. GEORGE E. MCDONALD in this paper gave the history of a case in which he had made the diagnosis of extra-uterine pregnancy; no operation. Pains appeared connected with gall-stones, some of which were passed; hepatic abscess developed which opened into a bronchus; later peritonitis killed the patient, and autopsy confirmed the diagnosis. The fœtal bones were in the broad ligament, and evidently had not been the cause of the peritonitis. The sinus communicating between the hepatic abscess and bronchial tube had cicatrized. Peritonitis was present.

Foreign Bodies in the Œsophagus.—DR. H. M. SILVER, of New York, in a paper on this subject, related two or three cases coming under his own observation, and reviewed certain statistics in relation especially to the treatment. The first patient, a man, had swallowed a bone with his food, which stuck in his throat. A physician was called who tried to push the obstacle on into the stomach, but failed. Dr. Silver being called had the man sent to a hospital for external œsophagotomy. The graduated metallic bougie à boule was introduced, and came in contact with the obstruction eight inches from the upper incisors. The œsophagus was opened on a sound introduced within a distance of an inch, and the foreign body was found an inch below. It was impossible to extract it because of a sharp point embedded in the soft parts above, nor could it be pushed down on account of a similar penetration of the tissues below. It was necessary to enlarge the incision, after which the tissues were pressed away from the sharp edge, and the bone, measuring one inch and a quarter by five-eighths of an inch, was extracted.

Statistics were given of 165 cases of œsophagotomy. Of this number 127 recovered, 38 died, a mortality of twenty-three per cent. The causes of death were starvation, perforation and abscess, secondary hemorrhage, pneumonia, etc. In four cases gastrotomy was performed—four recoveries.

The author's conclusions were: 1. That neglected bodies should be removed at once by operation without making an attempt at extraction through the mouth or to push it down into the stomach. 2. A foreign body of moderate size should be removed by operation as soon as impaction is considered complete. 3. Where a small sharp body has been swallowed the œsophagus should at once be opened; and where difficult deglutition is present and constitutional symptoms point to septic inflammation. 4. The use of small catheter, bougie, and sponge probang should be condemned. A metal-capped œsophageal sound, with graduated scale, was the only reliable instrument. 5. Where the foreign body was less than thirteen inches from the upper incisors it should be removed by œsophagotomy, if farther down, by gastrotomy. 6. Stitching the wound was unessential, yet if it was healthy sutures could be passed, but only through the muscular and subcutaneous coats. The external wound should be left open, although a few sutures could be introduced at the upper corner, leaving it open below. 7. Absolutely no food should be taken by the mouth the first twenty-four hours, thus giving the planes of the tissues opportunity to become glued together and prevent infiltration and infection of the deeper tissues. Feeding by tube, whether through the mouth, wound, or anus, was unnecessary, although rectal injection of water might be given the first twenty-four hours if there were thirst. After the lapse of twenty-four hours liquid food could be given by the mouth. To prevent its escape through the wound he would advise resort to Dr. Bryant's plan of making firm pressure with cotton over the wound while swallowing.

Dr. Silver said surgeons had at times made the mistake of continuing rectal alimentation until the patients had been actually starved. One very serious objection to passing a tube through the wound for alimentation was the great pain. It also endangered sepsis by allowing the patient to swallow after the first twenty-four hours. The wound healed eight or nine days sooner than when other methods of feeding had been resorted to.

A Case of Carcinoma Ventriculi, with the Continued Presence of Free Hydrochloric Acid and the Absence of Lactic Acid.—DR. CHARLES G. STOCKTON, of Buffalo, read the history of the case. For two years the

patient had complained of disturbance of the stomach, suffering from pain and vomiting at times. Two months before he saw her the attending physician began rectal alimentation. She was greatly emaciated and cachectic. The diagnosis of cancer of the stomach had been made, and Dr. Stockton concurred in this diagnosis and regarded the condition as beyond relief. The patient then weighed only eighty pounds. The stomach was extremely dilated, and there was a movable, kidney-shaped tumor in the epigastric region. Examination of the stomach contents under different conditions revealed a high degree of acidity, which depended mostly upon hydrochloric acid. No lactic acid was present. It was one of the rare and interesting cases in which advanced malignant disease of the stomach was accompanied by free hydrochloric acid while lactic acid was absent. Under these circumstances he was able to prescribe a diet and medication by the mouth which markedly increased her weight and comfort for some months, or until the tests showed that hydrochloric acid had disappeared from the gastric secretions. He now recommended surgical interference. Dr. Roswell Park operated, found carcinoma of the pylorus, and performed gastro-enterostomy. The patient soon became able to take food, which she did with avidity, and increased her weight to one hundred and thirty pounds, and was still improving in health. Hydrochloric acid was still absent, lactic acid was present. Discussion on this paper was taken up with that on Dr. Einhorn's, which was next read.

Gastro Succorrhœa Continua Chronica.—Dr. Max Einhorn, of New York, read a paper with this title. It will be published in full in a future issue of the Medical Record.

Dr. Stockton thought the class of cases referred to by Dr. Einhorn were sufficiently numerous to have been seen by most practitioners. He was of opinion that they were usually of nervous origin or due to a neurosis, and it was important to give attention to the patient's general nervous state, as well as to any local nervous irritation. While the author had found benefit from the continuous galvanic current, Dr. Stockton had thought this agent caused the succorrhœa to be aggravated and therefore he had discontinued its use notwithstanding its efficacy in relieving pain.

Dr. Jones's experience with galvanism had been similar to that of Dr. Stockton's. He thought pyloric stenosis was in some instances only temporary, and due to a tumor-like state of the folds in the neighborhood, caused by stimulation and irritation of condiments.

Dr. Gallant, of New York, believed that eye-strain was often the primary factor in the neurosis leading to the conditions of the stomach under consideration, and he was accustomed to send such patients to Dr. Weeks for treatment of hypermetropic astigmatism. Regarding washing out the stomach, he thought the necessity for it, except for diagnostic purposes, could be obviated by giving ichthyol, which patients regarded as the less disagreeable of the two remedies. Dr. Weeks had supposed the ichthyol produced beneficial results as an antiseptic, but Dr. Gallant believed it also restored function.

Dr. Austin Flint, commenting upon the cases of Dr. Einhorn, of the great amount of gastric secretion, said that while this juice might possess some of the qualities of gastric juice, it could not be considered as entirely normal. He believed that any person with absolutely normal digestion could occasionally commit gastronomic indiscretions with impunity. In the same way that nature had provided two kidneys for extra work; in the same way that she had provided more lung substance than was absolutely required for ordinary respiration, had she also provided for extra demands upon the digestive functions. He did not believe that she would regard an occasional gastronomic indulgence as an unpardonable sin, calling for prolonged punishment of the sinner. But one of the greatest difficulties which he had encountered in treating persons with digestive disturbance was to get them to observe regularity in eating and to avoid taking more than they wanted. With such errors he could imagine the stomach saying, in the condition described by Dr. Einhorn, I will comply with your demands and supply you with enough gastric juice, but I doubt whether any stomach can secrete such an amount of normal quality.

Cases of Atresia and of Stenosis Vaginalis, with One Hundred Tabulated Cases in Labor.—Dr. J. J. E. Maher recited a few cases of atresia or stenosis of the vagina seen by himself, and then made use of a tabulated list in considering the site of the constriction, its calibre, thickness, resistance, etc. In 3 the whole canal was said to be involved; in 57 the narrowing was in the middle third; in 81 below the middle third; in 15 no opening had been found, while in the remainder it had varied from the size of a pin-head up to only a slight amount of constriction. Its nearness to the vulva should exclude the error of mistaking it for the os and cervix uteri. As to etiology, post-partum cicatrization had been responsible in 42 out of 86 cases, difficult operations on the vagina in 2, traumatism in 5, 31 were congenital. It was surprising in how large a number there had been complication of pregnancy, such as unusual presentation, etc. Dr. Maher was of opinion that the constriction should be penetrated in the presence of pregnancy, or if this were not possible he would, in opposition to the teaching of Breisky, apply forceps. In 13 cases of death the fatal result was, no doubt, due to dilatory treatment.

Discussion on Malignant Tumors.—This discussion was in the nature of a number of papers prepared and read by different authors on sub-titles.

The Prognosis of Malignant Tumors as Modified by their Management.—Dr. Joseph D. Bryant opened the discussion. He advocated, as did the authors who followed him, early removal of all malignant tumors, and indeed of all tumors of whatever nature as a form of prophylaxis. Tabulated statistics were given, showing that malignant disease was on the increase in the human family. In the United States the mortality from this cause in 1850 was 9.0 for 100,000 living; in 1860 it was 11.7; in 1870 16; in 1880 26; in 1890 33.5. This difference could not be entirely due to a fuller report of cases for the later decades. The death-rate from malignant disease was greater in the cities than in the country. The increase had been shown in all parts of the body, but not in equal proportion. In the parts most commonly affected, as the genitals and breasts of women, the increase had not been so rapid as in the alimentary tract. The organs of most physiological significance were most involved. The increase was greatest with increasing years, which was against the theory of infection as more than a rare cause at best. Germans were more often affected than Italians or Irish in New York.

The importance of removing enlarged or neighboring lymphatics while removing the tumor was shown by earlier recurrence and earlier death where this was not done. The advantages of removal by the knife over caustics were that it could be done quickly, cleanly, completely, circumscribedly, securing early healing of the wound, and avoiding irritation and spreading the disease. The patient should be impressed with the necessity for remaining under observation, and of speedy removal should there be recurrence. Everything lowering the health should be avoided. After removal, special internal remedies might at times be used with discretion—arsenic, mercury, etc. They should never be employed as a substitute for the knife, but simply as an aid.

The Early Detection and Prompt Ablation of Tumors.—Dr. J. W. S. Gouley discussed this phase of the subject. He thought the question was one which could not be too frequently discussed. Early removal

had for its object not only possible radical cure and prolongation of life, but also of rendering life more comfortable even in cases hopeless of cure. In 1885 he removed the breast of a patient which contained two hard nodules in an old scar, microscopical examination showing them to be typical carcinoma. There had been no recurrence. Similar cases could be multiplied. It was possible for tumors of different kinds to exist at the same time, as in Bryant's case, where the patient had in different localities a benign, carcinomatous, and a sarcomatous tumor, and on whom sixteen operations were done at different times, counting also those performed for recurrences. At last accounts he was well.

Dr. Gouley regarded it as of prime importance for physicians to understand that partial extirpation and caustics favored spreading the disease. Benign tumors were liable to become malignant, and should be removed. It was possible, he thought, for a malignant tumor, or one of low organization, to take on the higher organization of the benign forms, or at least to become so far transformed as to remain quiescent a long time. Yet the oft-repeated dictum, that so long as a tumor remained stationary and caused no inconvenience it should not be removed, was contrary to the true principles of conservatism, and was fraught with the greatest danger to the patient. Early removal was likewise indicated whenever recurrence took place. None of the so-called specifics for malignant disease had ever been of any service. Dr. Gouley formulated his points in fourteen conclusions.

The Nature, Modes of Propagation, and Commoner Sites of Tumors.—Dr. Edward K. Dunham discussed the metastatic nature of tumors, which he made out to be peculiar to those of malignant form alone; their mode of extension and transplantation, which he attributed to cell transplantation and growth under new surroundings; also the commoner sites of tumors, which he explained in the case of recurrence on the basis of the usual channels through which the cells were transported. While cases of metastasis of benign tumors, such as cartilaginous tumors which had a high cell organization, had been reported, Dr. Dunham had come to the conclusion on studying these that they were really mixed tumors, containing sarcomatous elements, and that therefore they did not constitute exceptions to the rule that metastasis was a sign of malignancy. He regarded the susceptibility of malignant tumors to metastasis to be dependent upon their cellular structure, with little or none of the inter-cellular substance characteristic of other tissues. In a great many instances the transported cells would die, and to this fact was to be attributed the usual failure of inoculation experiments, especially in animals of different species. In the same individual the time of metastasis appeared to bear no relation to the duration of the primary neoplasm nor to its size. As soon as the tumor formed, it was liable to metastasis. No more conclusive argument could be offered in favor of prompt operative interference.

Dr. Dunham also discussed the greater liability of certain malignant neoplasms to metastasis than others, basing the explanation upon their difference in structure.

Dr. Charles Phelps, of New York, also read a paper on "The Early Detection and Prompt Ablation of Tumors." To those who held that all tumors should be removed at once, diagnosis of the nature of the growth was not so important; to those who held that only malignant tumors should be removed at once, early diagnosis was extremely important. The contention that removal stimulated growth or extension of the disease seemed to him most irrational, and was not borne out by experience with radical operations. The possibility that all tumors might degenerate was admitted. It was a logical necessity that if malignant tumors required removal, safety demanded equally radical treatment of those other structures which might assume the character of malignancy even while we hesitated. It was hard to remove the breast of a young unmarried woman when it contained an adenoma, but an experience like one which he related, of a change to carcinoma within a few months and death after prolonged and severe suffering, would convert one to the surgical treatment.

Means of Eradication of Tumors: the Knife Versus Caustics.—Dr. Parker Syms, of New York, arrived at the following conclusions in a paper on this subject: 1. Malignant neoplasms were the result of cell-proliferation. 2. Their development was frequently caused or determined by local irritation or trauma. 3. It was purely a local condition, confined to the seat of the growth. 4. Any general infection arose from the original local focus. 5. If this were completely removed while localized, the patient could be completely cured. 6. Distribution was through the lymphatics. 7. When the growth was situated where the anatomy would permit of complete removal, along with removal of the lymphatics, the resulting operation was most likely to be successful.

From the foregoing the following deductions were drawn: 1. Thorough removal of all visible disease. 2. Thorough removal of all invisible disease. Hence, removal of tissue surrounding the growth. 3. Removal of the neighboring lymphatic system. 4. Removal of the disease *en masse* as far as possible, so as to avoid cutting into and liberating infectious elements. 5. Save the patient's strength as far as possible. 6. Ablation of the disease in the early stages.

How could these objects be best accomplished? Decidedly by a well-carried-out surgical operation. Among the advantages of the knife over caustics was that it caused less deformity.

The Necessity of Complete Extirpation of Tumors, and the Importance of Rapid Cicatrization of the Wound.—Dr. Frederick H. Wiggin, of New York, read on this subject. He first showed why the older surgeons had less favorable immediate and remote results from their operations on malignant disease than did modern surgeons. The mortality had been reduced from twenty-five per cent. before the introduction of antisepsis to practically *nil* since. Less frequent recurrence or prolonged life obtained by recent surgery was due to a cleaner, more radical operation, as well as to an earlier one. Sir Astley Cooper had pointed out the fact that the radicles of the disease spread out, and that the lymphatics were involved, and he advised removal of these, but many years elapsed before this advice was followed. Halsted, Curtis, and Meyer had reported little deformity or disturbance of function from so radical an operation as removal of the pectoral muscle in addition to the tumor and lymphatics.

As to rapid cicatrization of the wound, while it was important that the wound should heal as rapidly as possible, yet it was secondary in importance to removal of parts adjacent to the tumor.

The Value of Subsequent Constitutional Treatment, and of Long Surveillance of the Patient After the Operation.—Dr. Frederic S. Dennis, of New York, said in this paper that some regarded constitutional treatment as absolutely valueless, but the practical surgeon could not adopt this view, although he might have doubts. There were some who had published statistics apparently proving the value of certain internal remedies, as arsenic, bichloride of mercury, Lugoll's solution, pyoctanin, gold, etc. Dr. Dennis thought there was little to be hoped or expected from the administration of constitutional remedies, and believed that where there had been a result, it had been due more to the radical character of a preceding operation than to the drug. If the drug produced an effect, it was probably as a tonic, enabling the patient to resist the advance of the disease. It was a question whether iodide of potash had not some influence on sarcomas,

but disappearance under its use might have been spontaneous, as sometimes occurred with no treatment. Cicatricial contraction was not to be confounded with disappearance, a mistake which some made in lauding a remedy.

The remainder of Dr. Dennis's paper was devoted to impressing the necessity of keeping an accurate systematic history of every case of tumor from the beginning. A photograph should also be taken. The condition present after operation should be recorded at stated intervals. Prompt removal should be the rule in cases of recurrence, and the need of this should be impressed upon the patient. Like Dr. Wiggin, he placed three years as the period after which recurrence was not likely to take place, say in only two per cent. of the cases.

The Management of Cases of Recurring Tumors: Indications and Contra-indications of Repaired Operations.—Dr. Stephen Smith having been called away, Dr. Ferguson read his brief paper. After quoting Virchow and Cohnheim, he said it thus appeared that every tumor was developed from a pre-existing cell or cells by proliferation, and that the tumor was not an independent being, but was a part of the body, and subject to the laws which covered the body. The mere statement of these facts seemed to indicate very clearly what should be the management of every accessible tumor. Common sense dictated that the only method to eradicate a growth which had its origin in a germ, was to destroy the germ itself, and such was now the universal practice of surgeons. This rule applied no less to tumors at a distance from the parent growth than to the parent growth itself.

The Indications of Non-Operative Local Treatment; the Therapeutic Value of Toxins.—Dr. W. B. Coley, of New York, gave his experience with toxins, mostly mixed toxins of erysipelas and bacillus prodigiosus, in the treatment or malignant tumors. The number of patients so treated exceeded one hundred. The greatest benefit had been in sarcoma. He said that he did not propose to discuss the theories on which the treatment of cancer by toxins is based, but he would give the results of his practice in that direction during over four years, which he had spent in the application of the treatment at the New York Cancer Hospital. I do not say that all cases of cancer can be cured by the toxin treatment. I can only give to the profession the results which have been reached by the use of the erysipelas serum and other toxins. I have had good results in many cases of both sarcoma and carcinoma. In some cases the patients have been greatly benefited by the treatment, and their lives have been certainly prolonged, if an entire cure has not been achieved. In the most successful cases the malignant growths have been entirely abated, no symptoms of their presence can be detected by the most rigorous examination, and the patients are in apparently perfect health. There has been no recurrence of the cancerous growth since the cessation of the treatment, although the time from the cessation of the treatment in the different cases ranges from seven months to three years. The reason that other practitioners have not been as successful and have not achieved such good results as I am able to report, can probably be traced to the fact either that the treatment has been slip-shod or has not been sufficiently persisted in. All the cases which I have treated successfully have been pronounced inoperable by the best authorities in this and other cities, owing to the position of the malignant growths or other conditions. Several of the patients had been operated on previously, and came under my care at the hospital on a recurrence of the cancer. In cases where the toxin treatment was successful, the patients are now going about apparently in perfect health.

Dr. Coley then enumerated eight cases which had been treated by him with success. He detailed at length the condition of the patients when they came into his hands, the exact nature of the malignant growth from which they suffered, and the course of treatment pursued in each case. Six of Dr. Coley's patient's who had been successfully treated — four women and two men—visited the hall, and the doctors subjected them to a rigorous inspection.

The President's Annual Address.—The President, Dr. Austin Flint, of New York, chose for the subject of his address "The Coming Rôle of the Medical Profession in the Scientific Treatment of Crime and Criminals."—Society, he ventured to say, was not prepared to accept Rondeau's view, that crime being, as he claimed, the outcome of disease, its penalty should be nothing else than medical treatment; but it must be admitted, Dr. Flint said, that the treatment of crime and criminals, under existing laws, and their execution is a failure, and a failure so serious in its results that it is difficult to imagine what will occur before a revolution takes place, and scientific criminology and penology become established as part of the social fabric. The chief object of a penal system is the protection of society, the quoted fact which showed, he said, that the protection of society against crime and criminals is becoming more and more alarmingly inefficient. The United States census showed in 1850 ratio of prisoners to population, 1 in 3,442; in 1880, 1 in 855; in 1890, 1 in 757.

Sentimentality in questions of criminology and penology should be put aside. It has no more place in criminal law and penal administration than in medicine and surgery. Crime is a disease of our social organization. It is true that it is ineradicable, but it may be restricted within much narrower limits than at present exist. While crime cannot be abolished, all criminals are not hopelessly affected with crime. It has been abundantly shown that criminals may be divided into two great classes, the curable and the incurable, and society needs the aid of competent men to undertake the task of separating the two classes, to restore the curable to usefulness, and to protect our social organization against the incurable. In Dr. Flint's opinion, the only hope is in the medical profession; yet he feared the profession can have little direct influence in the making or repeal of laws. Our chief hope at present is to induce judges, lawyers, and law-makers to study law in the light of modern scientific knowledge. In its application to the treatment of crime and criminals, the idea of the word law, in the minds of jurists and legislators, needs revision. Law existed, and was only discovered by man, not created. Scientific progress will lead us finally to abandon the ancient idea of punishment of crime, and to substitute for it treatment and correction. The only punishments will be those necessary for the enforcement of discipline in prisons and elsewhere. The treatment of criminals will resolve itself into measures to reform the curable, to protect society against the incurable. To his mind, it should not often be difficult to distinguish between criminality and insanity, provided the data were sufficient. There are the criminal insane and the insane criminal; the one an insane person who commits crime under an insane impulse; the other, simply a criminal who has become insane.

In the scientific study of crime, the physician has to do mainly with the occasional criminal, the habitual criminal, and the born criminal; and in this study, the first thing is to separate these from the offender who is not a criminal and the occasional criminal. The born criminal is seldom without physical evidences of what is now called degeneration. The criminal by occasion may lack physical and moral characteristics of criminality and have no criminal heredity, being simply a weak and pliable organization. This unfortunate should be treated most carefully, and be protected, as far as possible, from influences which may render him an habitual criminal.

The President then discussed some of the character

istics of the different classes of criminals. On conviction of a criminal, he should be turned over to the State for treatment. The judge should not fix the so-called punishment. Fortunately, laws were not wanting in the State of New York to render possible this beginning of an intelligent criminal administration. All will admit the value and saving to society of the reformation of criminals; and all criminologists, without exception, regard the indeterminate sentence as indispensable to proper reformatory measures. The good results of the reformatory method were shown in the Elmira Reformatory. Prisoners should be under the supervision of physicians.

Speaking of capital punishment, he said we certainly should be able to prevent a murderer from repeating his crime without committing a legalized murder. The only argument to his mind that remained in defense of capital punishment was, that it may be deterrent.

In conclusion, he said that while it would be desirable to adjust our criminal laws so as to bring them in accord with the present scientific status of criminology, existing laws admit of important reforms. A scientific spirit might be infused into the prison commission, if it included members of the medical profession. Physicians to prisons should study criminals, according to modern methods, and not simply prescribe for their bodily ailments.

Observations on the Minor Degrees of Contracted Pelvis.—Dr. Austin Flint, Jr., read the paper. (See p. 583.)

Dr. George T. Harrison said the impression had seemed to prevail here that pelvic deformities existed chiefly in foreign countries. He thought Dr. Flint had done a good service in showing the frequency of minor contractions of the pelvis in New York. He could not understand how any person could prefer high forceps to version. Version was much safer.

Dr. W. T. Lusk said the subject of pelvic deformities was one of such importance that it had been set down for special discussion at the next meeting of the International Obstetrical Congress. He had been assigned the work of tabulating statistics from America, and the paper of Dr. Flint would be of great service to him. Contraction of the pelvis in this country was usually slight in degree compared with that in Europe. If the contraction were not below three inches and a half for the true conjugate, spontaneous delivery might take place, or it might be necessary to resort to version or forceps. Dr. Lusk would not condemn high forceps entirely, as it would seem Dr. Harrison would do. He hoped craniotomy on the living child would give place either to one of the methods just mentioned, or to symphyseotomy on Cæsarean section.

Notes on the Diagnosis of Interstitial Cerebritis.—Dr. M. J. Hepburn, of New York, related two cases bearing upon the early recognition of this affection, or as it is generally termed, general paresis.

The first was that of a physician who was under observation for two years and whose earliest symptoms were discomfort in or about the eyes, followed by gradual lowering of vision, and periodic dilatation of the right pupil. The ophthalmoscopic appearances were slight creamy redness of the optic disk, later pallor, going on to the appearance of primary atrophy of the nerve, the retinal vessels showing no signs of change. A gradual narrowing of the visual field accompanied the change in the nerve, mostly confined to the temporal side. The general symptoms of the disease appeared as the eye symptoms increased, and he died in an asylum.

The second case was that of an artist who presented similar changes in the earlier period of observation, and later developed lines of change in the retina near the disk. The general signs of beginning paresis began to manifest themselves some months later, and the affection of the optic nerve being considered an interstitial neuritis, he was put under treatment for that affection, with the result that not only was there entire recovery so far as the eye was concerned, but the general symptoms also disappeared, and there was apparently complete restoration to health.

These cases would seem to support the theory that the earliest stage of what is called general paresis is a low grade of interstitial inflammation, with slight and transient exudation which, however, when undisturbed may go on to the destruction of nerve tissue and cells, yet not leaving much if any traces of the first deposit.

Third Day, Thursday, October 17th.

Dr. Darwin Colvin, of Wayne County, was elected President for the ensuing year; Dr. E. D. Ferguson was re-elected Secretary and Treasurer.

A New and Original Method of Obtaining Material for Skin Grafting.—Dr. Zera J. Lusk read a paper describing his experience with a method of skin grafting which he first employed rather by accident. The dry epidermis hanging from the skin after a burn was used successfully for grafting a large raw area. The method could be carried out on any occasion by raising the epidermis through the application of a blister. The epidermis, when dry, was cleansed and moistened, a piece an inch square was cut into perhaps twelve pieces and applied on the wound. Little islands were formed which spread and covered the entire surface.

A Study of Hysteria and Hypochondriasis.—Dr. Charles E. Lockwood, of New York, in this paper enumerated about fifteen conditions favoring or causing hysteria or hypochondriasis. Some were, hereditary neurosis, unfavorable environment, improper mental and physical training, physical defects, lack of definite purpose in life and mental occupation, superstitious notions, especially as to one's own ill health and remedies therefor, tobacco, alcoholic, and opium habits, lack of physical exercise, circulation in the blood of poisonous germs and toxic matters, syphilis, uric-acid diathesis, etc.

The author emphasized the importance of mental occupation, of having the patient forget himself and take an interest in other people's welfare. Diet and medicinal treatment were also considered.

The Technique of Maunsell's Method of Intestinal Anastomosis.—Dr. Frederick Holme Wiggin, of New York, described the method and cited its results. Maunsell's original description was recognized as somewhat obscure, and Dr. Wiggin wrote him, suggesting that he rewrite it. Maunsell having died, at the request of his wife Dr. Wiggin had undertaken the work. Diagrams were used, and the third patient ever operated upon by this method, by himself (1893) was shown. There had been no pain, no evidence of contraction. The operation was done as an emergency, by lamplight, with a woman domestic administering ether. In all, nine successful cases of anastomosis by Maunsell's method had been reported, and two unsuccessful ones, death in the latter being readily explained. The method commended itself for simplicity, rapidity, and safety, and applicability under any conditions. Objection had been found to be without basis.

A Review of the Treatment and Results in Nine Cases of Fracture of the Neck of the Femur.—Dr. Douglas Ayres, of Montgomery County, took occasion to impress the fact that much damage might be done by manipulations carried to the extent which might be necessary to establish the diagnosis of the exact condition present, whether the fracture was within or without the capsule. Much manipulation made for this purpose was especially reprehensible, inasmuch as the treatment would be the same in either case. Much injury was liable to arise from trying to obtain crepitus. The cases treated by him were nine in number, the first one having been seen in 1882. All of the patients recovered with a useful limb. Four were treated without extension, five with. Most of the

patients were aged. The shortening was from half an inch to an inch and a quarter. If there were doubt as to whether fracture really existed, especially at the age when very slight force was sufficient to produce it, it was best to give the patient the benefit of the doubt and immobilize the limb. Regarding the indications for extension, if there were much shortening it should be overcome by moderate extension. In the young, extension should be the rule.

Diseases of the Ankle-joint.—Dr. Thomas M. Ludlow Chrystie, of New York, in this paper considered the anatomy and function of the ankle-joint, related some cases of disease, stated that they usually gave a history in the commencement of some wrenching or trauma, and finally in connection with the treatment showed a steel shoe which he preferred to plaster of Paris in immobilization.

A Brief Contribution to the Therapeutics of Diabetes.—Dr. J. Blake White, of New York, expressed the view in a paper on the above subject that diabetes could be classed among the neuroses. Indeed, he thought the disease obviously arose in the sympathetic chain which controlled certain secreting functions. His own experience coincided with that of others, that the best response came from treatment directed to the digestive tract, but he thought it was owing to the influence upon the nervous system. In addition to dietetic management he had found intestinal antisepsis of value, and dwelt more upon the administration of benzoazol. Fifteen grains a day was sufficient, given in capsules. It was aided by carbonated lithia and Fowler's solution.

Dr. J. G. Truax added his testimony to the influence of the nervous system in causing sugar to appear in the urine. He had witnessed it in shock from trauma and operations. Diabetic patients were troubled, too, with some form of indigestion, and it was this which usually first drove them to the doctor.

The Criminal: His Social and Legal Status, and the Philosophy of Reformation.—Dr. William A. White, of Broome County, read a paper of considerable length on this subject, in which he expressed views similar to those contained in the President's Address. There was no subject of a medical nature in which the public was taking so much interest at present as criminology. And it was well that it should be so, for our defective, dependent, and delinquent classes were largely constituted of degenerates, and statistics showed that it was being increased from year to year. Society thus seemed threatened, but let us hope that science would be able to organize efficient methods of attack upon this form of disease in the body social.

Upon the potent causes in the production of the degenerate were such economic disturbances as had been illustrated by the recent financial crisis and the war going on between labor and capital. The deleterious effects always fell with greatest force upon the poor.

There were many classes of criminals. There was the criminal by passion, the criminal by force of circumstances, and with these we had less to do. Then there was the occasional criminal and the habitual criminal. These required more serious consideration on the part of physicians. Attempts had been made to recognize the signs which separated them from the rest of society, and of recent years with considerable success, special mention being made of the Italian school headed by Lombrosi. It was in the brain that one would expect to find the clearest evidences of degeneracy, but while defects doubtless existed here, we knew as yet little of their nature owing to the complicated and delicate structure of this organ. It was rather in the skeleton that we found variations from the normal readily appreciable. Thus, in criminals there had been recognized anomalies of cranial, orbital, and other cavities, strabismus, arching of the palate, etc. In proportion as one possessed these anomalies of structure, was he less highly organized than should be, and predisposed to commit crime. Lombrosi professed to be able to recognize the criminal by his chirography, and even to tell the character of his crime thereby.

The true criminal was a degenerate, and this being so, what should be our attitude toward him? Before answering this question we should first decide that of responsibility. The question of responsibility was one of degree, depending upon knowledge of the nature of the act, of the character and forces which impelled to the action, and of the character and forces restraining from action.

Dr. White thought it ridiculous for a jury of laymen to pass judgment upon the testimony of expert medical witnesses. He thought the latter should be appointed by the State, and should investigate the case impartially, in a scientific spirit, and hand their report to the judge. In the treatment of criminals, reformation and restriction should be held in view, while retaliation should take no part. To inflict legal murder was no less than brutal and barbarous.

Dr. White thought our prison system, while an improvement on the past, should be still further changed. The best example of what it should be which we had at present was the Elmira Reformatory, where over fifty per cent. of the inmates were discharged as cured of criminality.

Dr. John G. Truax wished to say a word for the New York Juvenile Asylum. All the reformatory measures referred to as desirable by the author were carried out there except that isolation of different classes was impracticable for want of room. Ninety per cent. of the criminals sent to this institution were permanently reformed.

Dr. Austin Flint said there was an essential difference between the New York Juvenile Asylum and the Elmira Reformatory, for in the former the inmates were young and had committed their first crime, while in the latter they were older and more confirmed, having been sentenced to State prison.

Committee to Consult with the Prisoners' Association.—Dr. J. W. S. Gouley moved that the Council be instructed to appoint a committee on the question of criminality, to confer with a similar committee to be appointed by the Prisoners' Association, and to report at the next meeting of the Association. The resolution was adopted.

Some Fractures of the Upper Extremities in Children.—Dr. John F. Erdmann, of New York, read the paper (see p. 585).

Dr. Austin Flint introduced his successor in the presidential office, Dr. Darwin Colvin, who thanked the Association for the high honor conferred upon him. The Association then adjourned.

Tumors of the Mammary Gland.—1. Mammary carcinoma submitted to operation before infection of the axillary glands should promise fifty per cent. of cures. 2. Although the axillary glands seem not to be involved, the axilla should be opened in every case and thoroughly cleared of glands and fat. 3. Infected axillary glands are of bad prognostic import, but a radical operation that removes them and, at the same time, the supra-clavicular glands, may cure eleven per cent. of the cases. 4. The complete operation should be practised in every case of malignant disease. 5. The mortality following the complete method is doubtless somewhat greater than is that of partial operations. The difference in results, however, is so conspicuous, when the question of "cure" is considered, that the radical operation is the only one to be countenanced. 7. Statistics gathered many years ago are as valueless as are those made use of in estimating the mortality after amputation of the extremities.—Rodman.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON GENERAL MEDICINE.

Stated Meeting, October 15, 1895.

W. H. PORTER M.D., CHAIRMAN.

Morphinism in the Old: Cases at Threescore and Ten; Recovery.—DR. J. B. MATTISON read the paper on this subject.

He said morphinism in the old was rare. Most cases of that neurosis occurred between thirty and forty, the number steadily declining in later decades. In a paper, "Morphinism in the Young," he had called attention to the rarity of that disorder in children, as evidenced by reported cases, but he believed it prevailed more than records or mortality tables showed. In children there were many cases of unsuspected heritage from maternal ancestry tainted along narcotic lines, death usually coming before the fourth day. Also many acquired cases resulting from ignorant or indiscreet opium giving. In the aged this toxic factor was more patent. Some of the genetic factors of morphinism in middle life played a part in the old, but the absence of the most common cause, pain, might be put down as the main reason for its infrequeney in the old.

Dr. Mattison said, in his experience neuralgia was the most prolific cause of morphinism, but as that was a disease of the first four decades mainly, unless from structural lesions or morbid growth, morphinism would not be caused so often in the old. Of the two cited in the paper, pain was the cause in both. One was due to sciatica, the other to melancholia. Both patients were laymen, one seventy, the other seventy-two, years of age. In the former the disease had persisted four years, the opiate used was laudanum, and sometimes rum, to excess. The other had used morphia twenty years, but reaching only four grains, subcutaneously, per day. His physical condition was impaired. The one that used the hypodermic was under treatment eleven weeks, the other twelve. Both recovered. The one that had used morphia lived fifteen months after complete cure, and died of albuminuria. The other survived four years, free from opium, and died of old age.

Regarding the results of morphinism in the old, they are not as disastrous as in earlier years. This is mainly due to the less lavish use of the drug, the old seldom taking it to excess. The writer said he believed a moderate use of opium, in a not small proportion of cases after threescore and five was salutary, and conducive to length of life. In addition to the supporting effect at this time of life it undoubtedly exercised a prophylactic power against inflammatory diseases. This power obtained in opium habitués in early life and diminished as the drug was withdrawn.

Dr. Mattison cited a case of a woman who lived to be eighty-six, but suffered from sciatica. At his suggestion she had used opium, in the form of deodorized tincture, in doses seldom exceeding ten to twelve drops per day. It worked well, she did not suffer, so enjoyed life much more, the demand did not increase, and life was surely lengthened.

Among cases eligible for treatment, the prognosis for morphinism in the old was good. The proportion of permanent recoveries in patients above sixty under his care had been greater than in those below that age.

This was due to the liability of recurring causes in ex-morphinists of middle life, and a lack of time taken in the post-active treatment. This was especially true of medical men. In these there was the danger of premature return to professional work, and this, in his experience, had been the most frequent cause of the return of the disease. The author said the remote future of his patients gave him most concern. Even physicians did not seem to realize that it took not only months of hygienic care and environments, but even years in many cases, to secure a lasting cure.

There was some cases in the aged not eligible for treatment, and in these cases it was best to give that form of the drug which was the least destructive. This he thought was the crude drug or the deodorized tincture. Morphia, subcutaneously, was the most disastrous.

In cases where it was deemed best to entirely withdraw the opiate, the treatment must be adapted to each case. The patient as well as the disease should be treated. In proper cases the Mattison method could be used with full promise of good result. In others a more gradual withdrawal of the drug was best. To abruptly withdraw the drug was brutal, and need be mentioned only to be condemned. It sometimes caused fatal collapse in the vigor of middle life, and was much more likely to do so in the weakened organism of the old.

On Hæmogallol, and the Assimilation of Iron by the Organism.—DR. L. H. FRIEDBURG, read the paper on the above subject. He said of the normal iron of the body which was excreted by metabolism about ten per cent. appeared in the urine and about ninety per cent. in the fæces. Iron injected hypodermically or intravenous appeared in a few minutes in large quantities in the urine, but it was not firmly linked to organic material. The iron received by the mouth and assimilated by the system was represented by this ten per cent. in the urine, and this ten per cent. then must be considered the amount of assimilated iron. The average amount voided in twenty-four hours was one milligramme. To determine the amount of iron assimilated when given as a compound it must be determined whether this normal ten per cent. in the urine had been increased or not. It had to be stated that none of the existing iron medicines sensibly increased the mentioned amount, and, hence, could not be considered as having been assimilated.

Bunge had said at the May meeting of European naturalists at Munich, that the best place to buy iron was not at the drug store, but at the vegetable and egg market, referring to yolks and spinach. He was right as far as in those substances the iron is linked in such a form as to be assimilated, but he forgot that successful research had been made to find compounds in which iron was firmly linked to albuminoid substances.

Kobert satisfied himself that none of the iron compounds were assimilated, but faced the fact that from their administration there were certain beneficial results, which he explained was due to its secondary action in combining with the intestinal gases, mainly hydric sulfid, eliminating it as one of the poisonous gases, and rendering its action upon the iron contained in the blood impossible.

Kobert found that the blood was the starting-point for the administration of iron to be assimilated. All the blood iron preparations existing heretofore had two objections: first, they consisted of pure dried blood, which was objectionable as covering the intestinal track with a tarry mass; or, second, such blood was mixed with iron salts, which as such had no other effect than to neutralize the H_2S, but, eventually, this impaired digestion or produced metal kidney after prolonged use.

After long experiment Kobert discovered that the reductive action of pyrogallol upon blood resulted in a substance called hæmogallol. By different manipulation of the primary impure reddish-brown precipitate, a pure, tasteless, non-smeary powder, dark-brown in color, and insoluble in water, was obtained, 9.7 grammes of iron in the form of hæmogallol increased the amount of firmly linked iron in the urine to one hundred and fifty per cent.

Dr. Friedburg cited experiments by which it was positively proven that free pyrogallol did not exist in the hæmogallol. The use of hæmogallol upon chlorotic or anæmic patients was invariably an extraordinarily favorable one.

The profession of Austria, Germany, and Russia, had decided favorably in regard to the action of hæmogallol, and the profession of this country need no longer look upon its use as an experiment.

The author said hæmol as well as hæmogallol was the form of iron, par excellence, which had no detrimental action whatever, and allowed successful application in the gravest forms of anæmia.

Kobert also prepared compounds of hæmol with the heavy metals, iron, copper, mercury, and with the halloids, iodine and bromine. Also, a mercuro-iodo-hæmol had been prepared.

Professor Koch had experimented with copper hæmol upon lupus patients with good results. The mercuro-iodo-hæmol and bromo-hæmol were recommended for the double action of blood reconstructors and specifics, the former being a positive specific against syphilis.

Rille, one of the most reliable European syphilidologues, said we could not thank Kobert enough for his preparations containing mercury and iodine, which produce less undesirable secondary results.

Dr. Friedburg closed his paper by giving the history of a number of cases treated by these preparations of iron.

In discussing the last paper, the Chairman, Dr. Porter, said that he had used hæmogallol for a considerable length of time, and was convinced that its therapeutical advantages were fully established. It did not have the irritating effects that many preparations of iron had. The iron in this form satisfied the sulphides, etc., of the intestines, and permitted of the assimilation of food.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE OPENING OF THE WINTER SESSION—NOTES ON THE INTRODUCTORY LECTURES.

London, October 4, 1895.

The traditional 1st of October was celebrated by the opening of the medical schools. As this occurred on Tuesday, we are already in full working order. Those schools which continue the introductory lecture show no falling off in the ability displayed by the lecturers, some of whom took up subjects of public interest.

The London Hospital College had perhaps the most memorable opening. For the public presentation to Dr. Hughlings Jackson of his portrait in oils and some silver plate was an event to interest not only his own sphere of labor but all earnest members of his profession. Sir James Paget presided with his usual inimitable felicity. He spoke of Dr. Jackson as a former pupil of his own, and said it gave him consolation as he grew old to find a former pupil who had gone so far beyond him in knowledge. He said the subscribers to the testimonial had vied with each other in their expressions of esteem and gratitude for Dr. Jackson's person and work, and he concluded with the hearty wish that Dr. Jackson might live long to enjoy the supreme happiness of doing good and prolonging the life of others.

The portrait, a striking one, was here unveiled amid loud cheers, and Dr. Jackson, acknowledging the gift, said he could not express how much he appreciated the kindness. He had been thirty-one years connected with the hospital, and made many friends. Sir James Paget afterward presented the prizes to the successful candidates.

At St. George's Hospital the lecture was delivered by Mr. George Pollock, who took occasion to urge the public to come forward and enlarge and modernize the buildings so as to make them worthy of the noble site they occupy. He advised students to bear in mind the temperaments and idiosyncrasies of patients, and gave some interesting examples of peculiarities. A relative of his own, he said, was unable to take the smallest quantity of rice without suffering, and yet that was a most wholesome food. On one occasion the friends of that gentleman, unknown to him, made some biscuits, placing a single grain of rice in each. He took one or two, but became ill enough to leave the table, declaring that if he were not morally certain he had not taken rice, he should think he had been poisoned by it. He had heard of a gentleman who could not take gooseberries without inducing a rash, and on one occasion, at a fashionable party, after the champagne had gone round, turned up his sleeve and showed his friends the peculiar rash coming out. Idiosyncrasies as to drugs, such as calomel, opium, and belladonna, were not so uncommon, and the lecturer warned his hearers against disbelieving the statements of their patients and giving drugs which they said disagreed with them.

Lord Byron had said, in his rather exaggerated way, that what would cure one man would kill another, but the lecturer objected to the word cure, and said we do not cure—we treat "the ills that flesh is heir to." Some credit was due to nature, and cure is the expression of empirics.

At University College Professor Bradford urged the necessity of scientific training, and held that the science selected for this purpose should be one in which students could see for themselves the data on which its deductions were founded. Biology was not suitable on account of the great claim it made to study it properly. Human anatomy he held to be by far the most appropriate, and it afforded great facilities for students to become accurate observers. Students must become careful clinical observers to attain success.

At the Middlesex Hospital Dr. Julius Mickle devoted his address to discussing the manner in which we obtain knowledge of external objects, and thence deducing the natural and proper methods of studying medicine. Study and research should be one honest, consistent, persistent search after truth.

At the Westminster Hospital Dr. Monckton Copeman passed in review the steps through which we had arrived at the bacteriological diagnosis and treatment of disease, and then gave a brief account of his own researches in connection with small-pox and vaccinia. His results seem to indicate that the specific organism of both these diseases is a small bacillus, which is demonstrated with great difficulty. It can be cultivated in a special medium, though with very great difficulty, and calves have been successfully inoculated with these cultures, so that in the future we may have the means in vaccination not only of preventing, but of combating, small-pox after its invasion of the system.

At St. Mary's Hospital Mr. A. P. Laurie took for his subject "The Medical Profession and Unhealthy Trades," and unfolded a scheme for utilizing the work of the medical staff of the Factory Department in a scientific manner, from which valuable information would be obtained and the health of the operatives improved.

At the School of Medicine for Women Miss Ellaby, M.D., addressed the students, urging them to "make haste slowly," and to put on a triple armor—courage, wisdom, speed. But she warned against overworking, and recommended her audience to take time for recreative thought, meditation, and even dreaming.

At Guy's Hospital an excellent example was set by bringing up a former student from the Provinces to inaugurate the Physical Society. This was Mr. G. H. De'Ath, Medical Officer of Health for Buckingham, who spoke many wholesome truths on "our profession, our patients, our public, and our press." Many racy remarks of his must, I fancy, have touched some of his

London audience, and will, it is to be hoped, bring forth fruit in the more rigid adherence to ethical conduct. He would have us see men and things as they really are, rather than as they appear to be, for he declared that no man and no thing is what he or it seems to be. So many subjects were crowded into this address that it is impossible to do more than say they were all dealt with incisively and in a manner that separates it from the other lectures.

At the Leeds School Dr. Leech, of Manchester, devoted his address to "Our Forefathers," and traced from the earliest times the use of remedies, and held against Spencer that our art did not arise in magic or priestcraft, but in observation on the effects of various foods and herbs. This view is supported with much learning.

At Birmingham Professor P. Frankland traced the story of Pasteur's wonderful work from his first discovery of the difference between the two forms of tartaric acid to the close of the great savant's career, which has just plunged science in mourning for her greatest son. Nothing could have been more timely.

At Liverpool Mr. Hutchinson undertook the duty of the day, and discoursed familiarly of "the examination system" of the present day, pointing out many of its effects, both good and bad, on education, both general and professional.

At other schools the time-honored Introductory has fallen into disuse, but the Dinner holds its ground almost everywhere, though there are not a few who fail to see the use of the convivial meetings. The distribution of prizes is interesting to both students and teachers. At St. Thomas's Hospital this year it was particularly interesting, as it was undertaken by Sir Edwin Arnold, who expressed in happy terms the obligations and sympathy with which the successes of scientific medicine are followed in the sphere of literature and journalism, and put in a plea for animals condemned to vivisection for the benefit of humanity, for an enhanced regard and a special consideration toward creatures thus doomed to perish for human good.

APPENDICITIS DURING PREGNANCY AND LABOR.

To the Editor of the Medical Record.

Sir: A reluctance to trespass on your valuable space and the good-nature of your readers for a third time on the subject of "Appendicitis during Pregnancy and Labor"[1] was the reason why I refrained from sending you a few remarks on the very interesting and instructive paper on this occurrence by Dr. J. W. Thomason, of Huntsville, Tex., published in your issue of September 21st last. But an exceedingly typical case of this kind which has since come under my observation leads me to again ask your indulgence.

I will premise by saying that Dr. Thomason quotes the delay in operating in the case reported by me in the Medical Record for December 1, 1894, which apparently has set this particular ball rolling, as a part justification for his delay in operating in the case related by him, where the patient recovered without operation, and was delivered at term of a healthy child. While this result undoubtedly warranted the delay, and eventually the non-performance of an operation, I would not be understood as advising such delay in operating in other similar cases. In the case I saw with Dr. Hochheimer, in September, 1894, to which Dr. Thomason refers as "now famous in medical literature," we delayed the operation only four days (not "about six days," as Dr. Thomason says), and I expressly stated at the end of my article, in regard to the time when the operation should be performed, as follows: "I think that in a future similar case I would open the abscess at once, as soon as a reasonable probability of its existence could be settled, without reference to the pregnancy or the impending or completed delivery. I would rather take the chances of puerperal infection from the abscess than of its unexpected rupture at any moment into the peritoneal cavity."

The above statement makes my position as regards the time of operation in such cases sufficiently clear and positive. Would that the question of diagnosis were as easily settled! Dr. Thomason refers to this point, and quotes several authors who have written since my article appeared, and who report difficulty in diagnosis and unfavorable results from early operations, the women aborting and dying several days later. They do not say, however, nor can they say with any certainty, how long the acute inflammation of the appendix (probably with perforation already accomplished) had existed before the patient was seen by the operator. These questions of difficulty of diagnosis, and time of operation when the diagnosis has been suggested or made, will be brought out in the case I am about to relate.

On October 2d last I was asked by Dr. David Franklin, of 17 East 129th Street, to see, with him, Mrs. H. S——, forty years of age, mother of nine children, who had been confined by a midwife two days before of a dead anencephalic fœtus at term. There had been an unusual amount of amniotic fluid, and the placenta failed to come away. Hence Dr. Franklin was sent for, but not being at home, Dr. Charles M. Ford, of 218 West 135th Street, was called in his place, and detached and delivered the completely adherent placenta. It was attached to the right side of the uterus. (Compare with Dr. Thomason's statement as to the site on the right side and the calcareous degeneration of the placenta in his case, with a healthy, living child, p. 408, December 1, 1894.) The patient at that time complained of no more than the usual after-pains. Within twelve hours, however, she began to vomit, and as the vomiting increased the abdomen became tympanitic, and pain was localized in the right iliac region. There had been a large alvine evacuation from castor-oil before delivery, but none afterward.

When I saw her, at three o'clock on the afternoon of October 2d, she was retching and vomiting incessantly, the stomach being empty; the pulse was 63, fairly strong, but dicrotic; temperature and respirations normal; tongue moist and clean; extremities warm; no particular sign of collapse. Abdomen much distended and very tense. Pain chiefly in right iliac region, but no perceptible dulness or resistance at that spot. Vaginal examination showed nothing abnormal. On questioning the patient as to her health just before confinement, she said it was good, and that she had no pain then. But on asking her whether she had ever had similar attacks of pain in the right iliac region, she said that during her last three or four pregnancies she had, up to the fourth or fifth month, more or less pain in that region, which gradually wore away and did not return until the next pregnancy. Her husband added the information that sixteen years ago she had been very ill with pain in the right side.

Judging from the present symptoms and the history, I felt justified in making the diagnosis of recurrent appendicitis, with probable rupture of an adhesion during this confinement, produced either by the uterine contractions, or possibly by the manual detachment of the placenta. The diagnosis and former probability were imparted to the husband, the latter possibility to Drs. Franklin and Ford privately. The probability of a perforation of the appendix was not then entertained since there was as yet no sign of general peritonitis. The vomiting, however, I decided to be undoubtedly reflex from a local peritonitis in the right iliac region, and I gave as my opinion the necessity of first controlling the vomiting by hypodermics of morphine administered over the epigastrium, and of reducing the tym-

[1] Medical Record, December 1, 1894, and March 23, 1895.

panites by oxgall, glycerine, and turpentine enemata, so as to enable us to arrive at a more positive diagnosis as to the actual presence of an appendiceal abscess and the advisability of operative interference. The patient certainly at that time did not seem in a good condition for anæsthesia and laparotomy. Nutrition by the rectum was also recommended.

On the 5th, three days later, I received a note from Dr. Franklin that the patient had improved very much up to that morning; the vomiting had ceased, large quantities of gas and considerable fæces had been passed, the abdomen was soft and much less distended, and her general condition good. On that morning, however, the fifth day after confinement, the tympanites returned, and temperature and pulse began to go up a little, to 101° F., and 112°, respectively. I saw her again, with Dr. Franklin, that afternoon and found her as tympanitic as ever. The stomach was good, but the tongue coated. Strength still very good. No decided dulness or resistance on right side. Lochia offensive. I advised that decided efforts be now made to empty the intestines of gas and whatever fæces they might contain by means of doses of one-half grain of calomel every half-hour until twenty had been taken, followed by drachm doses of Rochelle salts and oxgall enemata if necessary. In any case to let me know in the morning, and if there was no improvement an exploratory incision into the right iliac region should no longer be postponed.

On the next morning, Sunday, October 6th, word was sent me by Dr. Franklin that the tympanites still persisted, and that there had been no movement. I recommended puncturing the most distended coils of intestine with several hypodermic needles (a proceeding repeatedly employed by me with benefit and no danger), and arranged to meet the doctor at 3 P.M. prepared to operate. But little gas escaped through the needles, and at three o'clock I found the abdomen still quite distended. No more than a trace of dulness in the right iliac region. At 3.30, with the assistance of Drs. Franklin, E. Sternberger, Ford, and Richards, I made the usual right lateral incision and soon discovered from the infiltration of the tissues that there was deep-seated inflammation. On incising the peritoneum a large quantity of gas and solid and fluid fæces escaped, showing that a perforation of the appendix had taken place. The general peritoneal cavity was apparently entirely shut off by the adherent intestines. Turning the patient on the right side, I gently irrigated the abscess cavity with warm sterilized water, and packed it loosely with iodoform gauze. The patient rallied from the operation remarkably well, and during the next twenty-four hours enormous quantities of gas escaped and fluid fæces oozed through the dressing, and were passed per anum. On the next day the temperature was normal, and the patient's condition fairly good, except an unpleasantly rapid, although good, pulse. The deep dressing was not disturbed for fear of rupturing fresh adhesions. Stimulants *ad lib.* were ordered, chiefly champagne. On the next day, however, after a good night, a change for the worse took place. The temperature remained normal, but the pulse went up to 140 and became thready, and when I saw her at 2.30 P.M. she seemed almost moribund. The dressing was changed, oxygen inhalations were ordered, and of course stimulation hypodermically, etc., resorted to as much as feasible. Still, I hardly expected that she would survive the night, but she rallied and lived nearly three days longer, dying from exhaustion.

How long the appendicitis had existed in this case I cannot say. Probably, as the history states, there had been a number of attacks during a period of years. In consequence of these attacks, undoubtedly the appendix was adherent, and in a soft, friable condition at the time of the last labor; and during, or immediately following, the labor perforation took place, and fecal matter was discharged into a cavity sealed off by the previous attacks. This perforation was the cause of the reflex vomiting and the intestinal paresis causing tympanites.

If the diagnosis of perforation could have been made with absolute certainty at the time it occurred (the diagnosis of appendicitis was made thirty hours later, when I first saw her), that, in my opinion, would have been the time to open the abscess. The next best time was, the perforation being certain, when I saw her thirty hours later. Whether she would have survived the operation in her then collapsed state is the question. And still I think the sooner after perforation the operation is performed the better, supposing, of course, that the patient's condition is good enough as to warrant moderate delay. And even then, one never knows when an internal perforation may take place. The diagnosis of the occurrence of perforation is, after all, the chief difficulty. With a well-defined dull tumor in the right iliac region, and the usual (it is true, rather vague) history of appendicitis, the advisability of immediate operation need not be discussed.

But it is these doubtful, obscure cases, with questionable history of previous attacks, or with the present illness masked by the distention of the abdomen during pregnancy and labor, by labor pains during the confinement, and after-pains and tympanites afterward, which render the diagnosis so difficult and the indication for operation so uncertain.

The insidious character of recurrent attacks of appendicitis and the possibility of recovery after perforation were illustrated to me in a case this summer, that of Professor Worthen, of Dartmouth College, whom I was asked to operate upon while I was delivering my annual course of lectures at the Medical College. He had been a perfectly healthy man (even an athlete) up to about two years before, since which time he had complained of occasional colicky pains in different parts of the abdomen, and had lost some flesh. Nothing of the nature of appendicitis had been suspected. About ten days before his illness he lifted a heavy log to show his strength. He felt a pain in the right side of his abdomen at the time. He thought nothing of it, however, until about a week later, when, returning from a visit to the Wild West Show at White River Junction, on dismounting from the stage he was seized with so severe a pain in the right iliac region that he went to bed. He was seen by Dr. C. P. Frost, his physician, the next day, and the diagnosis of probable appendicitis was made. The following day I was asked by Dr. G. D. Frost, who was attending the patient with his father, to operate. I agreed to do so, if I found the case a suitable one. I saw the patient at the Mary Hitchcock Hospital, where he had been moved from his house, at three o'clock that afternoon, found a decided swelling in the right iliac region, and operated as soon as the patient could be prepared, that is, about forty-two hours after the severe attack of pain on descending from the stage, when I think the perforation occurred. On opening the peritoneum, gas, fecal matter, and pus escaped. The appendix was found loosely adherent, and on attempting to tie it off, it broke away piecemeal. The abscess-cavity seemed closed off except below, where Dr. G. D. Frost, who assisted me, and I both thought the finger reached into the open peritoneal cavity. I did not, therefore, irrigate, but rapidly packed the pocket with iodoform gauze. This was removed in part three days later, being then soaked with fecal matter, and under the subsequent care of Dr. G. D. Frost the wound gradually healed and complete recovery took place. Here, I think, the early operation saved the patient's life, since probably a perforation of the abscess downward into the open peritoneal cavity would soon have taken place.

I have no hesitation in mentioning the patient's name in this case, as a report of his illness and the operation appeared in the Boston papers at the time, and since then in the Dartmouth *College Journal*, of course without my connivance.

In conclusion, I think that the numerous instances of appendicitis, with and without suppuration, occurring during pregnancy and labor, which have been reported since my paper appeared nearly a year ago, should induce us to watch for this accident at those times quite as much as on other occasions, and to treat the disease entirely regardless of the existence of pregnancy. I do not agree with those gentlemen, therefore, who would induce abortion or premature labor during, and on account of, appendicitis.

I think the cases of appendiceal abscess occurring during labor and the puerperal state particularly interesting, and difficult to diagnose and manage.

PAUL F. MUNDÉ, M.D.

20 WEST FORTY-FIFTH STREET, October 14, 1895.]

"MATERNAL IMPRESSION."

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Does not Dr. F. W. Maloney, of Rochester, N. Y., in his report in the MEDICAL RECORD of September 28, 1895, of a case of "maternal impression," where a whitlow on the thumb of a woman, six months pregnant, is said to have caused a supernumerary thumb on her unborn child, mistake cause for effect? Isn't there about as great a likelihood that the supernumerary thumb caused the whitlow as that the whitlow caused the supernumerary thumb? Is it not quite probable that "a supernumerary thumb fully formed with nail, apparently grown out of the primary articulation of the first phalanx," had its origin about as early as the thumbs that weren't supernumerary had theirs; or, at all events, long before the whitlow was thought of?

When it is remembered that there is no more connection between the nervous system of the mother and the nervous system of the child *in utero* than there is between the nervous system of the setting-hen and that of her unhatched chick, is it not nearly inexcusable for anyone to assert that maternal impressions of any sort can produce malformations in the fœtus, especially as late as the fifth or the sixth month?

E. T. SHELBY, M.D.

ATCHISON, KAN.

POTASSIUM PERMANGANATE IN MORPHINE-POISONING.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: I feel it my duty toward the profession to comment upon a case of morphine-poisoning, reported by Dr. McDonald in the MEDICAL RECORD of September 28, 1895. One of the conclusions arrived at by the writer is "the apparent inefficiency of potassium permanganate." Now, the latter, intrinsically, cannot possibly be inefficient in antidoting morphine. One may just as well state that a strong alkali is incapable of neutralizing a mineral acid. In the case reported by Dr. McDonald, the patient had taken, at 5 A.M., the enormous quantity of twenty grains of morphine. At 6.30 A.M. he was given ten grains of the permanganate, partly internally and partly hypodermically. As the patient showed no improvement in the course of an hour, the doctor evidently concluded that the permanganate was inefficient. In my opinion the potash salt was eminently instrumental in saving the patient's life, as will be readily understood from the following: As soon as opium begins to exert its narcotic influence, gastric and intestinal activity is greatly reduced, and, consequently, the absorptive power of the gastric mucous membrane is very much lessened. It is, therefore, not surprising when we hear that considerable quantities of opium or morphine have been found in the stomach of persons who have died from this poison. Applying these facts to the case in question, we may take it for most probable that at the time when Dr. McDonald administered potassium permanganate, a large quantity of morphine was still in the patient's stomach. The doctor states ten grains of the antidote were given partly by the mouth, partly hypodermically. Even if the quantity given by the mouth did not exceed five grains, it will be seen that, most probably, at least five grains of morphine were decomposed by the antidote. The final issue of the case might have been quite different had Dr. McDonald not administered the permanganate. Every physician may well be satisfied if his patient regains consciousness one hour and a half after the ingestion of twenty grains of morphine!

Permit me to call once more the attention of your readers to the mode of administration of the antidote to opium:

1. One grain of permanganate of potassium decomposes one grain of morphine (six grains of opium or one drachm of laudanum).

2. If the quantity of the opium or morphine ingested is unknown, eight, ten, or fifteen grains of the potassium salt, diluted in one pint of water, should be given, and repeated twice or three times at intervals of thirty minutes. In cases of poisoning by opium (laudanum), a teaspoonful of diluted sulphuric acid or white vinegar —preferably, diluted sulphuric acid—can be advantageously added to the antidotal solution.

3. Hypodermic injections of a well-diluted permanganate solution should be administered at short intervals. One grain in one ounce of water, injected with an antitoxin syringe or an aspirator, will probably give better results than the use of concentrated solutions.

4. One grain of the antidote dissolved in a cupful of water should be given from time to time, in order to decompose the morphine, which the glandular lining of the stomach continues secreting for many hours.

I take this opportunity to express my hope that the day is not distant when our representative medical bodies, for the sake of science and humanity, will investigate the relation between potassium permanganate and opium. Academical committees have studied atropine in its relation to opium; why should the permanganate receive no attention?

WILLIAM MOOR, M.D.

103 WEST FIFTY-EIGHTH STREET, NEW YORK, October 10, 1895.

NUCLEIN IS NATURE'S ANTITOXIN.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: I have read carefully the interesting dissertation on "Nuclein," written in your issue of September 28th, by Dr. J. Mount Bleyer, of New York. Not only have I found it well written, but its contents are entirely in accord with reason I am of the opinion also, that from his point of view, it will be the end and the natural explication of the Brown-Sequard theory, and it explains the *rôle* of the leucocyte in phagocytosis.

I think, also, that nuclein is certainly the best way to destroy the infectious virus; although I think that nuclein and protoplasm must be constantly together, and it will not be possible to consider either apart from the other. But however correct his theory may be, I do believe that although nuclein is the best, it is not the only and single way to destroy the infectious material. I think antitoxins, single and alone, when attenuated, will be also capable of destroying the infectious virus, although that may be through the modifications impressed to the potoplasm and nuclein.

DR. VERTIZ,

Professor of General Pathology and Bacteriology.

SCHOOL OF MEDICINE, CITY OF MEXICO, MEX.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending October 19, 1895.

	Cases.	Deaths.
Tuberculosis	98	104
Typhoid fever	57	13
Scarlet fever	42	3
Cerebro-spinal meningitis	2	1
Measles	53	6
Diphtheria	137	12

The Infantile Causes of Epilepsy.—In Gower's latest book, "Clinical Lectures on the Nervous System," some careful observations on this subject are elaborated in detail. The most frequent infantile cause of epilepsy is rachitis. Clouston has also emphasized its influence in the production of other nervous diseases. It was Sir William Jenner who demonstrated that the condition of rickets is a general retardation of development, with various secondary necessary results, and of the association of convulsions with this general state. Backward teething is also a manifestation, but is now fully understood not to be a cause in itself of the convulsions of infancy. These are a consequence of the retarded development which occurs so often toward the end of the first year. It is the epoch at which the character of the food-supply undergoes change, or does not undergo the change that is natural. It is also a period when much functional capacity passes into functional use. The influence of rickets in causing the convulsions of infancy are of great importance in connection with epilepsy. They leave behind a residual disposition to a like morbid action, which may be continuous in its results, or may become active at a later period of life. Every variation of interval is met with. It is impossible to doubt that the convulsions of dentitions are a definite element in the causation of epilepsy. And it is also impossible to doubt that the prevention of rickets would have a considerable influence on the prevention of epilepsy.

Convulsions due to retarded development are general; so also are the epileptic attacks that follow them. This is an important point to remember. Moderate in severity, when continued in epilepsy, the attacks often become slighter, until they are merely minor attacks with loss of consciousness. There may be only the slightest indication of spasm or no trace of it after a time. Minor attacks may continue a few years, and thus muscular contractions may be added to loss of consciousness. There are two other forms of epileptic attacks that can be traced to the convulsions of infancy. In the first, the spasm can be observed to commence locally, in the hand or face; and appears on one side before it does on the other. The attacks during babyhood in these cases were also of this nature, the first seizure being often of great severity. Such convulsions mean unilateral instability of the motor structures of the brain, and the local change excludes a general cause that would act on the whole brain. There is organic disease in the cortical region. If profound, and in the motor region, hemiplegia is the result. This may be slight or severe, lasting a lifetime, or passing away in a few months. The third class of cases in which epilepsy has its origin in infancy is found among first-born children who make their entrance into life under great difficulties, and the symptoms of their convulsions are due commonly to the effect of meningeal hemorrhage. A small number of cases dating back to infancy, and not belonging to these three classes, are those associated with congenital brain defect. Underlying all the phenomena of epilepsy, whatever its cause and its features, there is one fact which it is important to recognize. Convulsions are far nearer normal action than this startling aspect suggests. In health, nerve-centres are always ready for the instant vigorous liberation of nerve force. A perception of danger induces in an animal, and often also in man, motor activity as intense as that of an epileptic fit. By their nutritional state, the nerve-structures hold, ever ready for release, in vast amount, the latent energy that excites the muscles. Considered from the dynamic point of view the amount is, no doubt, trifling, not to be measured by its manifestation in the muscular contraction it excites. The perfect readiness which underlies its instant release in health, underlies also its instant liberation in disease. Thus may be explained the fact that the apparent causes of epilepsy are often such as seem inadequate.

Dead Chinamen as Freight.—A curious freight which is shipped exclusively from San Francisco to China is "fish-bone," which pays $20 a ton. It is sent in large boxes consigned to the Tung Wah Hospital at Hong Kong, but the contents of the boxes are really the bodies of dead Chinamen sent home for burial. Most of the Chinamen who come to the United States are under the care of the Six Companies, who sign a contract guaranteeing to return the bones of the dead for burial with their ancestors in the Celestial Empire, and the Tung Wah Hospital acts as the agent on this side in carrying out the agreement. They are shipped as "fish bones" in order to evade the rule of the steamship companies, who charge full first-class passenger rates for the dead. Nearly every ship leaving San Francisco for China carries among the steerage passengers a number of invalids who hope to live until they reach their native country, but several usually die on every voyage. There is an agreement between the steamships and the Six Companies which forbids the burial of these bodies at sea, and the latter furnishes coffins of the peculiar Chinese pattern for use in such emergencies. They are made of slabs, the first cut of the log, so that the sides and bottom and top are rounded. A dozen or more are carried on each ship, and the surgeon is furnished with a supply of embalming fluid. When a Chinaman dies at sea, the surgeon embalms the body, which is then placed in a coffin, sealed up, and lowered into the hold. The expense is paid by voluntary contributions from the other Chinese passengers, the crowd, and the stewards of the ship—all of whom belong to that race. No subscription paper is passed around, but a pan containing Chinese sugar is placed beside the coffin, and every Chinaman on board drops in his contribution, from a dime to a dollar, and takes a piece of sugar from the pan, which is supposed to bring him good luck and prolong his life. When the ship reaches Hong Kong, the coffins and the belongings of the dead are delivered to the Tung Wah Hospital, which disposes of them to the surviving friends in China. Every Chinaman in the United States is supposed to be registered at the Tung Wah Hospital and with the Six Companies at San Francisco.

Empyema in Children.—1. When pus is found to be present in the pleural cavity, the proper treatment is to remove it. 2. The best method is simple incision and drainage. 3. The best site for the operation is the fifth space in the mid-axillary line. 4. Irrigation is unadvisable, and is indicated only in cases of fetid effusion. 5. Exploration and scraping of the cavity are not necessary. 6. Resection of the rib is practically never necessary in children as a primary procedure to procure efficient drainage, but may be required to secure the closure of the sinus, subsequently, by allowing the chest-wall to fall in. 7. Collapse of the chest-wall is not a result to be desired in the early stages of the treatment. 8. Rapid and complete expansion of the lung is the great object of treatment. 9. The tube must be removed early.—CAUTLEX.

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Original Articles.

ON THE DEFORMITIES AND MALFORMATIONS RESULTING FROM ACUTE INFECTIONS IN BONE.[1]

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IT is apparently the depth and the concealed location of the bone-marrow which has prevented a more general and wide-spread recognition of the readiness with which the internal structure of bone succumbs to infection and to destruction. The clinical consequences of this internal disease have long been recognized, but accurate notions regarding its pathology have not been in vogue until comparatively quite recently. At the very outset it is well to make an abrupt distinction between those alterations in texture, contour, density, etc., of bone which are the result of perverted nutrition, of alterations of trophic-nerve influence, etc., and which are distinctly not infectious, and another series of changes similar perhaps in gross results, very dissimilar in etiology, which are the consequences of acute infectious processes, which have their analogies in various of the soft structures of the body, where they have been longer recognized and more carefully studied, because more easy of access. Indeed, as Savory some years ago showed, bone and lung react in a very similar way to infections, the analogy in some respects being even striking. Both bone and lung are surrounded by a firm, investing membrane; both have a more or less spongy texture; both are extremely liable to tubercular invasion, while in either case the disease usually selects the apices for its primary manifestation; both are in close relation, the bones especially by their joint ends, with serous cavities which become secondarily involved in the majority of instances—in the one case as a pleuritic effusion or an empyema, in the other case as a joint effusion or a pyarthrosis; while the picture of miliary tubercle in either structure is beautifully distinct and clear. Savory did not point out, however, that which I would like to emphasize here; for instance, that bone as a tissue is, nevertheless, subject to an acute miliary invasion of tubercle corresponding to an acute miliary tuberculosis, as well as to certain streptococcus and staphylococcus invasion, producing a condition of affairs corresponding materially to acute lobar pneumonia, in which the whole structure of an epiphysis or a shaft is involved, and in which, owing to the intensity of the process, local gangrene may result, producing in the one case a gangrene of the lung, in the other a gangrene of the bone, a fulminatingly acute necrosis which means death of the patient if not speedily attended to.

We need not hesitate, then, to compare bone and lung, if only we take the view concerning the former, that students are not generally enough taught, that the calcareous infiltration of bone is simply an incident favoring its physiological function, and that it may become inflamed and act in every other way like any of the soft tissues. When we cease to make artificial distinctions, which nature does not make, we shall have much clearer ideas of bone pathology. The acute phases of these infectious processes are not usually considered in works on orthopædic surgery, nor do they often come under the observation of orthopædists, who are so often concerned with their remote consequences. Nevertheless, in order that the matter may be the better appreciated, I deem it wise to say a little more about the acute condition first. That acute inflammation (*i.e.*, infection) of all or any of the structures which go to make up the bone is possible, is now a well-established fact. Inasmuch as each one of these tissues comes at least into close contact and relation with the others, even if it does not insensibly merge into it, it is not often that one meets with an infection of one which is not conveyed to the others. Clinically, however, there are three locations in which these manifestations are most commonly met with: *a*, Beneath the periosteum; *b*, in the epiphyses; *c*, in the diaphyses.

From the pathological side, infections are of four main varieties: *a*, The tubercular; *b*, the staphylococcus; *c*, the streptococcus; *d*, the pneumococcus. To these may be added, *e*, rare instances in which other organisms are primarily or secondarily present.

Of these certainly the more common is the tubercular form, whose manifestations, however, are usually not acute. The other three may be grouped in a general way as pyogenic forms of invasion in which pus is practically invariably produced, providing only that sufficient time has elapsed.

Although it is not exactly germane to my subject, I cannot let this opportunity pass without calling special attention to one manifestation of tubercular bone disease, which I grant is rare, but, nevertheless, which is not sufficiently recognized. I allude to the acute miliary tuberculosis of bone which corresponds in most essentials with similar invasions of the lungs, and of which I have seen occasional examples. This is not generally described, even in the most recent literature, and would deserve more space than I can give it here were this the place in which to consider it. It is not quite so rapid as the pyogenic forms, and it may take two or three weeks to produce such destruction of the bone as to necessitate operation. It stands, therefore, in intermediate position between the acute infections and the slower (*i.e.*, usually the tubercular) lesions. Nevertheless, it is sufficiently acute to demand prompt recognition, and when recognized may often be relieved by prompt operative interference.

The course of a bone disease, then, will depend first upon the location of the lesion, and secondly upon its character. If it assume a very acute type, and if prompt evacuation of morbid products be carried out, such a bone disturbance will usually subside with very little deformity, there remaining perhaps only a scar marking the site of the operation. Take, for instance, a subperiosteal infection of the ulna or fibula. If, now, this be recognized during the first day or two, and if a long incision be made down on the bone, there is ample opportunity for escape of pus and of other morbid products, and there will be prompt reapplication and reunion of periosteum and bone with a minimum of loss of function, occasioned only by the occurrence of a cicatrix. If a deep and acute bone abscess form in the

[1] Read before the American Orthopædic Association, in Chicago, September, 1895.

shaft of a bone, and the same be promptly opened, it corresponds to an acute abscess in the neck or elsewhere, and only a scar will remain to indicate what has happened. If, however, prompt recognition and immediate incision do not occur, the consequence will be extension of the disease, increasing destruction of bone, possibly necrosis of the entire bone shaft between epiphyseal junctions, possibly spontaneous perforation, with sinuses through which sequestra may protrude, or at least be recognized. These usually come to the surface by a reasonably direct route, which affords exit with a minimum of disturbance of surrounding soft parts; but this is by no means always the case. Finally, if the acute focus be located in an epiphysis, there is usually prompt involvement and infection of the joint, loosening of epiphyseal connection, with a resultant pyarthrosis and necrosis of a bone end, which will require something more than a mere opening and evacuation of a joint, which may call for resection, or even amputation. In such a case dislocation finally occurs. I have seen this condition most often at the hip, and have repeatedly known of an acute osteomyelitis of the upper epiphysis of the femur, which has pursued a rapid and unbroken course until such destruction has occurred as to permit of spontaneous luxation during the act of lifting the patient, with the production of two inches of shortening within half an hour. Such a case is an aggravated one, to be sure, not illustrating the common phases of this disease, yet, nevertheless, not so rare as could be wished, and not one whit overdrawn. I have, moreover, repeatedly seen such absorption of calcareous stiffening—in other words, such an artificial and pathological flexibility of bone produced—that torsion of the shaft of long bones or more or less angular deformity was produced, either rapidly, in some instances by mere muscle spasm, or in other cases by too early or indiscreet effort to support the weight of the body.

Osteomyelitis may be a tedious and long-drawn-out disease, which may also be characterized by acute exacerbations. It is well to keep this fact in mind, for it does not follow that every bone fistula or sinus is due to tubercular disease, though it is always open to the presumption of having become tubercularly infected. Albert, for instance, has called attention to the confusion between the two conditions, especially in the latter part of certain cases. The anatomical picture about the joint involved in the one case is not materially different from that of the other.

Concerning the character and extent of possible destruction in these cases, one meets with all degrees of destructive changes, from the mildest appreciable up to total destruction of an entire bone, or even to gangrene of an entire extremity. Other things being equal, the most destructive lesions are those which produce the greatest deformity. Yet, of the inveterately deformed cases, it is sometimes those which are least involved which will be subjected to orthopædic treatment, while those in which deformity is very great would be subjected to resection or amputation.

If one seek for the reason why one bone is involved oftener than another, it may possibly be explained by the normal rapidity of bone growth in different bones. According to the investigations of Langer, the co-efficient of growth in the femur is 4.38, in the tibia 4.32, in the humerus 3.97, in the radius 3.83. This scale perfectly coincides with the frequency of disease in the bones mentioned. Studying for a moment the prevailing localities in which remains of lesions are found, and basing this study upon 181 patients collected by Helferich, we find that the lower end of the femur was involved in 40 instances, the upper end of the tibia in 29, the tibial shaft in 19, the lower end of the tibia in 18, the upper end of the humerus in 16, the remainder being scattering. These, to be sure, were cases of necrosis as the result of the disease; and, nevertheless, they serve our purpose in showing relative frequency of location of foci.

As showing also the relative frequency of parts involved, of 30 cases observed by Kocher the disease occurred 13 times in the tibia and 11 in the femur. Of 98 cases collected by Leucke and Volkmann, the femur was involved 36 times, the tibia 34, and the humerus 11. Disease in the immediate neighborhood of the hip-joint is about five times as common as in that of the knee. Comparing epiphyses with diaphyses, and accepting Schede's 67 cases, we find that of 28 cases in which the femur was involved, half of them were in the shaft and half in the diaphysis. In the tibia, of 27 cases only 9 concerned the epiphysis, and of 7 cases of the humerus, 2 involved the epiphysis.

Arrests of development in bone as due to bone inflammations have long been known. Blasius, for instance, described a case in which an adult arm never passed beyond the dimensions of that of a child; and numerous such cases are on record. Mild differences of this kind have been often overlooked, as Helferich emphasizes. As between the two femora and the two humeri considerable changes may often be noted, which will be explained if one gets a careful history of the patient's life. I may also remind this Association of that form of increase in the length of long bones spoken of by Ollier and Mondan as "atrophic elongation," to which I called attention a few years ago in a paper to which I would refer those who are further interested.

Relative to persistent joint lesions which may result from acute bone infections, we may get very interesting statistics from the memoir of Haaga. Out of 28 cases in which the upper end of the femur was involved, in 22 there were more or less well marked persistent lesions. Of these 22, in 14 mobility was diminished, and in 10 of these there was absolute anchylosis, twice in the straight line, 8 times with more or less flexion of the thigh. In the other 8 cases there was spontaneous luxation to a greater or less extent. Out of 28 cases involving the arm, the humerus was involved 7 times, and of these 7 cases one presented a subcoracoid luxation, and in another a very marked limitation of movement existed. In 2 others there was a persistent hydrarthrosis. Of 19 cases involving the elbow, the humerus was involved in 10, the radius in 6, the ulna in 3; the elbow-joint was destroyed in 2 of them, was anchylosed in 4, and presented distinct lesions in all the others. Of these 19 cases the immediate neighborhood of the joint was involved in only 7; in the other 12 the lesion was more or less remote from the joint. In 7 cases involving the wrist, the radius was involved in 4, the ulna in 3; in each instance anchylosis was complete, and in 4 others there was marked restriction of motion.

Haaga has epitomized 470 cases of distinct osseous foci altogether, in which 189 showed distinct joint lesions, which were more or less persistent.

Out of 24 cases involving the ankle, the lower extremity of the fibula was involved in but 1. Of these 21 were more or less anchylosed; in 1 case there was a flail joint; in two instances the joint was destroyed; and in one there was chronic hydrarthrosis.

Secondary affections of the knee were extremely frequent. Of 107 cases of disease of the lower end of the femur, the knee was involved in 71. Of 54 cases of involvement of the upper end of the tibia, the knee was involved in 21. Studying 109 lesions of the knee, Haaga found luxation forward once; subluxation, 9 times; flail joint, 11 times; articular destruction, 5 times; late suppuration, 6 times; while motility was diminished in 77 cases, of which in 20 the difficulty was caused by anchylosis, and in 57 by a contracture.

Another kind of deformity is that produced by arrest of growth of the joint end of one bone and compensatory hypertrophy or parallel alterations in the other and participating bone. Absolute arrest of de-

velopment occurs naturally only in growing children or adolescents; and these deformities will at least arise during youth, although they may be met with much later. I have, for instance, in my possession a specimen illustrating arrest of growth of the lower end of the tibia, while the fibula continued to grow, so that its lower end assumed a literally circular shape, the lower two and one-half inches constituting 90° of a circle of four or five inches in radius. In a case, for instance, reported by Marchant,[1] the region of the knee was greatly enlarged and deformed by the presence on the inner side and posteriorly of the head of the fibula, whose upper styloid process was on a line with the upper border of the patella, having been pressed there by the weight of the body and lack of growth in the tibia. The upper half of the fibula was greatly thickened, but flexion was possible to a right angle.

One should also speak in this connection of that class of deformities which are produced by muscle contractures, which have at the time seen not yet proceeded to the point of anchylosis, except so far that motion beyond certain degrees was impossible because of these same contractures. In other words, these are joints whose function is much interfered with and in which extremes of motion are not permitted, and which, nevertheless, serve still a useful purpose in most respects. I do not know that there is any marked difference in the frequency with which the various joints present lesions of this kind. In more or less mild degree, and for greater or less length of time, these conditions obtain in the neighborhood of any joint which lies in proximity to a focus of acute bone infection.

Torsion and flexion of bone which has been the seat of previous disease is not at all infrequent. Even muscle pull alone is sufficient to account for many of these cases. Richter has reported from the Breslau Clinic a specimen of diseased bone in which fracture had been diagnosed because of the deformity. Diesterweg has also described a similar case from Volkmann's clinic, in which there was such remarkable curvature of the trochanteric part of the femur as to permit of luxation.[2]

In a general way I would divide the deformities which are due to inflammatory bone changes, into those which pertain to juxta-articular lesions and those which have their anatomical seat in the shafts of the long bones. This is a classification purely for purposes of convenience, and implies nothing regarding pathological differences. Of the former class, the most conspicuous are, first, those produced by anchylosis. This will be readily appreciated as due to the intensity of inflammatory change and to organization of solid exudate, to cicatricial contraction, etc. It is usually of the spurious or fibrous type, but is occasionally of true osseous character. I could show, were it desirable, numerous specimens indicating the rigid consolidation and stiffening of such joints by osseous tissue.

There is a variety of change, of which frequent expressions are seen, which is due to compensatory enlargement of one bone in order to atone for more or less weakening of another. This, of course, is met with only in the leg and forearm, where we have paired bones. I have seen several instances where, after serious weakening of the tibia, the fibula has enlarged almost to the previous size of the tibia, and has gradually prepared itself in this way for sustaining the weight of the body and assuming the functions of the tibia. Along with these changes in the bone-shaft there are also changes at the extremities, which would be difficult to describe in a few words, and which hardly call for it, the present paper being concerned rather with statement of facts than with minute description of cases. One may see the same condition in milder degree in the metacarpal and metatarsal bones. I am not aware of similar changes having been noted in the ribs, although I consider them possible.

Dislocations and subluxations constitute another variety of joint deformities which may have been produced either by muscle spasm alone, as in the slower forms of tubercular disease; by destruction of the ligaments and removal of opposition to displacement; or by epiphyseal separations, which sometimes occur in connection with acute cases of the pyogenic type.

The dislocations met with as the consequences of bone infections may be described, first, as of the distention form—that is, they are permitted through the great distention of the joint as the result of outpour of products of inflammation and infection. These are the most genuine of the spontaneous luxations. A remarkable case of this kind was observed at the shoulder by Stromeyer.

A second form is due to the early consolidation between epiphysis and diaphysis, and the consequent cessation of growth at this point. When, for instance, this occurs in the tibia, the corresponding fibula end will continue to grow, and subluxation must be the result. I have now under occasional observation a young lad whose radius was nearly destroyed by an acute infection of this character, but whose ulna has continued to grow. The styloid process of his ulna now presents nearly half-way down on the outside of the fifth metacarpal, and great displacement and deformity of the hand result. In this case I have advised, and expect to perform, a resection very soon.

A third case of osteomyelitic dislocation is due to overgrowth of the ligaments, due to hyperæmia of the parts and increase of nutriment conveyed toward the seat of activity. Ligamentous bands thus overgrown, stretch and give rise to flail-like conditions of the joints.

Albert has also alluded to the spontaneous fracture due to epiphyseal separation. In most of these cases the epiphyseal cartilage will be found normal, and it is rather in and about the shaft of the bone that one would look for most evidence of disease.

Epiphyseal separations, accurately speaking, are among the most serious of complications. According to observations made by Garré, in Tübingen, they occur in from twelve to fifteen per cent. of cases. These occur most frequently of all at the lower end of the femur, then at the upper extremity of the tibia, and then at the hip.

Epiphyseal separation without suppuration is rare, but has been distinctly established. Until further investigations clear up its pathology, we must hold it to be due to alterations in nutritive supply and vascular conditions of the involved bone; that there is solution and disappearance of those calcium salts which are usually regarded as cementing by their deposition the union of epiphysis to shaft.

Ullmann reports a twelve-year-old patient with eight centimetres shortening of the thigh with angular deformity. Here it was very evident that spontaneous fracture had taken place at the site of an old bone focus. Fracture may also occur as the result of rarefying ostitis without the necessary presence of a sequestrum. Spontaneous fractures also occur sometimes after operations made necessary for removal of large sequestra, and I have myself twice seen the tibia break in this way. Such cases constitute in effect a sort of infected compound fracture, and it is not to be expected that recovery will ensue without considerable shortening, distortion, or other changes.

Some special manifestations of osteomyelitis are met with in somewhat novel and unusual places. Thus Froehner has published a unique case of infectious osteomyelitis of the nasal bones. It occurred in a young man, aged seventeen, and was followed by fever with tumefaction of the region involved. The jaws are known to be occasionally involved as well, and perhaps most often in those instances of multiple lesion

[1] Revue d'Orthopédie, March, 1895.
[2] Ueber die Verbiegungen der Diaphysen nach Osteomyelitis Acuta, Inaug. Diss. Hallé, 1882.

which are of pathological, rather than of orthopædic, interest. In one instance, mentioned by Gangolphe, the jaw was involved along with both tibiæ, a metatarsal bone, and the sacrum. This form of osteomyelitis of the jaw is to be distinguished from the post-febrile form of periostitis, to which Salter has particularly called attention, as following measles, scarlatina, etc. While the latter is distinctly a secondary infection, it, nevertheless, has an etiology somewhat different from that met with, for instance, in Gangolphe's case.

Osteomyelitis of the skull is usually followed by acute necrosis, and will frequently terminate within a short time by meningitis, sinus phlebitis, pneumonia, endocarditis, or other pyæmic manifestations; it has for us, as orthopædists, only a remote interest at this time.

But osteomyelitis of the vertebral column, although rare, may concern us very deeply. Such a case has been reported, for instance, by Lannelongue as one of primary infection of the vertebral column, with metastatic lesions in the leg and in the forearm. The result in his case was death; but the fact that these lesions may occur in this location should by no means be forgotten.

So, too, in the clavicle, osteomyelitis is usually followed by acute and total necrosis. In some instances there has been a very tardy reproduction of bone, due to activity of the osteoblasts which remained upon the periosteum. Such disease in this bone may give rise to great disfigurement about the shoulder, as well as loss or disturbance of function. So, too, in the ribs and in the sternum. One meets in literature with isolated cases which are not without considerable interest. Thus, Froehner observed a case of this kind in a young child aged four, in which suppuration occurred and necrosis followed. Considerable attention has been paid to this matter in two or three recent French theses, as by Berthomier,[1] by Hasle,[2] and by Barbacci.[3] As in the other long bones, the favorite locations in the ribs appear to be close to their terminations. The disturbance and swelling due to lesions of this character, near the head of a rib, may give rise to a great deal of uncertainty in diagnosis. Berthomier has in his paper discussed the physical signs, differential diagnosis, etc. Salomon has reported the case of a man, aged twenty-one, sick for ten days, who, on the sixth day complained of pain in the right sterno-clavicular region with swelling and fluctuation. On the tenth day inflammation of the lower lobe of the right lung was evident, and delirium, followed by death, occurred. On autopsy it was shown that there had been osteomyelitis of the sternum with perforation of pus into the right sterno-clavicular joint. I have myself seen three cases of acute or chronic lesion of this kind of the sternum, in which there was more or less disfigurement of the chest, though I cannot say that it attained a degree of deformity which would attract attention when the patient was clothed. Several cases of considerable deformity due to this cause are, however, on record.

In the pelvic bones these infections occur rarely, but give rise to most serious symptoms when they do occur. According to the part involved and the arrangement of muscles, we will have posture deformity of the thigh with fixation by muscle rigidity, etc. This posture deformity may even become permanent. Deformities from this source would be probably more often met with were it not for the fact that acute osteomyelitis of the iliac bones is followed by death in more than half of the cases.

Acute infection of the patella is by no means unknown, and has been seen in very young children, even to such an extent that almost total necrosis has resulted. In some instances, and very slowly, new bone has been reproduced to take the place of that which has been thus lost. It would appear in these instances as if the posterior cartilaginous surface of the patella served as the barrier by which perforation into the joint were prevented.

It is perhaps more often in the larger bones of the tarsus, particularly the calcaneum and the astragalus, that we meet with multiple but small foci, each of which is followed by limited necrosis, and which gives rise to what Ollier has spoken of as "disseminated necrotic ostitis."

Necrosis forms, by all means, the most common result of osteomyelitis. It may assume either of the following types, with corresponding variations in resulting deformity (Ullmann):

1. Peripheral necrosis or cortical necrosis, in which a more or less thick scale is detached from the external portion of the bone.
2. Central necrosis, connected with the marrow cavity, at least, connecting that part of the bone which comes into direct contact with the bone-marrow.
3. A lamellated form, in which an intermediate portion of the compact substance dies and a sequestrum results which extends neither to the surface nor to the interior cavity.
4. Penetrating necrosis, where to some extent the entire thickness of the bone is involved, *i.e.*, from periosteum to centre.
5. Transverse necrosis; the same as 4, except that it extends completely around the bone.
6. Total necrosis, where the entire shaft is separated as a sequestrum.
7. A disseminated form, particularly described by Ollier.

Necrosis concerns us here as orthopædists mainly in this, that it produces in many instances a weakening of the bone which may lead either to fracture, deformity, or curvature. Spontaneous fractures of necrotic bone have occurred under my observation; and I remember one case of necrotic femur which broke as we were lifting the patient upon the operating-table.

Incidentally, there is danger of cancer in some of these cases, for Volkmann collected thirty-two cases in which old and fistulous passages became the site of epitheliomatous changes, and in which cancer was the final result.

[1] Congrès Français de Chir., 1877, p. 322.
[2] Paris, Thèse de 1892. [3] Lo Sperimentale, September 15, 1891.

SOME GENERAL CONSIDERATIONS ON PARESIS—IS IT A MICROBIC DISEASE?

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THE following paper is the result of the study of the clinical histories of over thirteen hundred cases of paresis, and is supplemented with a few of the great changes observed in over fifty autopsies. In such a large number of cases of paresis an observer is necessarily and perhaps unwillingly impressed by frequent anomalies in the clinical and histological features of a disease progressively involving the entire cerebro-spinal system and directly or secondarily interfering with every function requisite to life.

Paresis as already defined is a disease tolerably uniform and specially classified among the insanities and differentiated from other forms not only by somatic signs, but by an almost constant dementia and a general enfeeblement of intelligence; a disease of the body and of the mind, a morbid connecting link between the "material basis of mind" and immaterial entity; a disease that steers its own way in the whimsical classifications of insanities, and at the same time embodies every conceivable psychical type, with true dementia as a basis, and affective and intellectual disorder in bas-relief.

The etiology of paresis has not as yet revealed to us much that really enlightens as to the direct source of

the disease. We have only the complex conditions under which it may occur. In our present state we can say that two-thirds of the paretics have been immoderate drinkers; at least one-fourth have had syphilis; a small proportion have indulged in sexual excesses, and the remainder have been moral and temperate, and acquired the disease in the legitimate pursuits of life. Many have indulged in the entire category of supposed inciting causes. A rationalist will ask, Why should alcohol or syphilis or both cause paresis in man, and almost never in woman? or, Why should such causes produce in one paresis and in another a dementia wholly different? Syphilis and intemperance have existed almost since the advent of man upon earth. Paresis has grown upon us, or rather we have grown to recognize it, during the last few decades. Even admitting that the above mental strain and a rapid exhaustion and stasis of nerve force may cause or produce similar early symptoms or the prodromic disease, what causes its progression after these supposed causes have ceased to exist? The cerebro-spinal system needs only touching by this disease and the rest is done. A possibly novel or at least not generally known fact is, that paresis occurs frequently among the robust children of phthisical parents. Without any effort on my part, or special object in view, knowledge of this fact was impressed upon me by the very large percentage of phthisical relatives in the families of over thirteen hundred patients dying of paresis. Again, contemporaneous heredity, and its occurrence in two or more brothers or other members of the same family, where attributed inciting causes were not sufficient, may argue toward a predisposition. Paresis and phthisis may in some manner be related to each other in some mysterious etiological sense. Paresis is no respecter of persons, at least of men, neither does it select persons already infected with disease, unless the forerunner be either syphilis or phthisis. At times the materies morbi of these two diseases are interchangeable, and may not these impose their duties upon others, or could the already present schisomycetes undergo an autochthonous evolution and thereby produce a new micro-organism, the cause of paresis? While much may be found in the present etiology of paresis to substantiate the theory of micro-organisms, vastly more is shown at the necropsies and will be treated of later.

The characteristic or pathognomonic somatic signs of paresis are not many, neither are they uniformly and collectively present. While there is the widest range of disturbance of the intellectual sphere, the physico-motor phase of the disease in a large majority of cases is manifested by rather few but usually well defined symptoms. The psychical symptoms are first to attract attention; friends of the patient recognize something wrong, a change from the normal state; the physician recognizes the physical signs and the diagnosis is complete. The early recognition of psychical symptoms by friends and relatives is no criterion by which we can judge of the time of appearance of physical signs. It must be assumed that the psychical and motor symptoms of this disease appear simultaneously; clinical history substantiates this, and our present knowledge does not permit us to say that the disease selects preferably the "basis of mind" to that of motion.

Among the earlier manifestations of paresis we study the physiognomy. One long associated with paretics grows to recognize them almost at a glance. The expression in addition to being an index to the mind is accompanied by more or less permanent physical change, an asymmetrical lack of muscular and dermal tone. There is a lack of expression, a want of stimulation from the brain. A slight dropping of the lower jaw, a tendency toward roundness, especially when there is delirium of an expansive type present; or there may be a fixed, stony expression, a lack of that reaction which gives character to mental acts; later there is an increase of ideo-motor reflex action. The face at rest once put into motion brings out an entire new feature of the disease, a physical lack of proper co-ordination. Probably of all the physical signs of paresis none are more pathognomonic than a slight clonus of the upper lip on retraction, not in all cases observed, but when present needs fewer associative symptoms than any other to establish a diagnosis. The presence of fine fibrillary tremor in the upper eyelids on easy closure will reveal remarkably slight loss of co-ordinating power. Tremor of the tongue is rarely absent. Any or all may be present; at times they are transitory, disappearing after treatment. Leaving the face we examine the hands by placing the finger-tips on the dorsal surface of the interdigital folds, and the same distinct fibrillary tremor is felt and is frequently accompanied by a fine crepitation. Lastly comes the knee-jerk; be it either exaggerated or diminished it has weight in the general phenomenon, and is of much more value when increased than diminished. In testing the knee-jerk in this disease the free hand should be placed lightly upon the quadriceps and its contraction estimated; the arc subtended by the foot does not always fairly represent the increased irritability, and depends on the tonic state of the muscle at rest. There may be a violent contraction of the muscle and but little response in the foot. The foregoing symptoms must be associated with some evidence of mental disturbance, transitory or permanent, or with vertiginal attacks, or temporary loss of speech, or hemi-paresis, and the diagnosis will be positive. There is a diagnostic value in this association of symptoms that cannot be overestimated, no matter how slightly developed. Out of five thousand cases of insanity in the male, the nearest approach to this chain of symptoms was exhibited in a few paranoiacs, about the only difference being in the character of tremor, which in the latter was coarse and more general in distribution, and obviously due to emotional disturbance and a maligned feeling. Acute alcoholism may confuse one for a short time; in such cases the diagnosis should be in abeyance. Pupillary symptoms usually come later in the disease, and little early change may be sought for other than a slight akinesis and decrease in range of action in the iris. Myotic and spastic pupils are of serious import and may be prodromic; if "pin-holed," a long course of disease may be premised. Probably not more than five per cent. of cases will present this symptom, usually alcoholics or rheumatics over forty; at times it appears to be merely concomitant and from a different cause. There is a remarkable acuteness of vision in such patients, but they require more light.

Some detail of the psychical disturbances in the early or prodromic stage of the disease will not be out of place, as we assume that mental reductions must always be present; they are the result of external psychical stimuli and the increased reflexion from spontaneity of thought. The prevailing impression is, that paresis is accompanied by expansive morbid delirium; this to a certain extent is true, but misleading; probably more than one-fourth of all paretics pass entirely through the disease without manifesting l'alienation ambitieuse; once exhibited there is no symptom, psychical or motor, of more diagnostic value. Transitory expansive alienation, in fact a single sentence in this tenor, has given many a clew; "this clew once found unravels all the rest." The early psychical symptoms are commonly a mere absent-mindedness, not wholly inconsistent with perfect health; at times mental restlessness or unrest, broken by a painfully acute perception of something being wrong or a morbid fear of death.

At the present time public knowledge of paresis is so wide-spread that it is not unusual to receive patients who knowingly are afflicted. Such patients are given at times to a painful self-consciousness, and pitifully appeal to the physician for help. A recent case said that his greatest ambition was to die, and prayed that his life might be speedily taken. Transitory al-

ternating states of depression and exaltation, however, soon flicker and are smothered by progressive dementia. Leptomania, where the morbid desire is accompanied by an irrational act, is common. A sense of confusion is present with a bewilderment, during which mental inhibition is lost and ludicrous; sometimes marvellous feats are performed. Vague and indescribable sensations and hallucinatory sounds are often prodromic. One patient spent months trying to grow a pansy to the size of a sunflower, and ransacked Jersey for rich earths; finally he became irritable and morose, and a menace to his family. Another purchased six clocks. A third, after many wonderful experiences and hair-breadth escapes, extending over a period of one year, presented himself at his mother's door at one o'clock in the morning with two red lanterns swinging on his arm; so on *ad infinitum*. There is a change in demeanor or habits toward spendthriftiness or demoralization; attempts toward insuring one's life without appropriate means; gamomania and the consummation of the desire by the act: the predicament of having more than one wife is pleasing enough when one's turrets are armored with dementia. Rarely is there anything like distinct sexual perversion. Expansive ideation (megalomania) is usually a later manifestation, but may be present from the beginning. The ordinary psychical course is first an indefinite period of mild mental deterioration with some confusion of ideas or apathy; during this stage purposeless acts are performed. Then follows a short period of depression during which homicidal or suicidal tendencies develop. Mental stasis followed by an æstheticism and delirium of grandeur complete the cycle.

It is impossible here to detail at length the premonitory symptoms in many cases. I will refer merely to those of a single case. A patient at present thirty-seven years of age, whose mother died of phthisis, and whose sister is suffering from melancholia, had syphilis nineteen years ago. He was treated in the Hamburg (Germany) City Hospital, and was informed that he was "cured," as the profession at present accepts the term. He married nine years ago and has three healthy children; has been a moderate drinker, and states as follows: "I was apparently in good health four years ago, but began to suffer from insomnia and headaches to a slight degree only, when previous to retiring one night I felt a heavy feeling around my chest and went to the window to get more air and then to bed. I did not sleep; was sitting up in the bed when suddenly everything seemed to pass out of sight; then I felt a burning sensation as if I was being cut in two lengthwise with a knife. I lost consciousness for a few seconds; on regaining it I felt an intense burning all over my body, which I could not cool with water. I was then weak on the right side and unable to speak distinctly, and my head felt as if an iron cap were being pressed down upon it. In two days I had recovered my usual strength and went to work. I continued to suffer from insomnia, and began to worry about my future and family, and suffered from headaches and pains in the right leg and knee and over the spine; these symptoms lasted over two years." The patient's friends state that during the past two and a half years he has been more or less at times confused, mildly excitable and emotional, and during such periods has had difficulty with his speech. He lost his position, and through unreasonable jealousy became a source of apprehension and a menace to his family. With the above premonitory symptoms of nearly three years' standing the patient was admitted to this institution one year and a half ago, presenting the following somatic signs: His pupils responded to both light and accommodation sluggishly, were regular, and the left showed a slight paradoxical reflex. There was a marked tremor of the upper lids on closure, a slight clonus of the upper lip, and a fine fibrillary tremor around the margin of the tongue, which was moist but deeply fissured. There was a crepitation of the hands and the usual tremor. The knee-jerk was slightly diminished. The above conditions continued to exist in spite of antisyphilitic treatment. The grandiose ideation was shown in a single letter which he wrote to a friend; in this he characterized himself as "like to Him." The dementia was seen in the accumulation of trash in his bed. It is needless to state that he is well on in the trodden path, far beyond "old sheet-anchor iodides." There are many reasons why I have chosen such a case for illustration: First, the typical paretic is represented; secondly, those who believe in a pseudo-paresis will find solace in syphilis; again, the long period of prodromes furnishes almost every prominent psychical symptom of paresis to a certain degree. Such cases have been called syphilitic peri-encephalitis. If there is any positive means of demonstrating that this patient's disease is syphilis, then I shall believe that syphilis and paresis are convertible terms. Similar cases to the above are of common occurrence. The danger in diagnosing syphilis will only be fully appreciated by those who have seen identical cases without either syphilitic, phthisical, or neurotic predisposing or contributing causes. Is paresis an atavistic anomaly of syphilis, or can we differentiate supposed causes until we are compelled to individualize a new micro-genesis? Again, is it not possible that the specific virus of syphilis in passing through generations of men has been modified so as to become the progenitor of a xenogenitic cause of paresis?

The tabetic type, and in fact all other "types," of paresis are, as we progress in knowledge, being absorbed by the disease proper. At one time there existed in the minds of some a co-relation between paresis and tabes. It is a notable fact that in less than three per cent. of paretics do we find the classical symptoms of tabes, and in the male asylum of this city there are at present as many melancholiacs and terminal dements as paretics with such symptoms. Their co-relation is certainly not semeiological. Paresis is accompanied by no "type" of cord affection. The cord as a part of the cerebro-spinal system is nearly always subjected to the ravages of this disease, and may be primarily so affected; but there cannot be a co-relation in the degenerative or sclerosed sense. There may, however, be a common etiology, by which cord disease (not necessarily tabes) and paresis are related; if so, it is a mere chance in a hundred that the posterior columns are the first foci of infection. Paresis is no more a respecter of the cords columns than it is of men; the morbid appearances after death indicate this and exclude no part of the cerebro-spinal axis. Looked at in the sense of a localization of a general disease, the concurrence of tabes and paresis is a mere coincidence. If paresis attacks the cord first it will attack the cortex eventually, just as certain as when it attacks the cortex only the intervention of death prevents the disease from involving the cord. All that necropsies have yet shown indicate that paresis attacks through the circulation and not through psychical nonentities.

Duration of Disease.—This is not at variance with the other general features of the disease and shows the widest range. Thirteen hundred cases were under asylum care an average period of eleven months each, and had an average duration previous to admission of fifteen and three-fourths months each; this would make a total average duration of twenty-six and three-fourths months, and may be considered as the minimum average, it being difficult to obtain accurate data as to the invasion of the disease in some cases. A less number of cases with more accurate histories raised the average to about twenty-eight months. The duration of treatment, or period of asylum restraint, in the total cases does not equal the period of duration previous to admission, a unique feature, and argues that the greater portion of the paretic's diseased life is spent in a state of quiet dementia, motor disturbance predomi-

nating throughout the disease. In the entire number the duration was under five years in twelve hundred cases, from five to ten years in eighty-six, from ten to fifteen years in twelve, and for twenty-five years in one and thirty-five in another. It might be a source of "professional pride" to know that fourteen years ago some of our expert alienists were called to testify in a then well-known case brought into court on a writ of habeas corpus and discharged as sane, in spite of their testimony of existing paresis; that the patient died only a short time ago after an attack of fifteen years' duration. After having passed through a complete cycle of mental phenomena he settled down into a state of quiet self-contentment and dementia, for years manifesting no other somatic signs than spastic myosis and a very slight fibrillary tremor of the tongue, hands, and lips. Approaching deterioration was observed several months previous to death by increased loss in co-ordinating power only. He was suddenly attacked with convulsions, apparently of the respiratory and cardiac type, the temperature rapidly reached 106° F., and death ensued in a few hours. Owing to a liability at any time to convulsive attacks, dural hæmatomata, or hydro-meningitis, it is difficult to prognosticate the duration of the disease. Younger men seem to suffer more acutely and to give way to the disease earlier and easier than men of forty years and upward; likewise, they are more liable to maniacal attacks and morbid impulses. Affection of speech and expansive delirium, accompanied by motor excitement, paralysis of sphincters, and the "Romberg" symptom, mean progression and an early termination, although such extreme cases may remit and pass into a state of quintescence and life be prolonged for years.

Thirty-two nations and over two hundred and fifty occupations are represented in the death-roll from this disease in a single asylum. America takes the lead with 436 white and 48 colored; Germany furnishes 335; Ireland, 244; England, 71; France, 31. The balance is about evenly divided between twenty nations, and includes two Chinamen. This is not a very bright showing for the native-born in an institution where over two-thirds are of foreign birth and over eighty per cent. of foreign parentage. There may be a greater morbidity at home; this we will not discuss at present.

There is a general impression among the laity and some of our profession that paresis prevails largely among those who follow the stage; this cannot be substantiated by facts. While that profession cares for its own to a greater extent than does any other, a large portion of its paretics go to private institutions. I may state that the medical profession and that of law furnished equally as many cases for the great charitable institutions. In the entire number of cases of death from paresis only 8 were actors, 7 lawyers, and 5 physicians. The ministry was not represented.

Without going into any extensive detail, I will state that no profession, trade, or occupation, predisposes to paresis. Investigation shows that the out-door and sedentary occupations each furnish their quota. The ordinary laborer takes the lead with 109 cases, followed by 59 clerks, 45 tailors, 37 drivers, 35 bartenders, 32 painters, 32 cigarmakers, 31 carpenters, 29 salesmen, 28 shoemakers, 26 waiters, 23 merchants, 20 machinists, 16 printers, 16 butchers, 17 bakers, 16 barbers, 16 engineers, 15 pedlers, 14 cooks, 13 musicians, 13 porters, 12 blacksmiths, and so on down through over two hundred different pursuits, with a single representative of the Rogues' Gallery, No. 1,878. Vital and mortuary statistics show that man's means of livelihood is not an etiological factor in this disease, and leaves an inherited tendency as highly probable, and a common cause staring us in the face.

Age at Death.—It will be seen by the following table that paresis rarely occurs during adolescence, and while it frequently attacks early manhood, it usually selects its victims from those mature in years. Thirteen hundred deaths were distributed through the various periods of life as follows:

Age at Death.	Cases.	Age at Death.	Cases.
20 to 25	4	50 to 55	152
25 to 30	72	55 to 60	89
30 to 35	173	60 to 65	53
35 to 40	250	65 to 70	20
40 to 45	272	70 to 75	2
45 to 50	212	75 to 80	1

Making due allowance for the duration of disease, it will be observed that paresis occurs most frequently between the thirty-fifth and fortieth year, and the greater number die between the ages of forty and forty-five. Statistics in this country vary but little from those already taken from abroad in this respect. If there really was a greater morbidity with us, it would probably be exhibited by an earlier manifestation of the disease. The above would indicate that paresis does not usually begin until the age at which acute diseases most frequently occur is passed. The immunity of nerve structure against disease is well known. The frequent occurrence of paresis among the robust—those "never sick a day"—would hint at immunization of those who had suffered from other acute infections against paresis. The effects of acute infection of the cerebral cortex from disease, as ordinarily seen, are deliria of transitory nature. What is there in paresis that prolongs that state and adds to it a destruction of every accessible part of an entire nervous system? No disease manifests the persistent progression of paresis; its function is to destroy. There may be an acquired immunity that we have not yet discovered. Paresis gathers in the phthisical and syphilitic human residuum of prolonged subsidency, and well on in the road of life, beyond the age where sexual excesses most weaken and nerve-cells least resist.

Finally, it may be well to offer more substantial aid to the cause by a few microscopic observations on the paretic brain. It is these, more than all others, that tend to convince one, after frequent autopsies, that paresis is micro-genetic in origin. It is a remarkable fact that in this disease there is a characteristic uniformity in the morbid appearances of its earlier stage (when death occurs through intercurrent disease), while the late appearances are in a true sense panoramical.

Only a small percentage of paretics die in the extreme stage of the disease. Exhaustion from maniacal excitement, frenzy, and depression, malnutrition and insomnia, epileptiform convulsions, dural hæmatomata, and morbid accumulation on one hand, and intercurrent diseases on the other, carry off nearly ninety per cent. of the cases. The final typical paretic stage is rarely seen; that is where the entire cerebro-spinal axis has been extensively involved. In such cases the fœtal posture is assumed, the extremities become atrophied, and are rigidly flexed; decubitis appears over the prominent parts; paralysis of the sphincters has occurred long since, and with a spark of intelligence there remains only the more invincible trophic centres to complete the annihilation. In this stage even, they may greet you with a smile, a mere consciousness excited by a presence, and possibly an attempt at speech; the eyes seem bright, and there seems to be a playful, flickering mind quietly carousing with and cajoling death. Consciousness, or the mind we associate with a material basis long since destroyed, loathes to leave a body now inert. The destruction of cortical substance in two such cases was almost complete, and apparently caused by advanced and extensive lepto cerebro-spinal meningitis. The sub-arachnoid trabecula and the spinal canal were almost filled with pus. The cauda equina was simply macerated and the posterior nerve-root sheaths were dripping with pus which had evidently originated within the spinal membranes and percolated downward. The sulci over the vertexes

were filled, and in places the gyri were decorticated by the distention from pus within the epicerebral space. In the second case the pus was confined to the subarachnoid space, and in a third it was subdural. The inflammatory effusion had not yet appeared in the basilar cisternæ; they contained only congested capillaries. The cisternæ fossæ Sylvii were filled with pus. The arachnoid over the interpeduncular space was opaque and thickened, but no pus was observed; the subarachnoid sinus was empty. The spinal and cerebral meningeal affections appeared to be contiguous; the disease was equally advanced in both brain and cord, with a strong possibility of the cord disease being either metastatic or having had an independent foci of infection. I have not as yet found a case in which leptomeningitis of the cord alone existed. In one case alone was there pus in the cerebral sulci and none in the spinal canal.

It is probable that the disease when well established eventually involves the entire cerebro-spinal membranes. In the most advanced case the lateral ventricles were dilated to three times their normal capacity, their ependyma much thickened and shrivelled, but very tough and leathery, and not granular or latticed over the surface as is usually the case in ependymal inflammations. Two of the cases apparently presented three independent foci of infection—the cortex, spinal membranes, and ependyma. Almost every advanced case of paresis presents some marked or peculiar pathological appearance.

The above were cases in which there was an extensive purulent exudate seemingly of inflammatory origin. In wide contrast I may mention two cases in which the changes were apparently degenerative and necrotic; clinically they did not exhibit the trophic disturbances, so marked in the former cases; there was no decubitus, no muscular atrophy, no contracture of the extremities. The cords presented little to the naked eye other than thinness of the meningeal vessels. The degenerative changes were far advanced over the cerebral vertexes. On removal of the dura the cortex presented diagonally across the vertex an undermined and sunken appearance. The gyri in some places retained their full rotundity, but were depressed to a much lower level than the surrounding parts. In places the membranes were entirely absent and the gyri presented nude. The disease extended in this manner from the left supra-marginal gyrus to a width of 75 mm., and proceeded forward and upward toward the vertex; reaching the paracentral lobule it cut several wide, deep notches, and completely destroyed the gray cortex in this region; reaching the cerebral falx it seemed to ricochet, leaving the cingula intact, and appeared again on the opposite (right) side in the exact location on the paracentral lobule, proceeded about the same distance and width, and ceased at the gyrus frontalis medius. The meningeal remains over the entire diseased surface was of a rusty color and extremely thin and pellucid. In this case the lateral ventricles were filled with a clear, straw-colored albuminous fluid, specific gravity 1.010, and of slightly alkaline reaction. There was no ependymal granulation or sclerosis. In the second terminal case of this type of late degeneration the disease appeared to have exhausted itself along the pars horizontalis of both hemispheres; a double chain of depressions, necrotic softenings following cystic degeneration, reached the entire length of the fissure, and each angular gyrus presented gelatinous cysts about the size of a hazel-nut, beneath which the gray cortex was entirely perforated by the necrotic degeneration. Over such necrosed spots there was in many instances a mere pellucid film sometimes encysting a transparent fluid.

In the above cases both an inflammatory and degenerative terminal state of the disease are shown, and these in the cortical envelope. I would here desire to show from a pathologico-anatomical view another type of the disease, viz., that in which the disease locates itself upon or beneath the ependyma and within the ventricles. In such cases only the earlier cortical changes were observed. The ordinary granular ependyma occurred in about ten per cent. of the cases, and included both the syphilitic and non-syphilitic. It is possible that this granular state may be an early manifestation of another form of ependymal disease. In two cases where the ependymal changes were prominent, there was an entire absence of anything like granulation. The morbid processes were exerted in the floor of the lateral ventricles, usually in the anterior horns or the cella media. In one case there was a large area of necrosed neuroglia implicating the stria cornea and the tail of the caudate nucleus; the morbid process had obviously begun on the under surface of the ependyma and proceeded downward into the basil ganglia; the membrane itself was thickened and on its surface presented a latticed appearance, and there was an entire new connective-tissue-like formation; this state of affairs also existed in the floor of the fourth ventricle in both cases, but was not accompanied there by necrotic changes in the ganglia beneath; there was a true heteroplasia extending over the whole ependymal surface. The necrosed cavities were empty; the serous membrane above not distended but somewhat shrivelled and sunken into the space caused by the absorption of the products of disease.

Throughout the whole number of autopsies the advanced cases more frequently showed degenerative than inflammatory changes; the suppurative conditions were probably consecutive. However, it must be apparent to one making many autopsies on paretics that the disease is not strictly cortical, and may first select the cord, or, perhaps rarely, the serous lining of the ventricles. There is no reason why paresis, if it is the localization of a general disease, might not as easily first locate itself within the inner vascular cerebral system as in the cortical envelope. The common-cause theory will eventually assert itself. The cases described were all said to have been "fast livers;" two had stricture of the urethra, one gave history of specific disease, and two were negative. I am not prepared to say that all or any were free from syphilitic infection; but there was an entire absence of gummatous deposit in the nerve structure. If syphilis presents all the pathological manifestations of paresis, then our present knowledge of cerebral syphilis is wofully meagre. It is said by some that syphilis causes pseudo-paresis. I have noticed that the "pseudo-paretics" are subject to iodism and die in the allotted time given to the true disease. There can be no neutral ground; paresis and syphilis may be convertible terms; but it is difficult to believe that syphilographers have been waiting for a century or more on students of paresis to discover the brain lesions of their disease. Syphilis may present different types of virility, if so the "paretic type" is the most virile.

The theory of a psychical paresis has long since been discarded by investigators. The common and constant vascular changes seen on the autopsy table tend to relieve one's mind of theorizing on the mysteries connecting psychical reduction with paresis in an etiological sense. It was not "that which has escaped" that acted on the living matter to produce paresis. It is also time that the Rolandic area and paresis were divorced. The motor cells in this area suffer no more than other cells suffer in other areas; and we certainly cannot connect a general loss of voluntary muscular control and co-ordinating power with this specialized cortex, its clusters, or its laminations.

In conclusion I would reiterate that the future of paresis depends on the discovery of a common cause; that preserved, sterilized, and hardened specimens of the paretic brain will be searched over as ruins only, and their value will be in the sense of a connecting link between paresis and what was once physiological.

THE ALLEGED PARASITE OF MALARIA.

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THAT the red blood-corpuscle is not always round in shape has long been known. Quincke saw peculiar-shaped corpuscles in pernicious anæmia and called them poikilocytes, and at one time regarded them as characteristic of that disease. While it is true that these peculiar shapes are best seen in pernicious anæmia, they do occur in many conditions. Their exact nature being unknown, they were simply denominated poikilocytes. Friedreich and Mosler were first to see distinct amœboid processes in a few instances in the red blood-cells of pernicious anæmia, and Jaksch too made this observation and says: "Ich möchte geradezu behaupten, dass durch die Eigenschaft der rothen Blutzellen, in abnormen Masse contractil zu sein, das Bild der Poikilocytose entsteht."[1] And this theory of Jaksch I regard as the proper one. Owing to some poison in the blood the cells are stimulated to abnormal contractility, while ordinarily they remain more passive; in the same manner in which the white blood-corpuscle, ordinarily round, may under certain influences as heat, acids, etc., be stimulated into activity and show varied shapes. I saw and described amœboid processes in healthy blood while experimenting with methyl blue in 1893.[2] And again I saw and described contractions in red blood-cells—see articles, "The Pathology of Pernicious Anæmia,"[3] and "Have the Red Blood-corpuscles Amœboid Movement?"[4] Contractions in the red blood-cells and distinct amœboid processes were seen and described by me as physiological processes, and for this I claim priority.

Further observations on this subject only tend to confirm those previously made. In about fifty examinations from the blood of a patient now lying in St. Catharine's Hospital I saw time and again, and likewise demonstrated to several colleagues, the polymorphic picture represented in the figure. The blood was examined fresh without the warm stage, and strange to say, many of the cells exhibited motion. A bird's-eye view of the figure will show many cells which have sent out prolongations in different directions, such as occur in the white blood-corpuscles, and which cannot be anything else but amœboid processes. The cells in this blood varied much in size; some were small, while others were large, only a few retaining their rounded outline and inactive, motionless state, while most cells were very irregular in contour and showed distinct movement. A few of the smaller cells were actively mobile, constantly changing shape and exhibiting inherent contractions, while in some cells only the prolongation—the amœboid process—could be seen faintly yet distinctly moving back and forth.

In No. 1 of the figure the artist has sketched the different shapes which he saw under the microscope within one minute, which we regard as quite active movement. I placed the cell in the centre of the field and let him sketch what he saw after that—and ask no questions. The two last cells in No. 1 show what took place within thirty seconds. In No. 2 he reproduces what he saw within one minute in another cell which I placed in the field for him. In No. 3 he reproduces different cells which I placed in the field successively, and we note their irregular outline and peculiar bodies in the protoplasm of the cell. In some cells we see small round bodies, while in the other cells we see larger irregular-shaped bodies. In No. 4 we see peculiar-shaped cells, and a few showing these irregular bodies within them. No. 5 shows irregular-shaped cells, a few containing round or irregular bodies, and the last contains a large irregular body partly within, partly without the cell. This body is nothing more or less than a red blood-cell itself lying on, not in, another cell, and may be mistaken for a parasite. In No. 6 a few of the cells in this series show long and distinct amœboid processes. The peculiar body in this series, partly within and partly without the cell, is merely another red blood-cell undergoing movement and could be mistaken for a parasite. In Nos. 7, 8, and 9, cells may be seen in different phases of amœboid movement, and a few contain irregular-shaped bodies within them. No. 10 shows a small red blood-cell which was actively mobile. I placed No. 1 in the field, and within thirty seconds it had assumed the changes in shape depicted in Nos. 1, 3, 4, 5, and 6, and the artist endeavors to show the relative change in position which it took within that time from No. 1 to No. 6. The larger body in the centre is a red blood-cell only slightly altered in outline as compared to the others. Now, in looking at the

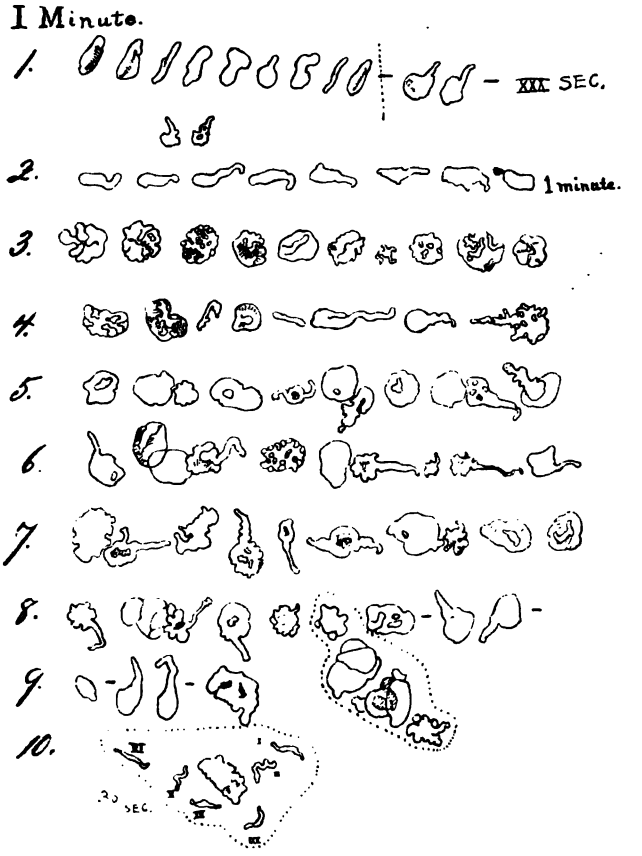

figure we have a very polymorphic picture, one which we are not accustomed to see in ordinary blood examinations. In No. 10 the cell is so altered in shape, or rather it is undergoing such alterations during life, as to be mistaken for a worm or parasite.

The question arises, What are the peculiar bodies within the cell? I regard them as degeneration products and not a parasite. In fact, when we compare these bodies with what has been described as the plasmodium malariæ, and when we consider how actively mobile a few of these cells and how altered their appearance may become, there may be a suspicion that that the life history of the cell has been confounded with that of a parasite—the plasmodium malariæ of Laveran.

In reviewing the literature on the plasmodium we see that no two authors are agreed as to what constitutes the parasite. It is true that oval bodies varying in size, some within the cells and some free in the blood, exhibiting active amœboid movements, have been described. But the red blood-cell itself may vary much in size and exhibit active amœboid movements. It may become oval, semi-lunar, or crescent-shaped,

[1] Klinische Diagnostik, p. 27.
[2] MEDICAL RECORD article: Have the Red Blood-corpuscles a Nucleus?
[3] New York Medical Journal, July 21, 1894.
[4] MEDICAL RECORD, August 11, 1894.

scythe-like, etc. In short, it manifests the same polymorphism as does the plasmodium malariæ, and we fear that possibly we may have confounded, at least in some instances, these two, and naturally ask which is which? The presence of pigment simply means that degenerative changes are taking place in the cell, but shows no relation to a parasite. The patient from whom the blood examination was taken has been in the hospital some three months. The case in question, to be brief, has been diagnosed by different physicians as pernicious malaria. She was very, and is still slightly, anæmic, has had irregular chills, and now and then vomiting. No enlarged spleen or liver. Whether the case is one of malaria or not, microscopical examination of the blood showed what the figure represents. The blood at times contained free pigment. Now, until the plasmodium malariæ of Laveran is demonstrated outside of the blood or outside of the body, we become perplexed and hardly know which is which. The question naturally is asked, if what I describe are the varying phases in the life cycle of the red blood-cell, why is it we do not see them oftener or ordinarily when examining the blood? The red blood-cell generally is round and exhibits no amœboid motion unless it be placed on the warm stage, and there the motion is slow. But is not the white blood-cell ordinarily round, in a passive condition, unless when stimulated by certain factors it becomes active? And so here, in the case in question, owing to some poison or "noxa" in the blood, the cells are stimulated to abnormal activity, and retain this activity when we examine the blood, and, as in this case the cells retained their vitality for an incredible length of time (in some cells over five hours, and in a few over twenty hours), and I repeat the blood was examined fresh without the warm stage. Now, this activity in the cells, coupled with degenerative changes with the cells, and the presence of pigment, may have led us to believe we were dealing with a parasite. At least, I feel as though I may have been mistaken in my previous observations, and I am at a loss now to say which is which. Let me ask why do we not see karyokinetic changes in the nuclei of the red blood-cells as often and as constantly as we see them in infantile pseudo-leucæmia, or why do we see them at times in the nuclei of the white blood-cells in the leucæmia of adults? Are these not physiological processes, part and parcel of cell life? And yet ordinarily the nucleus, like the cell itself, is round, or, as in the case of the white blood-corpuscles, at most a little irregular, but not in process of mitosis. This subject is a little large and requires a little review.

My thanks are due Mr. Charles Perpente, who made the drawings, and who would not be so apt to draw on his imagination as I might have done, had I made them.

158 Ross Street.

Another Quarrel between Hospital Staff and Board of Managers.—We are informed by the *Medical Sentinel* that the entire medical staff of the Portland (Oregon) Hospital resigned recently in order to uphold one of their colleagues, whom they evidently thought was in the right. The Board of Trustees accepted all their resignations, and promptly appointed a Homœopathic staff instead of the previous regular one.

Mercury in Heart Disease.—A correspondent of *The Lancet* reports the case of a patient who, in the course of fourteen years, took over twenty thousand blue pills of three grains each. The patient was suffering from heart disease, and had been given up by his physicians. The persistent use of mercury, however, brought him out of his moribund state, and he continued to take his three grains or more of blue pills every night for fourteen years. Whenever he stopped the use of the drug the symptoms began to return. He asserted that his continued use of mercury never produced any diarrhœa or salivation.

TWO CASES OF AN UNUSUAL PAPULO-PUSTULAR AND FUNGOID BROMIDE OF POTASSIUM ERUPTION IN BABIES.[1]

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The question of cutaneous eruptions, the result of the internal administration of drugs, is one of peculiar interest to both the dermatologist and the general practitioner. The former sees many artificial conditions of such origin, which simulate in their clinical phenomena well-known skin diseases of entirely different origin and causation, and the latter is often confronted by cutaneous processes of his own making, which he fails to recognize, as the result of the drugs given by him, but he refers them rather to some peculiar and unknown cause, and regards them as an unfortunate complication of an existing disease. In consequence, I do not think an excuse is necessary in calling attention to such a *banale* subject as bromide of potassium eruptions, in view of the severe and exaggerated examples of the effects of the drug to which I would call your attention in this paper.

Case I.—E. M——, female, aged nine months, came under my care June 5, 1894. Though born at full term and well nourished, she had always been susceptible to catching cold. When four months of age she had had tonsillitis, followed by a bronchitis, which had persisted for several months. During that time she had received some medicine, the nature of which could not be ascertained. When five months old she had developed a tonsillar abscess, which was opened four times. In the beginning of March an abscess, originating apparently from the same region, was opened externally on the left side of the neck, and a little later another one was operated upon on the right side. Prior to the opening of the first abscess the baby had been taking syr. ferri iodidi, gtt. xv. t. i. d. for two weeks, and shortly after the operation a diffuse erythematous eruption had appeared over the trunk. The exact duration of this "rash" was not ascertained, but it was stated that the iodide of iron was continued until March 30th, and the first eruption had been gradually succeeded on the body, the face, and the scalp, by crops of small pinhead-size pustules, which had dried up into small crusts and had left no trace of their presence.

Owing to an increase in the bronchitis the iodide of iron was discontinued March 30th and a mixture containing in each dose bromide of potassium, grs. iiss., acetat. of potass., gr. i., and a few minims of buchu, hyoscyamus, and Elixir of Calisaya was given every four hours. The pustular eruption then became more abundant and appeared on the legs, the arms, and over the body generally. These new lesions were larger and more deeply seated than the former ones; they did not dry up into crusts, but tended to increase in size and to become more prominent. The same medicine was continued until May 7th, and then the bromide was increased to grs. vss. every four hours. May 13th a further increase was made, and the baby received grs. xiss. every four hours, and this dose was kept up until June 5th, when she came under my care. The mother of the child was a very sensible and conscientious woman, and she told me that she had followed literally the instructions and had given her baby the mixture every four hours, or six times daily. She also furnished me with copies of all the prescriptions, and from them I have calculated that the baby had received from March 30th to June 5th, 2,376 grains of bromide of potassium.

The child was fairly well nourished when seen by me. Her mother nursed her. There were no gastro-

[1] Read at the meeting of the American Dermatological Association, held at Montreal, September, 1895.

intestinal disturbances and the bowel movements were normal in regularity, consistency, and color. She still had some bronchitis, however, and was decidedly anæmic. The eruption was very generally distributed over the body. Its primary lesion was a tense, deep-seated, and prominent papulo-pustule, varying in size from a pinhead to a small pea, and round, oval, or elongated in shape. It was surrounded by a narrow red zone, and sharply delimited toward the surrounding healthy skin. In the course of its existence it enlarged slowly to the size of a three-cent piece or larger, became prominent and covered with a yellowish, clear, glazed coating, beneath which yellow miliary points of pus could be seen, or progressing still further, it became elevated and fungoid in character, and covered with thick, soft, black or greenish, crumbly crusts. The base upon which these rested was fungating and studded with miliary abscesses. Many pigmented and dark-red stains were also present, the sites of lesions, which had already undergone involution. On the scalp papulo-pustules and crusts were alone present. On the face small and large pustules were noted, and on the cheeks a few prominent, champignon-like growths. Only few of the lesions had attained this development on the trunk, and here only pinhead and a little larger papulo-pustules were seen. The extensor surfaces of the extremities were severely affected, and the flexors to a very much slighter extent. On the arms a large number of fungating growths were grouped together, though still remaining discrete, but on the legs confluence had taken place, and diffuse patches were found extending from the ankles nearly up to the knees.

To judge by the behavior of the child, itching was not a feature of the eruption, though it is possible that it was painful, in view of the baby's restlessness and insomnia. In treating the child, absolute discontinuance of the bromide salts was primarily directed. Its functional health and its hours of nursing were properly regulated, and a tonic suitable for the existing anæmia was ordered. Externally an ichthyol ointment was applied to the lesions. Retrogression began very quickly and continued steadily, though for some weeks new pustules appeared, but were, however, of ephemeral duration. By the end of August no traces of the process remained except numerous scars marking the sites of the former growths.

Case II.—F——, male, aged six months, was brought to me June 15, 1894. He had been born at full term, was healthy, and well nourished. He had been, and was still, nursed by his mother. No gastro-intestinal or other functional disturbances existed. About the middle of May he had developed a bronchitis, and had become restless and sleepless. May 21st his physician had given him

℞. Kali bromidi,
Sodii bromidi.....āā ʒ iss.
Syr. acaciæ..... ʒ iss.
M. Sig.: One-half teaspoonful every hour until the cough was quieted.

Calculating the dose ordered as representing thirty minims, the baby received three and three-fourth grains of each of the bromide salts each time the medicine was administered. This mixture was continued for four days, but was stopped May 25th, the baby's temperature having risen to 103° F. It then received

℞. Aconite..... gtt. xij.
Tr. opii. camph.
Spts. nitrosi dulc.
Spts. mindereri,
Syr. scillæ ..... āā ʒ ii.
M. Sig.: Fifteen drops every two hours.

At the end of a few days, the temperature having fallen and the baby's condition being improved, the original prescription of bromide was substituted for the aconite, etc., mixture, and given up to June 4th. On June 7th, the bronchial symptoms becoming worse, the child again received kali bromidi, two grains in syrup, every two hours, and this was continued until the 12th, or three days before I saw him. The cutaneous eruption had begun about June 1st, but had been slight and received little attention. It had subsided somewhat when the first bromide mixture had been stopped, but it had increased in quantity and in severity after taking the one given on June 7th.

When examined by me the baby was found to have an eruption distributed quite abundantly over the scalp and the face, and also here and there on the extremities. It consisted of papulo-pustules, about the size of a small pea, or smaller, which on the scalp had formed around a hair-follicle. Many of these lesions were pierced by a hair. These primary lesions had enlarged on the extremities to the size of a penny, and they were prominent, sharply defined, surrounded by a narrow red margin, fungoid in appearance and covered with a glazed coating, below which minute miliary pustules could be seen clustered and aggregated together. In some instances thick crusts had developed.

In treating the child all the bromide salts were discontinued, and ichthyol was used locally. In a few weeks the skin was again normal. No perceptible scars remained even at the sites of the larger lesions.

The histories of these two cases thus show that an eruption of a severe type and of wide distribution, consisting primarily of papulo-pustules, and later of discrete, aggregated, and confluent fungating and crusted lesions, appeared after the ingestion for a more or less long period of time of a certain drug—bromide of potassium—and continued cropping out during the entire period of its ingestion, but subsided after its discontinuance. These particulars of origin, course, and involution represent the crucial tests determining the relation between a drug and an eruption, and being so decidedly apparent as they were in these two cases, it is perfectly proper for me to connect together the cutaneous disturbances observed and the bromide of potassium in the position of cause and effect. The great differences noted in the severity and the extent of the eruption in each of these cases are not of importance, in view of the fact that in Case I. the bromide was given for several months and in excessive doses, while in Case II. it was administered for only a short time and in such quantities as could or would be given with entire safety in the majority of cases. Besides, it must not be forgotten that the first baby received daily, for more than a month prior to the administration of the bromide of potash, forty-five drops of the iodide of iron, an inordinate dose for its age.

It is a well-established fact that a bromine following an iodine compound will lead to exaggerated and intense cutaneous effects, and it is therefore not surprising that in this case the baby was so severely affected, so much more so than was the subsequent case which came under my care. Independently of the bromide of potash effect, the eruption which occurred while Case I. was taking the iodide of iron is most interesting. There are few cases mentioned in literature of the iodide of iron producing any cutaneous manifestations of iodism, though there is no reason why it should not do so, since it is not a very stable iodine compound, and the union between the two is easily dissolved, each then existing free in the solution. The eruption which did occur in the case (Case I.)—an erythematous rash followed by one which was papulo-pustular—was such as iodine produces, and the increased bronchial symptoms which developed with the administration of the drug certainly suggest that the baby was suffering from general iodism. It may be claimed, however, that the early erythematous rash was a toxic erythema unconnected with the iodine, but resulting from the tonsillar abscesses through absorption of toxines; or it might be regarded as one developing from shock after

the operation of opening the abscesses. Such occurrences are perfectly possible, and rubeloid, scarlatiniform, and papulo-pustular eruptions have occurred very commonly under such circumstances. Such eruptions are, however, accompanied by febrile temperature, systemic symptoms of grave import, are usually of short duration, and very commonly followed by desquamation of the epidermis at the end of a very few days. None of these features were, however, met with in this case, but the rash persisted for a while and then disappeared, being followed by a higher type of eruption—the papulo-pustular—and this remained until the new drug—the bromide of potash—being administered, the subsequent symptoms, as already detailed, developed and existed until the medicament was discontinued. I do not think it is necessary to insist further on this point, as it cannot but be apparent to any one familar with eruptions produced by drugs that there is no question but that the symptoms referred to were the result of iodine and not of any septic intoxication or of other cause.

The manner in which bromine and its compounds, or, in fact, any drug, produces its effects on the skin is a mooted point. In regard to the former, with which we are particularly interested, owing to the cases reported in this paper, there are many who regard the cutaneous manifestations developing after its administration as the result of an exaggeration in its physiological effects, believing that individual idiosyncrasy plays a small part and has little influence. There are as many others who attribute the eruptions to the local effects of the drug upon the glands of the skin, which seek to eliminate it from the system; and there are again others, who, believing in a more recent theory, find an explanation for the occurrence of the lesions in a supposed foreign material generated in the blood by the drug, which then acts directly upon the skin.

There is no question but that authorities can be found substantiating either one of these opinions, but in view of our practical ignorance of the mode and manner in which the drug does in reality produce cutaneous disturbances, it would seem to me to be preferable to leave the choice of theoretical conviction to the prejudices or to the pre- or post-conceived desires of each individual observer, rather than by speculation to support one side or the other. I do this owing to the fact that positive proof in favor of one view or the other of the question is entirely wanting, and all that can be said is that the drug, when given to certain or perhaps the majority of individuals, does produce cutaneous lesions of greater or lesser severity, but how it does it, I frankly confess that neither observation nor theory has yet been able to satisfactorily explain.

The action of bromine and its compounds upon the cutaneous surface are manifold and multiform. Though the most common type of eruption produced by the drug is the so-called bromide acne, represented by papulo-pustular or tubercular lesions, occurring particularly on the face and the scalp, but also more or less generally over the body, yet even this *banale* type may develop into furuncular-like lesions and ulcers leaving scars. More rarely the eruption may be erythematous in character, and occur in either a diffuse form, and then especially on the lower extremities, or it simulates a roseola. Urticarial lesions have been observed, and it has even been possible to produce them by rubbing or irritating the surface. A maculo-papular eruption has also been seen, and it has led to the mistaken diagnosis of syphilis, while cases of nodular, furunculoid, anthracoid, and carbuncular lesions abound in the literature of the subject. Seguin has described, admirably, a peculiar elevated ulcer due to its long-continued use, and Amidon has called attention to an "epithelial" ulcer observed by him. Veiel reported a verrucous or warty eruption, strictly resembling ordinary warts, and others have recorded bullous, squamous, and seborrhœic manifestations.

I find it rather difficult to include the cases reported in my paper among any of these, owing to their peculiar type, one evolved from an ordinary papulo-pustular lesion. Jacquet reported a case which, beginning as a bullous eruption, became fungating in character after rupture of the bullæ. Müller very recently has described one which presented frambœsia-like growths, together with superficial ulcerations and other lesions, but none that I know of showed the peculiarities in evolution of the lesions from a papulo-pustule to a fungating and crusting excrescence. The exaggeration in character in Case I. was undoubtedly favored by the iodine compound given at first, and precisely similar eruptions have been seen by me resulting from iodide of potash. The type of eruption, however, cannot be ascribed to that fact alone, since Case II. developed the same lesions and yet had not received any iodine. In consequence I would regard these cases as representing a very unusual type, which may be described as a papulo-pustular fungoid and crusting bromide of potash eruption.

The production of cutaneous phenomena is not limited to any particular one of the compounds of bromine. Though bromide of potash usually seems to exert the strongest effect, yet the same results have been caused by the sodium or ammonium salt, by bromine vapor, and any and all of the combinations of the drug. Müller's case, referred to in my paper, was due to bromoform, a comparatively new bromine compound, and personally I have seen bromide acne arise after taking bromo-caffeine and hydrobromic acid in combination with quinia and with conium, an occurrence not mentioned in our text-books or in those treating of drug eruptions.

The diagnosis of the bromine eruptions is not always a facile one, particularly when the lesions are of an unusual type, and it has most frequently to be made by exclusion and by a careful investigation into the patient's history previous to the appearance of the cutaneous symptoms, and by an examination into the drug or drugs which have been taken. The acneic form may be mistaken for acne vulgaris, but its location on the hairy surfaces by preference, its wide distribution, and the absence of any comedones should suggest its drug origin. The macular form, owing to its coppery color, may easily be regarded as due to syphilis, but the absence of all concomitant symptoms accompanying that early syphilide should be sufficient to guard the patient against such an error. Still it has been made, and even more serious mistakes have been recorded. The prognosis is always good. As a rule the lesions disappear after cessation of the drug. Not always, however, as once produced they may persist for months and years, even without any more bromide being taken. I have had in the last winter a number of cases of folliculitis of the face, which had begun a year or more before they were seen by me, and which had appeared after taking bromide of potash for some weeks or months. The lesions had not disappeared in these cases, but had continued appearing, even though none of the salt had been taken for months and months. These cases are, however, exceptions, the opposite being the rule.

In view of this rule there is little to be said in regard to the treatment of these eruptions. Cessation of the drug is the essential and only step to be taken, though when ulcerations or bullous or other severer lesions have occurred, local antisepsis should be observed and they should receive such general care as any wound. All means should also be used to prevent scarring.

14 West Thirty-third Street

New York Obstetrical Society.—At a recent meeting of the Society Dr. Henry C. Coe was elected President.

RUPTURE OF THE TENDON OF THE QUADRICEPS EXTENSOR FEMORIS.[1]

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RUPTURE of the tendon of the quadriceps extensor femoris appears to be a comparatively rare injury, or, at least, one rarely recorded, for a careful examination of the literature has disclosed but 120 cases. The most important papers yet published on this subject are by Karl Maydl, of Vienna, in 1883; W. T. Bull, of New York, in 1889, and T. Hafeman, of Berlin, in the same year.

Maydl collected 61 cases, all but one treated without operation. To these Bull added 23 cases,[2] of which 4 were operated. In the table appended to this paper is a record of 36 additional, making a total of 120 cases.

Statistical tables are of great value in determining the results of treatment in this injury, and the careful perusal and comparison of tabulated cases will give the inquirer a very good general idea of the value of different methods and the results to be expected from them; but the data furnished will be found insufficient for accurate conclusions. To formulate such, in cases of this kind, the following particulars are desirable: The nature of the lesion—whether only the central portion of the tendon is torn away or the lateral expansions of the vasti also are ruptured; the position of the rupture, whether close to the patella or higher; the amount of separation; the exact method of treatment, and the duration of its various stages; the length of time allowed to elapse before passive motion at the knee was employed; the result as to union of the tendon; the amount of permanent separation; the ultimate mobility of the joint; the final strength of the limbs, and the length of time which elapsed from the date of injury till the last observation of the case. An examination of the tables of Maydl, of Bull, and the one herewith appended, as well as the original report of cases, will show that all of these particulars have been furnished in such a small number of cases as to render it impossible to draw from them many general conclusions of value which can be put into numerical form. Bull, however, in his excellent paper, while realizing this difficulty, has made a careful study of the cases collected by Maydl and himself, and has arrived at the conclusion that, without operation, an imperfect result occurs in about one-half of all cases.

[1] Read before the Medical Society of the State of Pennsylvania, May 22, 1895.

[2] Bull duplicates Hulke's case, recorded by Maydl, and adds a case of fracture of the patella by Hartley.

ADDITIONAL CASES OF RUPTURE OF TENDON TO THOSE REPORTED BY MAYDL AND BULL.

No.	Reporter.	Sex and Age.	Date.	Manner of Injury.	Lesion.	Treatment.	Result.
1	Spong, A., Lancet, 1835-36, i., 203.	M., 50.	1835.	Fell down stairs, striking right knee.	Rupture of middle portion only of tendon of right quadriceps.	Bandage and sitting posture for a month.	Union complete; three months later, walks nearly as well as ever.
2	Christison, Toogood, loc. cit. infra.	M.	.....	.....	.....	Confinement to bed for nine weeks.	Complete recovery without lameness.
3	Blackman, G. C., American Journal of Medical Sciences, 1847, N. S., xiii., 325.	F., 60.	.....	Fell down stairs backward.	Rupture of tendon of right quadriceps.	Local treatment at first; three months later, posterior splint for three weeks.	Ten months later, walked very little and still with a cane.
4	Brushfield, Lancet, 1847, i., 389. (Under Mr. Curling.)	M., 37.	Aug., 1846.	Fell from a loft, causing extreme flexion of knee.	Rupture of tendon of left quadriceps about an inch above the patella.	Posterior splint for six weeks.	Flexion and extension limited; patella immovable. By aid of leather knee-cap walks, but imperfectly; no union.
5	Kübel, Zeit. für Wundärzte u. Geburts., 1850, p. 8.	M., 60.	March 1, 1850.	Fell on right knee.	Rupture of tendon of right quadriceps.	Bandage, splint, elevation.	In six weeks and a half walked with cane; slight stiffness.
6	Toogood, J., Reminiscences of a Medical Life. 8vo. Taunton, 1853, p. 82.	M.	.....	Fell down stairs.	Rupture of tendon of quadriceps.	None.	Tendon united to femur; six years later could walk several miles daily.
7	Trent, P., Virginia Medical and Surgical Journal, 1854, iii., 9.	M., aged.	.....	Blow above knee by a heavy post.	Rupture of tendon of quadriceps; separation of two inches.	Treated as a bruise for two weeks; then elevation and bandage.	No result given.
8	Zickers, E., Allg. Wien. Med. Ztg., 1863, 278.	M., 64.	Jan., 1863, and before.	Fell on ice on two different occasions.	Rupture of tendons of both quadriceps on different occasions.	Extended position; moulded splints and bandages.	In seventeen weeks could use the right limb freely; walked eighteen weeks after injury to left limb.
9	Gosselin, M., London Medical Record, March 25, 1874.	M., 62.	.....	Fell backward and pulled a piece of furniture on the limb.	Rupture of tendon of quadriceps.	Unrecognized for four months.	Treatment then inefficacious.
10	*Marguet, Cl. Inaug. Dissert. Subcut. Rupt. of Tendon of M. Ex. Quad. T. Hafeman, Berlin, 1889.	.....	1874.	.....	Rupture of tendon of quadriceps.	Unrecognized for two weeks.	After long-continued treatment could walk only with difficulty, even with crutches.
11	Thompson, J. F., National Medical Review, 1878, i., 1.	M., 70.	Oct. 7, 1878.	Struck above patella by tail-board of a cart.	Complete rupture of tendon of quadriceps just above patella.	Elevation of heel and gypsum bandage for five weeks.	Union seems quite close, with prospect of a perfectly good leg, though he has yet exercised it little.
12	Morton, T. G., Surgery in the Pennsylvania Hospital, Philadelphia, 1880, p. 336.	M., 55.	Jan. 12, 1879.	Fell while intoxicated.	Rupture of tendon of quadriceps at its insertion; slight attachment of vastus externus unbroken.	Posterior splint.	Walked with crutch in nine weeks; at four months and a half had almost perfect use of leg.
13	Guerin, J., Hafeman, loc. cit.	F.	1880.	.....	Partial rupture of tendon of quadriceps.	Had existed for three years.	.....
14	Weinlechner, Wien. Med. Blätt., 1881, No. 51.	M.	1880.	.....	Complete rupture four inches above patella.	No bandage.	In three months able to walk about with safety.
15	Toncker, R., Gazz. Med. di Roma, 1881, vii., p. 189.	M., 56.	Dec. 30, 1880.	Fell, forcibly flexing his right knee.	Rupture of tendon of right quadriceps, three inches separation.	Gypsum splint.	Walks without interference.
16	Weinlechner, loc. cit.	M., aged.	1881.	Fell.	Complete rupture of tendon of left quadriceps one half c.m. above patella.	Posterior splint and elevation.	In eight weeks could walk with crutches.
17	Gibney, Centr. f. Chir., ix., 399.	M., 58.	1883.	.....	Double; six years apart.	.....	Case four years old; peculiarity in walk; right patella immovable; left knee has good motion.
18	Weir, R. F., New York Medical Journal, 1884, xxxix., 389, and personal comments.	72.	.....	Slipped on ice.	Rupture of tendons of both quadriceps; lateral expansions remained.	Straight position.	Both tendons united; three months later, able to walk slowly; ultimate result very good.

* Hafeman states that Marguet had two cases and gives the same particulars for both. Not having access to Marguet's original report I have entered one case only, thinking it unlikely that the two cases should be exactly similar.

ADDITIONAL CASES OF RUPTURE OF TENDON TO THOSE REPORTED BY MAYDL AND BULL—*Continued.*

No.	Reporter.	Sex and Age.	Date.	Manner of Injury.	Lesion.	Treatment.	Result.
19	Hirn, A., Dissertation: Würzburg.	M., 66.	1885.	Injured by falling tree.	Rupture of tendon of left quadriceps.	Not stated.	Complete recovery.
20	Bardeleben, Hafeman, loc. cit.	M., 63.	1886.	Fell.	Rupture of right tendon at patellar insertion.	Bandage and elevation; later, splint.	Eight weeks later, normal limb.
21	Childs, W. R., Transactions Homœopathic Medical Society, of Pennsylvania, 1886, xxii., 281.	M., 38.	March 14, 1886.	Slipped on an iron grating, striking on his right knee and extending his left leg.	Rupture of tendon of left quadriceps; right patella also broken.	Silver wire passed transversely subcutaneously through each tendon; the external ends united to form a loop, through which a loop of adhesive plaster was passed, on which traction was made and which was fastened to the sole of the foot: plaster dressing and elevation; fractured patella treated in same way.	Union; wire removed in four weeks; splints removed in two months; walked in three months; walked without cane in six months.
22	Ormsby, L., Medical Press and Circular, Dublin, 1889, N. S., xlviii., 491.	M., 30.	March 7, 1886.	Fell down stairs.	Rupture of tendon of quadriceps.	Plaster strips below patella; posterior splint; elevation.	In six weeks and a half could stand and walk with comparative ease.
23	Socin, Hafeman, loc. cit.	.....	.....	.....	Rupture of tendon of quadriceps.	.....	.....
24	Carrington, P. M., Report Supervisor Surgeon General, Marine Hospital, 1888, 243.	M., 65.	Nov. 19, 1887.	A board on which he was walking broke under him and he fell, striking fairly on his right knee.	Rupture of tendon of right quadriceps (fourteen years before sustained a rupture of left quadriceps and a secondary rupture which left him permanently lame); several inches separation.	Aspiration, bandage and posterior splint: later, gypsum dressing.	Firm union in two months; crutches then allowed; walks well with stick and can perform light work.
25	Löwenfeld, J., Münch. Med. Woch., 1887, No. 20.	M., 40.	1887.	Injured while walking on level ground.	Rupture of tendon of left quadriceps at insertion.	.....	In five months able to walk with crutches.
26	Cluness, W. R., Sacramento Medical Times, 1888, ii., 515, and Personal Comments,	M., 75.	Oct. 20, 1888.	While walking tendon ruptured without any apparent cause other than ordinary locomotion.	Rupture of tendon of quadriceps at insertion, two inches separation.	Bandage and immovable apparatus.	Limb almost or quite useless without felt splint; three or four years later, required crutches.
27	Kaufmann, Corresp. f. Schweitz. Aerzte, May 15, 1888.	M., 48.	1888.	Fell down stairs.	Tendon torn from muscle.	Sutured with catgut.	Arose in four weeks; in six months could use leg freely; in fourteen months normal.
28	Midelfast, Centralbl. f. Chirurg., Mar., 1888.	M., 12.	1888.	Fell.	Rupture of tendon at insertion; patella forced between femur condyles and tibia.	Reduction of luxation and suture.	Complete recovery.
29	Gross, F. H., Medical News, 1889, lv., 191.	.....	March 2, 1889.	.....	Rupture of tendon of left quadriceps.	.....	Three months later, a fair degree of usefulness, mainly through the accessory tendons of the vasti.
30	Chaput, Bull. et Mém. Soc. de Chir., Par., 1891, N. S., xvii., 453.	M., 60.	Aug. 16, 1889.	Fell upon his back.	Rupture of tendon of quadriceps and lateral expansions.	Open incision and catgut suture.	Three months later, perfect union; extension complete and flexion beyond right angle.
31	Bowden, J. B., Lancet, 1893, i., 277.	M., 69.	Dec. 30, 1890.	Slipped on ice and fell backward with leg under him.	Rupture of tendon of quadriceps with three inches separation.	Extension of knee; apposition of parts; plaster strips; posterior splint and swing; gypsum in five weeks, left in four weeks; leather knee-cap.	Three-fourths inch separation; able to walk eight or ten miles a day with just the slightest halt in his gait; can walk without knee-cap, but does not feel quite safe.
32	Cecaldi, Bull. et Mém. Soc. de Chir., Par., 1891 N. S., xvii., 453.	M., 60.	June, 1892.	Fell down stairs.	Rupture of tendon of quadriceps; rupture of rectus only.	Bandage; electricity; passive motion.	Walked slowly at end of a week.
33	Shepherd, Montreal Medical Journal, 1892–93, xxi., 106.	F., 41.	June 10, 1892.	Slipped and fell down a couple of steps.	Rupture of tendon of right quadriceps immediately above patella.	Figure-of-eight bandage and gypsum splint; elevation; rest in bed for six weeks; posterior leather splint and crutches.	Left hospital on 30th day, and "since then has reported herself perfectly well."
34	Koehl, E., Cor. Bl. f. Schw. Aerzte. Basel., 1893, xxiii., 454.	.....	.....	.....	Rupture of right quadriceps.	Suture.	.....
35	Owen, J. L., British Medical Journal, 1893, ii., 1425.	M., 44.	March 20, 1893.	Man ran against him and he fell.	Rupture of tendons of both quadriceps.	Inclined plane and adhesive straps for seven weeks.	Nine months later, still a separation; cannot fully extend knees; can walk fairly well on level ground with aid of a stick.
36	Buchanan, J. J., Reported herein.	F., 45.	June 24, 1894.	Slipped and fell.	Rupture of tendon of left quadriceps at its insertion.	Open incision; drilling of patella and suture with silkworm gut.	Result mechanically perfect and functionally almost so.

Of the 36 cases tabulated in the present paper, 5 were operated on by open incision (Chaput, Kaufmann, Midelfast, Koehl, and Buchanan), and one by subcutaneous wire (Childs); 2 were not recognized till too late for treatment (Gosselin and Marguet); 2 had no efficient treatment at first (Blackman and Toogood); in 3 the result is not stated (Trent, Guerin, and Socin), and in 5 the result was imperfect, but sufficient time had not elapsed to preclude further improvement (Kübel, Thompson, Weinlechner, Ormsby, and Cecaldi). This leaves 18 cases treated by external appliances, from which to draw conclusions as to results. Of these, 4 were perfect (Hirn, Bardeleben, Shepherd, and Christison); 5 were favorable (Spong, Zicker, Tonicker, Weir, and Morton); 4 were unfavorable (Weinlechner, Carrington, Bowden, and Owen); and 5 were bad (Brushfield, Gibney, Löwenfeld, Cluness, and Gross). Placing the perfect and favorable results in one group and the unfavorable and bad in another, we have 9 of the former and 9 of the latter, which exactly corresponds with the conclusions of Bull.

This lesion furnishes the same indication for treatment as does fracture of the patella, but the difficulties of fulfilling the indication by external appliances are very much greater. The upper border of the upper fragment, in transverse fracture of the patella, furnishes an offset, over which can be looped the turns of muslin, plaster, leather, or other material used to make traction on the quadriceps muscle and thus approximate the fragments; but, in rupture of the quadriceps tendon, no such purchase exists, and reliance has to be placed on rest in bed, the extended position, bandage of the thigh from above downward, and of the patella from below upward, and the posterior or immovable splint. That this method of treatment is inefficient is

evident, and that its results are poor is shown by the statistics already quoted. The application of buried sutures through the open incision is the ideal method of treating this injury, but the cases so treated have yet been too few to furnish data for reliable conclusions as to the risk of the operation and the functional result. It seems reasonably certain, however, that the mortality will be found the same as in the open operation for fractured patella, which, with proper precautions, in recent cases is practically *nil*.

My attention was drawn to this subject by the following case, which came under my own care:

On June 24, 1894, Mrs. S——, a corpulent woman, about forty-five years of age, slipped and fell to the ground and found herself unable to rise. She at once summoned Dr. H. D. Rickenbach, by whose courtesy I was asked to take the case in charge. The diagnosis of rupture of the tendon of the left quadriceps femoris at its insertion into the patella was easily made. The power of extension was lost and an hiatus, about two inches in extent, was discovered between the upper border of the patella and the extremity of the tendon. The probabilities as regards usefulness of the limb without operation, based on the statistics of Bull's article, were laid before the patient, together with the slight amount of risk incurred by open incision. The patient, a woman of more than ordinary intelligence, decided to have the operation performed.

Eight days after the injury, with the usual antiseptic precautions, a free transverse incision was made at the level of the upper border of the patella, and the joint thereby freely opened. The tendon, together with its lateral expansions, was found entirely torn through, no part of it remaining attached to the patella. As before stated, there was about two inches of retraction. Two holes were drilled through the patella and the shelving extremity of the broad tendon of the quadriceps was seized with volsella forceps and drawn down into place. A double strand of heavy silk-worm-gut was passed through each hole in the patella and deeply through the tendon, tied, and cut short. The superficial parts were accurately sutured and the joint drained. An antiseptic dressing and posterior plastic splint of plaster of Paris were applied. Primary union resulted and the buried sutures yet remain in place.

The splint was left on and the patient confined to bed for four weeks, when she was allowed to rise without the splint; at the end of five weeks she was allowed to walk with crutches, which she discarded about three weeks later. She now, at the end of ten months, walks with the least perceptible halt and the anatomical conditions appear normal. She considers the limb as good as the other.

The following is a list of all the cases operated on by open incision of which record can be found: 1. Lister (1878) (Roxburgh's case), by a complicated plastic operation, repaired an old rupture of the tendon with buried catgut sutures, with a very good result. 2. Lüning (1880) sutured the tendon with catgut, as a part of the repair of an open wound, made by a butcher's cleaver, with result of a freely movable joint. 3. McBurney (1885) sutured the tendon with catgut and a wire retention stitch, with a perfect result. 4. Wilkin (1887) sutured the tendon with silk-worm-gut as part of the repair of an incised wound of the thigh, with good function and almost perfect flexion. 5. Kaufmann (1888) sutured the tendon to the muscle, from which it had been torn. Complete recovery. 6. Midelfast (1888) operated on a case in which the patella was found driven between the femur and tibia. He sutured the tendon and secured primary union. 7. Bull (1888) sutured the tendon with catgut, with good result. 8. Chaput (1889) sutured the tendon with catgut, with perfect result. 9. Koehl[1] (1893) sutured the tendon. 10. Buchanan (1894) drilled the patella and sutured the tendon to it with silk-worm-gut, with perfect result.

In view of the favorable results in these operated cases, the extremely unfavorable statistics of cases trusted to external appliances, and the safety of the operation, I think we are fully justified in recommending this procedure to our patients, laying before them the advantages of the treatment, and not failing to state the possibilities, however remote we may consider them, of failure in our antiseptic efforts, failure which, in such case as this, may carry with it loss of limb or loss of life.

[1] I have not been able to secure the full record of this case.

Progress of Medical Science.

Experimental Appendicitis.—Dr. Roux says that the mechanism of perforation of the appendix is little known; it has been attributed to an ulceration caused by the presence of a calculus, to an ulcerative lesion caused by compression of the vessels, to a dilatation of the appendix from retention of mucus, and, finally, to an infective process. M. Roux has studied the question experimentally, and chose swine as suitable subjects. The colon was drawn out, the cæcum isolated, and an artificial appendix made by passing a row of parallel silk-threads around it just beneath the serous coat, and drawing them moderately tight. Farther up in the cæcum an incision was made, and through this foreign bodies were introduced. Sixty-seven swine and two dogs were thus operated upon; the two dogs died in twenty-four hours from gangrenous peritonitis. Two swine also died from faulty technique; the others bore the operation with scarcely any reaction. The results as to a formation of an artificial appendix were good. The silk cut through, and was passed from the anus, the pocket persisted. At the end of some months the foreign body had disappeared, the mucous membrane was found to be intact. In a single case a suppurating appendicitis was produced. The presence of a foreign body alone, therefore, was not sufficient to cause perforation; some other factor must be added. Roux thinks that upon the occurrence of a traumatism or a chill the mucosa becomes turgid, presses firmly upon the foreign body, and the circulatory disturbances which result ultimately lead to gangrene and perforation.—*Annals of Surgery.*

The Mortality from Tuberculosis in German Cities.—Dr. Bollinger has succeeded in procuring the mortality tables of various German cities, extending over long periods, with the special intention of inquiring into the mortality from tuberculosis. From a comparison of the tables, it is certain that, as regards the large cities, such as Vienna, Berlin, and Hamburg, a distinct diminution in the death-rate from tuberculosis is taking place. In the city of Munich, for instance, a diminution of 18 per 10,000 has taken place during the last twenty-six years. In correspondence with this, the tuberculous material in the Pathological Institute has diminished, so that in the space of five years eight per cent. fewer cases of tubercle are met with on the post-mortem table. Formerly one-third of all post-mortem examinations were on subjects that had died from tuberculosis in some form, where they now number only one-fourth. As regards the prevalence of tuberculosis in cattle the doctor states that in one year 21,000 cattle, found to be suffering from tuberculosis, were slaughtered in the Berlin slaughter-houses, and that in the kingdom of Saxony one ox in seven and one cow in four were affected with tubercle. In the years 1893 and 1894 a remarkable increase in tuberculosis in cattle took place in Schwerin, and this increase corresponded with a dearth of fodder for cattle. Dr. Bollinger mentions this fact as a wholesale experiment illustrating the effects of deficient nutrition in predisposing to disease.—*Münchener Medizinische Wochenschrift.*

The Management of the Pregnant, Parturient, and Lying-in Woman Suffering from Cardiac Disease.—Dr. Phillips does not believe that during pregnancy the left ventricle is hypertrophied, as is often taught. During pregnancy the work of the heart is greatly increased, owing to the larger quantity of blood and the resistance to the circulation caused by the enlarged uterus. During labor the greatest strain comes upon the heart, the blood pressing strongly upon the ventricular walls with the contraction of the uterus, while the right heart does not receive venous blood as usual, and hence the partial cyanosis which is so often observed. After the birth of the child the abdominal pressure sinks, while the right heart becomes overfilled. To obviate the disturbances caused by this change of pressure a large sand-bag may be placed upon the abdomen so soon as the presenting part passes through the vulvar orifice; the bag should be retained for at least an hour. Several forms of cardiac disease are found during pregnancy: adhesion from pericarditis, degeneration of the heart muscle, valvular heart disease, and endocarditis grafted upon a chronic form may be present. In the treatment of these cases, if the patient passes through pregnancy without bad symptoms, treatment should be confined to keeping the bowels open and avoiding fatigue and climbing of stairs. Compensatory disturbances may appear as early as the ninth week, although usually not until the fifth month. Albuminuria is a serious complication.

These cases are best treated by arsenic, iron, and strychnia, while ether and ammonia should be given for attacks of syncope; if serous effusion with dyspnœa be present digitalis or strophanthus may be employed. Over-exertion and straining during defecation should be carefully avoided. During labor the patient will be better in a sitting posture if severe dyspnœa develops; ether and brandy must be given by injection. The patient should be delivered so soon as dilatation will permit. If dilatation is not complete, incision may be practised; ether should be used as an anæsthetic. After the birth of a child a twelve-pound sand-bag should be laid over the fundus of the uterus to counteract the rapid fall from abdominal pressure. The greatest danger to the mother, however, lies in the first few days of the puerperal state. Post-partum bleeding should not be prevented; but, if anything, a moderate loss of blood will relieve the patient. Ergot is often followed by good results. In cases of great dyspnœa and cough, nitrite of amyl should be inhaled; better results are obtained from this agent than from venesection. Phillips reports four cases, one of aortic stenosis, two of mitral disease, while the fourth was a case of chronic mitral disease in which labor was followed by acute endocarditis with regurgitation. In one of his cases of chronic mitral disease the patient was not seriously ill until the third day after delivery, when she was suddenly attacked by profound syncope; three of his cases recovered from labor, while the fourth perished from endocarditis. In studying the literature of the subject Phillips finds that labor should not be induced. Two-thirds of the cases which he collected perished during the puerperal state. These patients are especially liable to septic infection.—*The American Journal of the Medical Sciences.*

Suturing the Pericardium.—The following case was recently observed by Dr. Dalton (*St. Louis Medical Journal*): A man in a fight was stabbed over the left breast; the wound was an inch in length and an inch and a half above the left nipple. There was little hemorrhage from the wound, and normal cardiac dulness was found on percussion. The percussion of the chest showed absence of dulness. The wound was closed and antiseptic dressings applied. Ten hours after admission to the hospital, percussion revealed dulness over the entire left side, and much pain was complained of. The patient was removed to the operating theatre, and the dressings taken off, when it was found that blood and air gushed from the wound with each inspiration. An incision was accordingly made, eight inches in length, over and parallel to the fourth rib, and six inches of the rib resected. The intercostal artery having been tied, the pleural cavity was found full of clotted and fluid blood, which, with each inspiration, poured from the wound with great force. The patient was turned on his left side, and with a long pair of forceps armed with a sponge the pleural cavity was cleansed of blood. Subsequently it was discovered that a transverse wound of the pericardium existed to the extent of two inches, and steps were taken to suture the lesion. In carrying out this procedure great difficulty was experienced owing to the pulsation—at the rate of 140 per minute—of the heart. The pericardium with each pulsation of the heart rose and fell, and in order to carry into effect that which was being attempted it was necessary to follow the movements of the organ. Ultimately, a continuous suture of catgut was satisfactorily inserted in the wounded pericardium, the pleural cavity was then thoroughly irrigated with hot sterilized water, the external wound closed, without a drainage-tube, and antiseptic dressings applied. It may be noted that at several stages of the operation, which lasted an hour, the patient seemed to be dying, and in order to avert collapse hypodermic injections of whiskey and strychnine were resorted to. Before the pericardial wound was sutured, examination of the heart was made with a view to the discovery of a wound in the organ, but no lesion was found. The patient made an uninterrupted recovery.

Jacksonian Epilepsy from Old Cerebral Abscess.—Dr. Lépine reports the case of a woman, aged sixty-two, who ten years before her admission to hospital had had a series of convulsions with loss of consciousness, and these were succeeded by left hemiplegia, which lasted fifteen days. Since then she had had frequent attacks, which had been regarded sometimes as Jacksonian attacks, sometimes as hysterical. In December last she had several attacks in one day, and these continued to recur day after day. There was loss of consciousness in the severe ones, but there were also slighter ones in which there were jerkings of the fingers and forearm, but no loss of consciousness. On the day after her admission, following a severe attack, left hemiplegia was noted, affecting both arm and leg, but sparing the face. The attacks came on more frequently, and although bromides lessened their severity it did not control them, and the patient gradually sunk and died. At the autopsy it was found that in the right frontal lobe, rather nearer to the anterior border of the hemisphere than to the fissure of Rolando, there was a cyst two to three centimetres in diameter, with caseous contents. It was, in fact, apparently a cold abscess, and there seems every reason for believing that it must have existed for the ten years during which symptoms, only explicable on the hypothesis of such a lesion, had been present.—*Revue de Médecine.*

A Suit for Contracting Typhoid Fever.—The widow of a man who died of typhoid fever in Ashland, Wis., has brought suit against the Ashland Water Company for $5,000 damages, alleging that the corporation permitted the water to become polluted by typhoid germs, and that her husband's death was due to this pollution. There is no doubt, as our contemporary, *The Times*, states, that suits of this kind will in the future increase, and that damages will sometimes be obtained. At present, however, it is asking a good deal of corporations to keep germs out of the aqueducts and reservoirs, especially where these latter are large and drain a wide area of ground.

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THE NERVOUS SEQUELÆ OF INFECTIOUS DISEASE.

THE above was the title of a subject chosen for discussion before the Section on Children's Diseases of the British Association for the Advancement of Science. The discussion was opened by Dr. Henry Hanford, of Nottingham, who read a lengthy paper. Taking up the subject of the brain first, Dr. Hanford presented statistics regarding the percentage of post-febrile insanity. Out of 229 cases of typhoid fever, reported by Osler, there were 3 cases of melancholia arising during convalescence. Clouston found that among 1,000 cases of insanity, 10 followed an attack of fever. Epilepsy, according to Dr. Hanford's figures, and according to common observation, follows, especially, scarlet fever, next measles, and least after typhoid fever. Meningitis occasionally follows the acute fevers, but it is usually a complication rather than a sequel, and is of septic origin. Taking up next the spinal cord, Dr. Hanford found that acute myelitis sometimes follows smallpox, measles, and scarlet fever, but were very rare sequelæ. It seems to be more particularly the venereal diseases which are followed by inflammatory disturbances of the spinal cord. Attention is called to the curious fact that after an attack of acute infectious fever certain degenerative diseases, such as progressive muscular atrophy, sometimes develop in families predisposed to this disorder. It is under the head of neuritis that we find the largest number of nerve disorders following infectious disease, especially those of an acute and febrile type. Dr. Hanford gives briefly the history of the discovery and description of the various types of neuritis following typhoid fever, scarlet fever, measles and influenza. The conclusion is that, excluding diphtheria and influenza, more cases of peripheral neuritis follow typhoid fever than all of the other acute infectious diseases put together. It is a somewhat curious fact that while diphtheria is not infrequently followed by neuritis, scarlet fever is never followed by it, or, if so, the neuritis is due to some other than the specific poison of the scarlatina. Dr. Hanford's paper was discussed by eleven other gentlemen whose experience, on the whole, confirmed that given by the first speaker. Dr. Fletcher Beach spoke especially regarding the question of idiocy, and stated that among 2,000 histories of idiots which he had collected, he found only 37 in which the trouble seemed to follow some acute infectious disease. The disease which caused it oftenest was measles, then came scarlet fever, whooping-cough, and typhoid fever. Dr. Cheadle, physician to St. Mary's Hospital, observed that, with the exception of diphtheritic paralysis, nervous sequelæ in children were exceedingly rare, and this opinion was apparently the common one. It is a matter of importance to bring this matter into prominence, because the too assiduous investigation of rare morbid conditions sometimes brings them into disproportionate relation. We must not forget the fact that although the acute infectious fevers of childhood do leave some nervous wrecks, the vast majority pass through the trouble without the slightest apparent after-effect.

MEDICAL REFORM IN OUR CITY HOSPITALS.

IN an editorial which appeared in our last issue we predicted that the high-handed action of the Commissioners of Charities and Correction would not fail to call forth a vigorous protest from the members of the profession who are not "in the ring." Our prediction was verified at the annual meeting of the County Medical Society, held last Monday evening, when a resolution condemnatory of the "deal" was unanimously adopted, and was forwarded to the Mayor and Commissioners. The following is the text of the resolution:

Resolved, That we, the Medical Society of the County of New York, protest against this outrage upon the medical profession of the county of New York, and condemn the action of the Commissioners of Charities and Correction in delivering to these incorporated colleges three-fourths of the appointments upon the consulting and medical boards of these hospitals, to whose support the profession at large, as taxpayers, contribute.

In the preamble attention is called to the fact that under the new arrangement "three thousand physicians are excluded from positions upon the medical boards of the city hospitals, except by courtesy of the faculties of the incorporated colleges and the Fourth Division of Bellevue Hospital," which "are composed of less than one hundred physicians."

This is certainly a fair and temperate presentation of the question from the stand-point of the general profession, though, of course, it will not produce any impression upon those who do not recognize the rights of any except the oligarchy, which has arrogated to itself the right to dictate the future policy of the Commissioners. But, while there is a general disposition to blame the Commissioners for the wholesale degradation of faithful medical officers, without the bare courtesy of an explanation, we should not lose sight of the fact that the politicians were merely tools in the hands of their medical advisers, and doubtless accepted the suggestions of the latter without thinking of the injustice which they were doing to worthy members of the profession.

We are accustomed to regard the system of political patronage as the most pernicious feature of organized tyranny. But what is the present spasm of reform in its recent application to the city institutions but an organized scheme on the part of the colleges to control

political patronage, and thus to increase their power and influence?

The situation is not without its humorous side even to those who are smarting under the sense of injustice. As the late Mr. McAllister defined the numerical limits of our best society, so in the future the *élite* of the profession may come to be known as the one hundred, outside of whose mystic circle are only the "riff-raff," as one of the Commissioners is reported to have designated the members of the abolished medical boards. The sharp distinction will naturally appeal to the laity, who are prone to judge of professional ability by the possession of high-sounding titles. Granted that the faculties of the three undergraduate schools include in their ranks a fair proportion of the ability and learning of the profession. Do they include all? Are there no flowers that "blush unseen?" But we are assured that under the new arrangement not only will better men be secured on the attending staffs of the various city hospitals, but these institutions will be utilized for the purpose of clinical teaching. Oh! Come now, gentlemen of the new *régime*, be honest. You know how little the institutions on the island are available for this purpose, and that you have more clinical material than you can utilize in close proximity to your schools. Why not admit that you simply saw a favorable opportunity to utilize the present reform movement to your own advantage, with a cold-blooded disregard of the rights of your *confrères*, many of whom had served the city faithfully for years?

However cute this "deal" may appear as a political trick, there is a general feeling among the medical profession of New York, as expressed in the resolution quoted, that the victors are more deserving of sympathy than the vanquished.

THE CASE OF MEDICAL INSPECTOR KERSHNER.

The case of Medical Inspector Kershner, of the navy, to which reference has been previously made in these columns, now awaits the action of the President of the United States, who may or may not approve the finding of the recent court-martial for dismissal from the service. As the proper discharge of such a responsibility on the part of the chief executive necessarily involves many weighty considerations bearing on the character of an efficient officer of the service, and indirectly upon the medical corps of the navy, it is to be hoped that no pains will be spared in arriving at a calm and necessarily just decision regarding the facts as brought out in the aforesaid trial.

With every incentive on our part to view the situation from a strictly impartial stand-point, it must not be forgotten that from time immemorial there has been a bitter and unreasonable jealousy between the line and staff concerning the very matters of medical authority upon which the questions of prerogative in the trial appear to hinge.

Whatever else may be said there can be no doubt in the mind of anyone who studies the record of the court-martial that the defendant was in any way lacking in the proper motives for the discharge of his duties as he understood them; in fact as everyone else must understand them who is acquainted with the regulations defining them. These regulations direct that the medical officer shall keep the commanding officer informed in regard to all diseases that may appear on board ship, invade the ship, or directly, or indirectly, endanger the crew. Too frequently, however, this provision becomes a dead letter unless the superior authority of the captain sees fit to enforce it. It will be recollected that the present unfortunate misunderstanding of relative obligations grew from an unreasonable, injudicious, and unjust charge of inhumanity against the ship surgeon, who, having the medical safety of the crew at heart and in fear of yellow fever, then prevailing, protested against the visiting of a patient on a suspected merchant ship that was nearer help from the shore than from the war vessel. For calling attention to such danger the captain of the ship reported the fact to the admiral, who sent to the Navy Department the infamous charges against the humanity, the moral character and professional ability of said surgeon of the fleet. In natural distress of mind Surgeon Kershner forwarded a verbatim copy of the charges to Surgeon-General Tryon, who was asked to lay the case before the Secretary of the Navy. He also wrote to several of his personal friends and to the members of his family in a general way to the same effect. Accounts of the difficulty then found their way to a daily paper, but whether these were obtained from the official reports or indirectly through some of Dr. Kershner's friends, does not appear. It was charged, on general principles, however, that the defendant was the guilty party, thus violating navy regulations and wilfully subverting discipline. In a court-martial at Kingston, Jamaica, an attempt was made to prove that a verbatim copy of the so-called charges was sent directly or indirectly to the daily press by the defendant, and resulted in the inspiration of a widely published criticism. The witness admitted writing the substance of the charges to friends, but being informed that an explicit answer was requested only in connection with a verbatim copy to the newspapers, formally and explicitly denied the latter charge. The report of the trial at Jamaica formed the basis of a second trial at the Brooklyn Navy Yard, in which it was charged that the witness had sworn falsely on the previous trial, to the effect of denying that he not only did not send any verbatim reports to the papers but that no reports were sent at all by him. The omission in the imperfectly reported proceedings of the first court-martial, accidentally or purposely, of the word *verbatim*, on the use of which the only denial of the defendant was based, made it appear that no answers whatever were offered or no testimony given as to the written reports to friends or even a verbatim copy to Surgeon-General Tryon. Nor was it possible, in spite of the efforts of the learned counsel for the defence, to refresh the minds of the first jury concerning such essential points. Not even the benefit of a reasonable doubt as to motive or intent by defendant was allowed, the jury simply voting to dismiss the officer from the navy on the charge of "making false statements wilfully, knowingly, and with intention to deceive."

It certainly appears quite remarkable that on such quibbling charges, based on incomplete and inaccurate reports, a faithful officer, a thoroughly competent sur-

geon, and an honorable gentleman should, from the spite of any one—admiral, captain, or commander—be the victim of such a dreadful conspiracy of adverse circumstances. There is yet one chance for justice, in an impartial review of the whole case by the President himself.

News of the Week.

The Reorganization of the City Hospitals—Another Protest.—The following resolutions were adopted at a meeting of the New York County Medical Association, held October 21, 1895:

Whereas, Information comes to us from reliable sources that the Medical Boards of the Gouverneur, Fordham, City, Maternity, Nervous Diseases, Workhouse and Almshouse, and Randall's Island Hospitals have been abolished, to take place November 1st, and that the members composing said boards are to be removed without cause; and

Whereas, In the case of the Harlem Hospital the Committee of the New York County Medical Association appointed to consider matters of interest to the medical profession, asked for a hearing before the Commissioners of Public Charities and Correction, in the interest of the medical men who had been unjustly deposed, and urged upon the appointing boards of the medical colleges that they defer action until charges had been preferred, or that, in the absence of charges, they be reappointed; and

Whereas, The medical colleges and the Commissioners ignored the communications, and thereby expressed their apparent contempt for your representatives, and their indifference to any wrong done to the profession; therefore, be it

Resolved, That this Association condemns the wholesale dismissal of medical men from hospital positions without cause or hearing.

Resolved, That we express our disapproval of the action of the Faculties of the four divisions of Bellevue Hospital and Commissioners of Public Charities and Correction in ignoring the communications of your Committee.

Resolved, That copies of the preamble and resolutions be forwarded to the Faculties of the Medical Department of the University of the City of New York, the Bellevue Hospital Medical College, and the College of Physicians and Surgeons, to the Commissioners of Public Charities and Correction, and to the medical press.

The Regents' Preliminary Examinations for Medical Students.—The following is a copy of a notice just issued by the Examination Department of the University of the State of New York to all medical schools in the United States and Canada:

"Will you kindly call the attention of students to the following amended New York statute relative to degrees in medicine, which took effect May 13, 1895:

"The degree of Bachelor or Doctor of Medicine shall not be conferred in this State before the candidate has filed with the institution conferring it the certificate of the Regents that, three years before the date of the degree, he has either graduated from a registered college or satisfactorily completed a full course in a registered academy or high school, or had a preliminary education considered and accepted by the Regents as fully equivalent; or had passed Regents' examinations representing for degrees conferred in 1898, one year of academic work, for degrees conferred in 1899, two years of academic work, and for degrees conferred in 1900, a full high-school course."

"This law prohibits us from admitting to the New York licensing examination any applicant on any lower requirement than that exacted for M.D. degrees, and for admission to the licensing examination in the case of graduates of New York schools. Hereafter no applicant not matriculated in a registered medical school before May 1, 1895, will be eligible for a card of admission to the New York licensing examinations, unless he met the standard in point of preliminary education three years before the date of his medical degree. According to an opinion of the Attorney-General the Regents should not discriminate against the New York medical schools and New York medical students by registering any medical school out of the State whose minimum graduation standard is less than that fixed by statute for New York medical schools."

Health Board of the City of New York.—The Board of Estimate and Apportionment have appropriated $40,000 for a new Ambulance Station and Vaccine Laboratory. The Health Department this year receives $498,918, which is an increase of nearly forty thousand dollars over last year.

Obituary Notes.—Dr. Frank E. Barrington, late house surgeon, Hartford Hospital, Hartford, Conn., died at Windsor, Vt., October 16, 1895, of acute tuberculosis. He was graduated from the University of New York, Medical Department, in 1883, with honor. Dr. Barrington was a young man of rare talent, not only in his chosen profession, but also in music, having composed many sweet songs. He was twenty-eight years of age and unmarried.—Dr. George A. Mursick, of Nyack, died at his home in that city on October 17th. He was born in New York City on February 26, 1834, and was graduated from the New York College of Physicians and Surgeons in 1860. In January, 1863, he entered the Union Army as assistant surgeon, and was assigned to hospital service. Later he was surgeon in charge of the army general hospital at Duvall's Cliff, Ark., and became medical purveyor of the Department of Arkansas in April, 1865. Dr. Mursick went to Nyack in 1869, where he has since practised. His wife and two sons survive him.—Dr. Timothy B. Cox, of Frankfort, Ind., died at his home in that city on Wednesday, October 16th, aged seventy-eight years.—Dr. John S. Young, of Brooklyn, died on September 24th, at his home in that city, aged sixty-two years. He was a graduate of St. John's College, Fordham, and of the College of Physicians and Surgeons of New York, in 1854. He served as Secretary of the Health Department in Brooklyn from 1886 to 1888, and for the five years following as Deputy Commissioner.—Dr. Francesco Vallardi, the well-known medical publisher, died in Milan, on September 18th, after a brief illness. He was born in that city in 1809, and obtained his medical degree in 1833. He

practised for a short time only and then became a publisher, first of ethical and religious, and later of medical works.—Dr. Abbie J. Seymour, of Buffalo, was found dead on October 17th, her body lying on the track of the New York Central Railroad. Her skull was crushed, and one of her hands and both feet were cut off. It is supposed that she was struck by a West Shore train which passed shortly before she was found. Dr. Seymour was the most prominent professional woman in Buffalo. She was born in Batavia forty-two years ago, and was a graduate of Rush Medical College, Chicago. Of late she had been in bad health, and only returned from a sanitarium on the morning of the day of her death. In the afternoon she left her home, and was not seen again until her dead body was found.—Thomas Keith, M.D., LL.D., the well-known surgeon, died on October 9th, aged sixty-eight. He has long been known as being one of the early ovariotomists, and as being one of the most successful of gynecological surgeons. Dr. Keith performed his first ovariotomy in 1862. Before many years he had become renowned for his successful work in this line, and he did a great deal to increase the fame of the Edinburgh Hospital and School. In 1888 he went to London, and practised in that city until about three years ago. In 1894 he published the results of some of his experiences in the work entitled "A Text-Book of Surgery," which was written, however, for the most part, by his sons.—Baron Larrey died recently at his home near Paris. He was the son of the celebrated surgeon to the great Napoleon, and was born in 1808. He was at one time surgeon to the Emperor Napoleon III., and was Surgeon-General of the Army in Italy. He was for a short time a member of the Chamber of Deputies. Baron Larrey was a man of considerable ability, but he owed a good deal to his father's fame.

Surgeoncy of Police.—Dr. Marvin R. Palmer, of this city, reached the highest grade in the recent competitive examination for the vacancy in the surgical staff of the police force, and was appointed to the position accordingly. This is a becoming recognition of fair play against the political pull which has in times gone by so strongly actuated the department. We congratulate the Commissioners on this new evidence of their determination to do the right thing in the right way.

French Centenarians.—At the date of the last French census there were 213 genuine centenarians, of whom 47 were women and 66 men; 33 of the women were old maids and 11 of the men bachelors.

Tea and Indigestion.—Dr. McKechnie reports in the *Medical News* some experiments to determine the influence of tea upon digestion. The experiments were carried on by himself by means of test-tubes and of a gastric fistula formed in a monkey's stomach. Dr. McKechnie finds that tea infusions retard digestion somewhat, but is of the opinion that it is not the tannic acid that is the injurious agent, but some of the less soluble extractive matters. Tea is not, however, very indigestible, especially teas that are freshly made.

The Late Dr. W. B. Conrad.—At a special meeting of the London Medical and Surgical Society, held October 21, 1895, the following preamble and resolutions were adopted:

Whereas, In the death of Dr. H. B. Conrad the Society has lost one of its earliest and most zealous supporters, and its members a genial and generous friend;

Resolved, That we deplore his sudden and untimely end, and offer to his bereaved family our most heartfelt sympathy; and

Resolved, That these resolutions be entered upon the minutes of the society, published in the Medical Record and *Medical Journal*, and a copy sent to the family of our late member.

J. Blake White,
Frederic S. Sellew,
H. H. Seabrook,
Committee.

The New York Obstetrical Society Officers for the Year 1895–96.—*President*, Henry C. Coe, M.D.; *First Vice-President*, J. Riddle Goffe, M.D.; *Second Vice-President*, A. Palmer Dudley, M.D.; *Recording Secretary*, Arthur M. Jacobus, M.D.; *Assistant Recording Secretary*, George W. Jarman, M.D.; *Corresponding Secretary*, Robert L. Dickinson, M.D.; *Treasurer*, J. Lee Morrill, M.D.; *Pathologist*, George C. Freeborn, M.D.

A Brave Doctor.—Our English contemporaries are sounding the praise of Dr. Charles Toller, of Ilfracombe. Dr. Toller allowed himself to be lowered over a perpendicular cliff, one hundred and fifty feet high, in a strong gale of wind, so that he could reach and give assistance to a shipwrecked sailor who lay on the rocks below. Dr. Toller's act was one requiring great courage and nerve, and he justly deserves the encomiums of his brethren. It looks as though he would, for the time, become almost as famous as Mr. Grace, who made one hundred runs at cricket.

Homicidal Mania.—A case of homicidal mania has recently developed in Italy which resembles very much that of "Jack the Ripper" in London. The criminal in this case, however, chose for his victims babies. After having strangled five of these, he was discovered, tried, and sentenced to twenty years' imprisonment—a rather mild punishment for so many murders.

Sensitive Ethics.—A correspondent of *The Lancet* writes a most indignant letter, complaining that he has seen in the daily papers the statement that "Dr. —— and Dr. —— have returned to their respective homes after a holiday." This, as it seems to the correspondent, is a most unwarrantable breach of ethics; and the correspondent has taken the pains to place a large black mark against the names of the criminals. The world is a silly place, but there seems to be no place quite so supremely silly as the head of the average London doctor when he gets on the subject of medical ethics. Why the daily press should not state that Sir William Broadbent has returned from his vacation, if this is a matter of interest to its readers, we do not see. The daily press is full of the comings and goings of lawyers, clergymen, and business men, of far less worth than he.

Philadelphia has 2,610 medical students this year, as against 2,345 last year; 285 are homœopathic and 200 are women.

Reviews and Notices.

THE DISEASES OF THE LIVER: JAUNDICE, GALL-STONES, ENLARGEMENTS, TUMORS, AND CANCER, AND THEIR TREATMENT. By J. COMPTON BURNETT, M.D. Second revised and enlarged edition. Boericke & Tafel. 1895.

THE author of this homœopathic treatise is evidently one of the minority who still adhere to the original doctrines propounded by Hahneman. He prescribes chelidonium for jaundice and enlargement of the liver, because the plant has a yellow juice. But this remedy must be used only when the enlargement is in a perpendicular direction. If pain starts on the right side and goes toward the left, one remedy is to be given; another if the pain has a contrary direction.

The most remarkable statement in the book is that several cases of carcinoma of the liver, which have been diagnosed as such by several reputable physicians, have been thoroughly and permanently cured by the administration of cholesterine in small doses.

It would require many grains of sodium chloride to make this statement digestible, and we are forced to the conclusion that the reputable physicians made a mistake in diagnosis.

THE POCKET MATERIA MEDICA AND THERAPEUTICS. A *résumé* of the Action and Doses of all Officinal and Non-officinal Drugs now in Common Use. By C. HENRI LEONARD, A.M., M.D., Professor of Medical and Surgical Diseases of Women and Clinical Gynecology, Detroit College of Medicine. Second edition, enlarged and revised. The Illustrated Medical Journal Co., Detroit, Mich. 1895.

IT would require a much larger pocket than is usually found in the modern style of dress to carry this volume. Nevertheless, it contains a great deal in a compact form, making it useful to the student and busy practitioner as a book of ready reference. While undoubtedly most physicians are inclined to diminish rather than increase the number of drugs used in daily practice, yet it is perhaps well to have some knowledge of all. The author claims that the arrangement of the various drugs is original; and this part of the work especially commends itself.

EXERCISE AND FOOD FOR PULMONARY INVALIDS. By CHARLES DENISON, A.M., M.D., Professor of Diseases of the Chest, University of Denver. Denver: The Chapin & Hardy Co. 1895.

THIS little manual should be in the hands of every physician for distribution to his patients suffering from pulmonary tuberculosis. Its principle of treatment in this disease is the correct one, viz., the preservation of the vitality of the living cell in its battle with the tubercle bacillus. The vitality of the cell depending upon the nutrition which it receives, nutrition must be carried to the highest point by rational exercise and proper diet.

The rules laid down for the guidance of patients in these respects are practical; they are the result both of personal experience and extended observation, are simple, easily carried out, and if followed in detail will do much to restore to health many who are in the early stages of phthisis.

THE URINE IN HEALTH AND DISEASE, AND URINARY ANALYSIS PHYSIOLOGICALLY AND PATHOLOGICALLY CONSIDERED. By D. CAMPBELL BLACK, L.R.C.S. Edin., F.F.P. and S. Glas.; Professor of Physiology in Anderson's College Medical School; Physician to the Glasgow Public Dispensary. Philadelphia: Lea Brothers & Co. 1895.

THIS new work on a very important subject can be recommended to the profession. The author first takes up the anatomy and physiology of the kidney. This portion of the work is condensed, but is complete and clear. A consideration of the normal elements of the urine follows, and the tests for each given. The most important are treated quite exhaustively, and the methods of quantitative analysis given, which can be carried out by the general practitioner. All of the latest tests for the abnormal constituents of the urine are presented, and a comparison of their delicacy and value made.

The details of the experiments are clearly stated, so that the book is an excellent working manual of urinary analysis. The author has omitted a great deal of the purely speculative work found in larger text-books, and has included only that which is of importance from a clinical stand-point.

MODERN MEDICINE AND HOMŒOPATHY. By JOHN B. ROBERTS, A.M., M.D. Philadelphia: The Edwards & Docker Co. 1895.

THE author of this little work, comprising two addresses delivered before the Philadelphia County Medical Society, has written in a liberal spirit.

He shows that the instruction given in the homœopathic medical colleges to-day differs very little from that of the other schools, and that the doctrines of similars and the potency of infinitesimal doses have been abandoned by the majority of the best educated members of the so-called "new school." On the other hand, it is just as evident that many of their prominent writers and teachers adhere firmly to these doctrines. In the minds of the people they are still closely associated with the name homœopathy. Therefore, as the author states, harmony of action and true fellowship among those who tacitly or openly accept the doctrines of Hahneman, and those members of the profession who endeavor to practise upon broad scientific principles, is impossible.

CLINICAL LECTURES ON DISEASES OF THE NERVOUS SYSTEM. Delivered at the National Hospital for the Paralyzed and Epileptic, London. By W. R. GOWERS, M.D., F.R.S., Physician to the Hospital, etc. Philadelphia: P. Blakiston, Son & Co. 1895.

THESE are reprints from various English journals, with the exception of two that now appear by permission of an American publisher. Originally delivered at the National Hospital, they cover an instructive set of abnormal conditions. Two chapters of the twenty are devoted to locomotor ataxia, two others to the infantile causes of epilepsy, and two to the exposition of optic neuritis. Lead palsy, saturnine tabes, neuralgia, syringomyelia, acute ascending myelitis, bulbar paralysis, syphilitic hemiplegia, facial paralysis, argyria and syphilis, facial contraction after palsy, the treatment of muscular contraction, mistaken diagnosis and the principles of diagnosis of diseases of the nervous system complete the list of subjects. The style is clear, forceful, and insinuating, which adds greatly to the valuable information that the book contains.

LECTURES ON APPENDICITIS, AND NOTES ON OTHER SUBJECTS. By ROBERT T. MORRIS, A.M., M.D. G. P. Putnam's Sons. 1895.

THE large number of cases of appendicitis which are seen every year, the importance of early diagnosis and prompt treatment, make any contribution to this subject by one who has had considerable experience in it of decided value to the profession. The author of this book has devoted most of his time to surgical work, has decided opinions, and is not afraid to express them, though they may run counter to the general opinion. Though one may not altogether agree with the theories expressed, yet it must be acknowledged that the author has reached his conclusions through practical study of the subject.

No exception can be taken to that part of the work relating to the preparation of the surgeon and the patient for all operations. It contains the principles of modern aseptic surgery, and the minute details, so often omitted, are given with a clearness and precision which their importance warrants. The results obtained under their guidance, not only by the author but others, are a guarantee of their efficiency.

Bacteria invading the tissues of the appendix through some injury to its wall is believed to be the true cause of all cases of appendicitis. When once this infection has taken place, though nature may be able in the first attack to limit the action of the bacteria, yet some will remain ready to start the destructive process afresh. Therefore, the only safe plan when an appendix has been infected is to remove it at once. Probably the severest criticism will be made in regard to the technique of the operation advised. The author claims that a long incision through the abdominal wall heals more slowly than a short one, necessarily keeps the patient in bed longer, and is more apt to be followed by hernia. Therefore he advises the shortest incision possible compatible with easy removal of the appendix, and fixes the limit at one and one-half inch. He claims that through this opening, in uncomplicated cases, the appendix can be safely removed by an operator expert in abdominal surgery, and that the average time in bed required will be only nine days.

The statistics of one hundred consecutive operations are given. In forty of these the one and one-half inch incision was used, and all recovered. Of these forty, in five there was suppuration in the wound coming on after union, and one developed a hernia. Of the sixty operated upon by a long incision there was suppuration or sloughing in five, and only one hernia is reported. That occurred where for some reason the wound had to be kept open. The number of days spent in bed by each patient is not given.

From these statistics it would seem that, so far as healing of the wound and hernia is concerned, the short incision has not much in its favor. The question of its advantages can only be settled by a large number of cases extending over a considerable period of time. The notes on other subjects included in this volume are mostly papers which have appeared from time to time in various medical journals.

SOME PHYSIOLOGICAL FACTORS OF THE NEUROSES OF CHILDHOOD. By B. K. RACHFORD, M.D., Professor of Physiology and Clinician to Children's Clinic, Medical College of Ohio. The Robert Clarke Co. 1895.

THIS book is an important contribution to a subject which has been almost entirely neglected by writers on diseases of children. The author uses the term neuroses to cover all local and general nervous disorders which do not depend on known local pathological lesions of the nervous system. To these disorders belong what are commonly, but incorrectly, called functional nervous diseases. No one who has looked into the subject can deny that troubles of this sort are very prevalent among the children of the present generation. Therefore anything which throws light upon the causes which produce them, and the means for their prevention, is distinctly of value. While these neuroses may not be dangerous to the life of a child, yet they exert a tremendous influence upon its future.

The opening chapters deal with the physiology of the nerve-cell. Its functions are three: First, the generation of energy, and the amount of energy generated depends upon the degree of its functional development and the amount of healthy metabolism. Second, to discharge energy. Third, to inhibit energy. Both of these functions may be voluntary, involuntary, or reflex.

The brain of the normal healthy child is morphologically and functionally immature, and during childhood it develops much more slowly in function than in size and weight. The inhibitory function is naturally more feeble and slower in development than the other functions; and unfavorable conditions of food, heredity, and environment may produce abnormally feeble inhibition. According to the author, it is the higher degree of excitability of the nerve-cell in a child, due to the functional immaturity, plus the feeble inhibitory power, which causes most of the nervous diseases in childhood.

The variable temperatures of infancy and childhood are explained by the activity of the thermogenic centre at the base of the brain and the feeble inhibitory centre in the cortex. The exciting causes of fever are bacterial products of insolation, which the author considers the etiological factor of cholera infantum, muscular action, and reflex irritation.

The chapters on auto-intoxication and reflex irritation as causes of the neuroses are worthy of close attention. Auto-intoxication may occur through the urine, not by urea and uric acid, as Haig believes, but by the presence in the blood of the leucomains, paraxanthin and xanthin, and other unnamed poisons. Certain forms of epilepsy, with migraine, gastric neuroses, neurasthenia, etc., are probably dependent upon this form of auto-intoxication. Such neuroses as chorea, hysteria, nocturnal nacentium, and convulsions, may be due to bacterial toxines produced by the organisms of tuberculosis, malaria, or intestinal fermentation. Finally, the author shows what powerful factors excessive brain work and nerve excitement are in the production of neurotic disease, especially in delicate children.

He deprecates the modern social life of children and the forcing process of education, which are adding thousands each year to the vast army of neurasthenics and hysterics which inhabit our cities. Parents, nurses, and teachers should be taught that precocity is frequently an evidence of physical weakness, and should be discouraged rather than fostered. No child should be advanced in its studies until its physical development is up to the standard. Vegetation is the ideal life for infancy and childhood. The individuality of the child is frequently destroyed by nurses and governesses. He should be allowed some solitude each day, and companionship with his intellectual equals. Numerous playgrounds in our cities are of more value to the community than hospitals and monuments.

We recommend the book to all who are interested in the treatment of children.

ATLAS OF CLINICAL MEDICINE. By BYROM BRAMWELL, M.D., F.R.C.P. Edinburgh, Assistant Physician to the Royal Infirmary, etc. Vol. III., Part II. Edinburgh: Printed by T. & A. Constable, at the University Press. 1895.

THIS number contains the following: A consideration of hereditary syphilis; a description of plates illustrating progressive muscular atrophy; a chapter devoted to progressive muscular dystrophies, viz., pseudo-hypertrophic paralysis, the juvenile form of myopathic muscular atrophy of Erb, the pseudo-scapulo-humeral form of Landouzy and Déjerine, the hereditary form of progressive muscular atrophy of Leyden, the (purely) atrophic form of myopathic muscular atrophy, generalized progressive muscular atrophy of early childhood, and the peroneal type of progressive muscular atrophy; points to be observed in the clinical examination of cases of pseudo-hypertrophic paralysis and other forms of progressive muscular dystrophy; notes of cases of pseudo-hypertrophic paralysis and other forms of muscular dystrophy (to be continued in Part III.). There are also ten large plates, illustrating ichthyosis, multiple cancer of the breasts and other organs, congenital syphilis, progressive muscular atrophy, and cyanosis. The atlas continues to be a model of style in medical literature and bookmaking, and is also the embodiment of much practical and well-selected knowledge. Undertaken at great expense, each new fasciculus keeps to the original standard of excellence and interest. This atlas is one of the many important works that the Edinburgh school is constantly giving to the widely scattered English-speaking medical public. It deserves ample recognition everywhere.

DISEASES OF THE FEMALE BLADDER AND URETHRA. By HOWARD A. KELLY, M.D., Baltimore, Md.

DR. KELLY'S pamphlet, beginning at p. 664 and ending at p. 726, suggests that it is part of a book that is to be. It contains a description of methods, posture, and instruments used in the investigation of diseases of the urethra, bladder, and ureters in women. Up to the present time this class of disease has been the most neglected field in the whole range of scientific medicine. There is a groundwork of reason in this neglect, for the commoner urinary diseases of men are far more apt to prove dangerous to life. Then, too, diseases of the lower urinary tract in women have not been made the subject of exclusive study by specialists. Gynecologists, to whom they have been referred by common consent, have too often slighted them as difficult or impossible to diagnosticate and intractable to treatment. The whole urinary tract in women may now be examined without pain or injury, and its disorders successfully treated. Dr. Kelly is one of perhaps half a dozen gynecological surgeons who have given special attention to a neglected source of pain, discomfort, expense, and disablement. There are over twenty illustrations, a careful explanation of methods, interesting references, and histories of cases relieved and cured.

A CLINICAL MANUAL. A Guide to the Practical Examination of the Excretions, Secretions, and the Blood, for the Use of Physicians and Students. By ANDREW MACFARLANE, A.B., M.D., Instructor in Neurology and Diseases of the Chest in the Albany Medical College, etc. New York and London: G. P. Putnam's Sons. 1894.

WRITTEN for the purpose of giving in a concise manner methods employed to utilize the marvellous advances of the past ten years in physiological chemistry and in clinical microscopy, the author acknowledges his indebtedness to Jaksch, Vierodt, Ewald, Leube, Eichhorst, Fraenkel, Berheim, Osler, Councilman and Lafleur, Delafield and Prudden, and others, and especially to Tappeiner's "Anleitung zu Chemisch Diagnostischen Untersuchungen am Krankenbetta," after which this clinical manual has been to some extent modelled, and from which certain procedures have been directly translated. There are thirty-nine wood-cuts and several colored plates. The work described can be carried on by any physician in his own office, with a suitable microscope and a small amount of apparatus. The directions are plain and precise, embodying all that a physician need know of chemistry, and not more than is necessary for successful practice. It is a very useful manual.

THE THEORY AND PRACTICE OF COUNTER-IRRITATION. By H. CAMERON GILLIES, M.D. London: Macmillan & Co. 1895.

THE author states that he likes the plan of this essay very much; so does the critic. First comes a complete history of the subject, then a new theory is formulated and discussed, and the whole second part devoted to a consideration of the uses of counter-irritants generally. The new theory is not absolutely startling in its novelty, since it is to the effect that every process of inflammation is a natural effort toward cure, and that the beneficial effects of counter-irritations always result from their facilitating or accelerating that process. The term counter-irritation is a misnomer, since it does not in any sense check or divert or act counter to the processes of inflammation. The expression external stimulant or irritant application is better. It does not counter-irritate when it serves any good purpose. The best known and most useful irritant applications are the actual cautery, the Spanish fly, mustard, turpentine, iodine, and a few others. They are so carefully described and discussed by the author that it is impossible to imagine anything further being said upon the subject.

A MANUAL OF ORGANIC MATERIA MEDICA. Being a Guide to Materia Medica of the Vegetable and Animal Kingdoms, for the Use of Students, Druggists, Pharmacists, and Physicians. By JOHN M. MAISCH, Ph.M., Phar.D., late Professor of Materia Medica and Botany in the Philadelphia College of Pharmacy. Sixth edition. Revised by HENRY C. C. MAISCH, Ph.G., Ph.D. With two hundred and eighty-five Illustrations. Philadelphia: Lea Bros. & Co. 1895.

THE sixth edition of any manual speaks for itself. Although the last edition was issued in the autumn of 1892, the subsequent publication of the Pharmacopœia of the United States has necessitated some additions and alterations. Where necessary, specific names have been changed to correspond with those officially recognized. Articles that have received official recognition now appear in large type. The text has received careful revision, and the results of recent investigations and observations have been incorporated in the present edition, which is somewhat reduced in size through condensation, though the matter contained has been increased.

Clinical Department.

THE USE OF THE CURETTE IN OPERATIONS FOR EMPYEMA.

BY J. A. FULTON, M.D.,

SURGEON TO ST. MARY'S HOSPITAL, ASTORIA, ORE.

IN the treatment of a number of cases of empyema by resection of the rib, followed by drainage, experience has shown that a majority of the cases so treated terminate in a way which is entirely satisfactory to all concerned, while a small percentage of the cases, instead of going on to recovery, require further operative treatment or terminate fatally. The reason for the very different results thus obtained from practically the same treatment, no doubt, may be due to some differences in the constitution, temperament, previous condition, or the present conditions surrounding the patient. These differences, of course, include those cases of tuberculous origin as well as those which have acquired the tuberculous disease as a sequela to the empyema.

How to reduce the already small percentage of failures from the operation is now the important question to consider. To the writer it seems that often the cause of failure to secure the desired results from operation may be due to the incompleteness of the operation. In operating on these cases we may find anyone of two or three different conditions to be present. In the first, we may find only pus in the pleural cavity; in the second, we may find also large masses of coagulated lymph; and in the third we find, in addition to the former conditions, that the wall of the pleural cavity is lined with a deposit of lymph varying in thickness from a mere coating to a deposit several lines in thickness. In the first of these conditions free drainage, under aseptic precautions, will result in a cure; in the second, drainage alone will not remove the large coagula, they must be removed with a scoop or the finger of the operator, if a cure is to be expected. The third condition is the one to which the writer desires to draw attention. In this variety the finger of the operator and the scoop may remove the floating lymph, but it requires something more to detach the deposit from the walls of the chest. It has been the writer's custom to look upon empyema as he looks upon pus elsewhere, or as a large pus cavity which should be treated as any other large pus cavity is treated.

To open and drain an ordinary abscess, if of large size, is barely sufficient; it is necessary to curette thoroughly, wash thoroughly, and pack carefully under the strictest aseptic precautions. This is the method adopted by the writer in the treatment of those cases of empyema where the wall of the cavity is lined with the lymph deposit. After resection and thorough douching with plain hot water, the entire cavity is gone over carefully with the curette; the douche is kept going all the time, and as fast as the deposit is loosened it floats away. Care is used to avoid wounding the pleura, and curettes with flexible handles are needed, so the entire surface may be reached. After the entire cavity has been thoroughly gone over and everything washed away, it is dried and carefully packed, and from that time on treated very much as if it were a large abscess cavity elsewhere.

The experience of the writer, with this method of treating empyema, while not extensive, has proven so satisfactory that he feels justified in the continuance of the same; and, furthermore, it has encouraged him to report it to the profession. It has not been deemed necessary to report cases, or to enter into a long description of an operation, which has only to be mentioned by name to be clearly understood by the surgeon. The object of the writer in this paper is simply to draw attention to the indications for the use of the curette in the treatment of certain cases of empyema. It is possible that the method practised by the writer in these cases is not new to others, but after a rather extensive experience with the works and writings of others he can find no reference to this practice; in fact, the authors accessible to the writer seem to be more or less opposed to doing anything more in these cases than to furnish an outlet for the pus. The fact that something more than drainage is indicated in many cases is apparent to anyone with experience, and any method which holds a promise for a better and more perfect and certain result is certainly worthy of consideration.

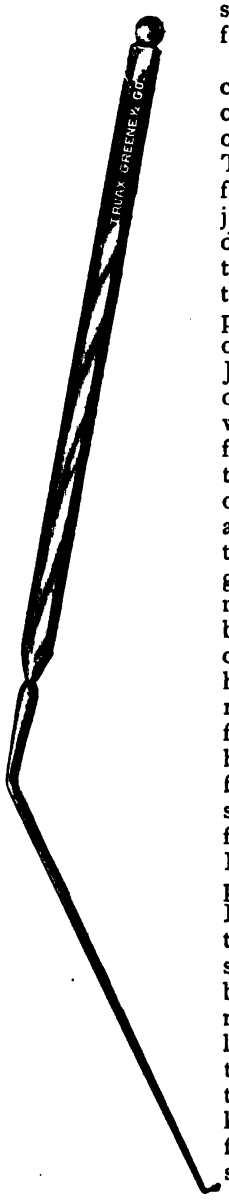
The Late Dr. Charles F. J. Lehlbach.—At a meeting of the Practitioners' Club of Newark, N. J., held September 2, 1895, the following minute was adopted: "Charles F. J. Lehlbach, M.D., died August 14, 1895. Dr. Lehlbach was one of the founders of the Practitioners' Club, and by voice and pen contributed largely to its successful establishment. He possessed a scholarly mind richly stored by extensive reading and observation. His keen logic, brought to bear upon the varied abstruse points in our discussions, readily separated the wheat from the chaff and made his presence among us invaluable. Admirably gifted with genial social traits, he embodied within himself those qualifications which it is the chief aim and design of the Practitioners' Club to promote. With profound sorrow for the loss of our late associate, and grateful remembrance of his valuable labors among us, the Practitioners' Club affectionately directs this minute to be recorded."

A NEW OPERATION FOR CHRONIC CATARRHAL AND CHRONIC SUPPURATIVE DEAFNESS.

By THOMAS H. SHASTID, A.B., M.D.,

GALESBURG, ILL.

In several cases of deafness, of the kinds mentioned above, I have noted the results of traction on the handle of the malleus by means of a blunt hook carried through an incision in the drum-membrane. This procedure, so far as I know, has not been performed or proposed before.



It was suggested to me by an accident, which, in the course of an operation, occurred in consequence of the unruliness of the patient. This patient had long been a sufferer from catarrhal deafness with subjective noises, for which all the ordinary means of treatment had been tried in vain. I was therefore attempting, by an original method, to produce a permanent perforation of one of her tympanic membranes. Just at a moment when, as a part of the technique of my method, I was introducing through the perforation an angular spatula, the patient suddenly, and without a word of warning, jerked her head away, and the spatula, engaging in the tympanum, was pulled from my fingers. When I recovered the instrument she declared that she heard better. A moment later she declared also that her "head noises" had almost ceased. The assertion regarding the hearing I verified, finding that the hearing-distance had increased for the acoumeter from 4 feet to 25 feet, for loud speech from 8 feet to 30 feet, and for whispers from 0 inch to 8 feet.[1] Exactly what it was that had taken place to produce the improvement I could not determine; but from the position in which I had held the spatula I thought that it must have been a traction made by the instrument upon the handle of the malleus. Whether or not this explanation was right, the procedure of traction on the handle of the malleus applied intentionally I have frequently found to give good results.

The way in which I do the operation is this: The auditory canal having been thoroughly cleansed and antisepticized, a slight scratch is made with the lance-knife on the anterior portion of the drum-membrane and a twenty per cent. solution of cocaine instilled into the ear and allowed to remain for five minutes. This not only produces perfect anæsthesia for the incision, but also decidedly lessens the unpleasant sensations that accompany the tractions. These sensations, it may be as well to remark, are usually whistling, ringing, or roaring sounds, together with dizziness and sometimes actual pain. The incision is made with the lance-knife just anterior to the handle of the malleus, parallel with it, and from two and a half to three millimetres in length. It is made in front of the handle rather than behind it, since in the former place the hemorrhage is less—though in neither place is it of much consequence. The first instrument that I used for applying the traction was the angular spatula; but I have since had made a blunt hook which I find far easier to introduce through the simple slit. This hook (shown in the illustration a trifle too heavy and too long) is 1½ mm. in length, slightly enlarged and rounded at the extremity, very slightly curved toward the operator, and mounted on a shaft at an angle of one hundred degrees. It is introduced through the incision and rotated in such manner that it comes to lie directly across the handle of the malleus, when with it are made three or four rather quick, but of course perfectly gentle, tractions. It is then turned and withdrawn. If, upon test, no improvement be found, the instrument may be again introduced and the tractions repeated with a little more force. This technique has been employed, practically without variation, in all the cases whose record follows, the single modification having been the substitution in the last four cases of the blunt hook, or tractor, for the spatula. The incision, it is true, instead of being made parallel with the handle of the malleus, might be made at right angles to it, when the necessity for rotating the hook would be obviated; but since I have observed that now and then during the performance of the tractions the hook slips along the handle of the malleus, I have thought that if the incision were at right angles the hook in slipping might possibly tear the membrane and thus inflict upon it an unnecessary traumatism.

Case I.—A woman, thirty-two years of age, complained of bilateral deafness with loud subjective noises. The noises she had had for many years, the deafness she had noticed for only two years. The drum-membranes exhibited no changes, except slight retraction. The tuning-fork, however, localized the trouble in the middle-ear. The hearing distance of the right ear was, for the acoumeter, 1½ foot; for loud speech, 12 feet; of the left ear, for the acoumeter, 2 feet; for loud speech, 10 feet. Politzerization and massage of the ossicles for six weeks produced no improvement. Traction was performed on both sides, and the hearing distance of the right ear was found to be, for the acoumeter, 18 feet; for loud speech, 20 feet; for whispers, 5 feet. Of the left ear, for the acoumeter, 20 feet; for loud speech, 20 feet; for whispers, 5 feet. At the end of a week this improvement had almost subsided. Traction was applied a second time with a quicker, sharper touch, and the hearing distance of the right ear found to be, for the acoumeter, 25 feet; for loud speech, 25 feet; for whispers, 5 feet; of the left ear, for the acoumeter, 25 feet; for loud speech, 25 feet; for whispers, 5 feet. These distances, at the end of six months, were found to have remained unaltered.

Case II.—A man, thirty years of age, had had suppurative otitis media for twelve years, during the last six of which he had noticed a gradually increasing deafness. Both ears, at the time he came to me, were discharging. The drum-membranes presented, each, a large perforation, through which could be seen a mass of granulations. The granulations were removed and the tympana treated to a cure. The hearing distance of the right ear was then found to be, for the acoumeter, 5 feet; for loud speech, 5 feet; of the left ear, for the acoumeter, 15 feet; for loud speech, 20 feet. Politzerization and catheterization had frequently been applied during the treatment of the otitis, and hence were not further indicated. Traction was tried, but gave no results. At the end of a week it was tried again, and at the end of another week a third time, but each time without results. The reason why traction was not serviceable in this case was, I thought, that here there was no restricting tissue to be loosened or torn; on the contrary, the ossicular ligaments were relaxed and the ossicles themselves already too mobile.

[1] The first figures in these comparisons represent the hearing distance as it was after having been improved by the artificial perforation. It is an interesting fact in this case that when the artificial perforation closed no diminution in the hearing occurred. This can be explained by supposing that the hindrance to sound-conduction having been removed by the accident, the perforation was no longer advantageous.

CASE III.—A woman, aged thirty-five, had had deafness and tinnitus aurium for five years. The pharynx was covered with granulations. The drum-membranes were opaque and moderately retracted. The hearing distance of the right ear was, for the acoumeter, 15 feet; for loud speech, 20 feet; of the left ear, for the acoumeter, 10 inches; for loud speech, 12 inches. Politzerization and massage of the ossicles for four weeks increased the hearing distance of both ears, for the acoumeter, by 3 feet, but the hearing for speech it did not improve. Traction was applied, and increased the hearing-distance of the right ear, for the acoumeter, to 25 feet; for loud speech, to 28 feet; but the hearing of the left ear it did not improve. At the end of four weeks the increase in the distances of the right ear had totally subsided. Traction was not re-performed, as the patient was shortly to pass from observation.

CASE IV.—A girl, aged sixteen, had been deaf from catarrh for one year. She had been treated by Politzerization and catheterization with the result, she said, that she got worse. The pharynx was covered with granulations, and the mucous membrane covering the inferior turbinated bones was hypertrophied. The drum-membranes were opaque and moderately retracted. The hearing distance of the right ear was, for the acoumeter, 9 inches; for loud speech, 5 feet; of the left ear, for the acoumeter, 5 feet; for loud speech, 10 feet. Under three weeks' treatment of the nose and pharynx the hearing of both ears increased, for the acoumeter, 3 feet, but for speech not at all. Traction was applied, and the hearing of the right ear increased, for the acoumeter, to 15 feet; for loud speech, to 20 feet; of the left ear, for the acoumeter, to 20 feet; for loud speech, to 35 feet. The treatment of the catarrh was continued to a cure, and the results are now, six months after traction, practically unaltered.

CASE V.—A girl, aged ten, had been deaf from catarrh since the age of six. She had repeatedly been treated, with but slight and temporary results. The Politzer air-bag had, by her last physician, been placed in the hands of her parents with instructions to "use it." It had been used vigorously and frequently, often several times a day. The membranes were atrophic and flaccid, and the one on the right side was ruptured. The hearing-distance of the right ear was, for the acoumeter, 4 inches; for loud speech, 2 feet; of the left ear, for the acoumeter, 6 inches; for loud speech, 2 feet. The air-douche was discontinued, and the pharynx was treated for four weeks. At the end of this time no improvement could be found in the hearing. Traction was applied, and the hearing-distance of the right ear found to be, for the acoumeter, 30 feet; for loud speech, 35 feet; for whispers, 12 feet; of the left ear, for the acoumeter, 35 feet; for loud speech, 35 feet; for whispers, 15 feet. These distances, five months afterward, were found to be unaltered.

CASE VI.—A woman, aged thirty, had been deaf since the age of four. At the latter age she had got a suppurative otitis media from an attack of measles. The discharge had persisted till the age of ten or twelve. For the last eight or ten years the deafness had steadily grown worse. The drum-membranes were white, perfectly opaque, and slightly retracted, the left one presenting a small perforation. The acoumeter could be heard by the left ear only at 4 inches; by the right ear, not at all. Speech could be heard only when very loud and very near. Under Politzerization with treatment of the naso-pharynx the hearing did not improve. Traction was applied, and the hearing-distance of the right ear increased, for the acoumeter, to 2 feet; of the left ear, to 4 feet. The gain in hearing for speech, however, was much more remarkable, moderately loud speech being distinctly heard by either ear at 16 feet. This, in effect, restored to the patient her power to converse. It is now three months since the results were secured.

To sum up the report: Of the six cases four were of catarrhal, two of suppurative origin. Of the four cases of catarrhal origin traction was found useless in one, decidedly beneficial in three. Of the two cases of suppurative origin traction was found useless in one, decidedly beneficial in one. All the cases had previously been treated by ordinary methods, either entirely without benefit or with benefit of only a slight or only a temporary character.

How can we explain the fact that in some of these cases traction succeeded when the usual methods had failed? In this way: By traction the force was applied to the ossicles directly; by the usual methods it was applied to them indirectly—that is, through the medium of the drum-membrane. This structure, in many cases of middle-ear deafness, is so thickened and stiffened that when the blast of air strikes upon it it either entirely refuses to draw the handle of the malleus outward, or draws it outward to only a very slight extent. Even when the membrane willingly stretches till the umbo has described as great an outward arc as it could possibly do under the influence of traction—even then, by its very stretching, the membrane lessens the suddenness with which the force acts upon the ossicles. But it is precisely suddenness of action that we want. The truth of this last assertion we may know not only from the supposition that, in these cases, the good that is done is accomplished by the rupturing of limiting adhesive bands, and hence is accomplished in greater degree the greater the rupturing power or suddenness with which the force acts, but also from the well-known clinical fact that frequently when inflation, by means of a slow, gradually increased blast, has been tried in vain, a quick, sharp, sudden blast opens the gates of sound like magic.

In conclusion, I desire that in laying before the profession the facts concerning this operation I be not misunderstood. As a measure for routine I do not think the procedure worth the slightest attention. Politzerization, catheterization, and massage, in the kinds of cases we have been considering, have long been, and are likely long to remain, our chief reliance, to the almost total exclusion of intra-tympanic operations. All that I wish to claim for traction on the handle of the malleus is that it is simple and safe, and that, judging from the results in the few cases in which I have tried it, it is likely to prove of real and decided service in some of the many cases in which ordinary treatment is ineffective.

REPORT OF TWO TRACHEOTOMIES FOR LARYNGEAL CELLULITIS.[1]

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CASE I.—On March 11, 1895, I was called to attend a man who was said to be choking to death. I found the patient, aged twenty-nine years, in the throes of a most urgent and agonizing inspiratory dyspnœa. Notwithstanding the extreme dyspnœa, his voice was but little impaired except from exhaustion. From his friends I learned that on the afternoon of Saturday, the 9th, he complained of chilly sensations and some discomfort on swallowing. The indisposition was not of sufficient importance to cause any alarm, as he went to the theatre in the evening, and after that slept well during the night, and went to church on Sunday morning. After this he had paroxysmal attacks of coughing and dyspnœa. His family physician was called, and remained with him until early on Monday morning, the 11th, when I was called to do an intubation.

On laryngoscopic examination I found the epiglottis

[1] Read before the Louisville Clinical Society.

enormously swollen, and of a deep red color, the free margin forming apparently a complete ring with a small central aperture about the size of a crow's quill, the swelling being more pronounced on the right side. Of course the condition of the epiglottis made an examination of the cavity of the larynx impossible, but the fact that the voice remained good made it clear to my mind that the swelling was confined to the epiglottis. An intubation being neither possible nor practicable, I advised a tracheotomy, to which the patient readily consented. Dr. Ap Morgan Vance was called, and performed the low operation under cocaine anæsthesia. Owing to the unusual depth of the trachea it was found impossible to keep the tube in position, so a stout ligature was passed through the lip of the tracheal wound and the two ligatures tied around the neck, keeping the wound open by tension. These ligatures came away on the fourth day. The swelling of the epiglottis reached its climax forty-eight hours after the operation. At the time of the operation the patient had a temperature of 103° F., and it ranged from this to 105° F. for four or five days after the operation. On the second day after the operation the patient developed considerable cellulitis of the neck above and to the right of the tracheotomy wound, but apparently having no connection with the wound. The swelling subsided without the formation of pus, as did also the swelling of the epiglottis. Eight days after the operation he was able to breathe comfortably through the larynx. The tracheal wound was allowed to heal by granulation, and the patient discharged on March 27th, sixteen days after the operation. Several times since his recovery I have made laryngoscopic examination and found nothing abnormal or pathological. If he has any constitutional disorder, he has up to this time (six months after the operation) failed to develop any symptoms.

Case II.—April 28, 1895, I was called to see Sallie L——, colored, aged twenty-two years. Found her suffering with marked dyspnœa; she could speak only in a faint whisper. From her mother I learned that she had been hoarse for three or four days, and had been attended by a general practitioner until within a few hours of the time that I was called, when he retired from the case, advising them to call a specialist. With the laryngoscope I found the obstruction in the arytenoid and inter-arytenoid region. I thought it would be possible to introduce an intubation tube. Trying first the medium-sized rubber tube, and finding it impossible to introduce this, I next tried the small adult tube, and was able to engage the point of the tube in the chink, but could not, with all the force that I felt at liberty to use, introduce the tube into the trachea. She readily consented to a tracheotomy. Dr. W. C. Dugan was called. In the few minutes that elapsed between the time he was called and his arrival, the patient became unconscious. The conditions were now so serious as to demand an immediate operation. Without waiting for cocaine I made extension of the head, and Dr. Dugan fixed the trachea with his left hand and plunged the knife into the tube. Withdrawing the knife the wound was kept open by a pair of artery forceps. The tracheotomy tube was introduced between the blades and the forceps. The patient's head was then lowered to prevent the blood from flowing into the trachea. The hemorrhage was inconsiderable, and stopped of its own accord. The incision was through the first or second ring of the trachea, and evidently severed the thyroid isthmus. After a few full inspirations the patient regained consciousness, and passed a fairly comfortable night. An examination of the larynx twelve hours after the operation showed the œdema involved, also the ventricular bands. This swelling did not perceptibly diminish until the fourth day, when it began slowly to diminish. On the eighth day the tube was removed. There was no return of the dyspnœa, though the hoarseness continued for nearly six weeks. After the swelling subsided it was plainly evident that the antero-posterior diameter of the larynx was abnormally short, and the arytenoids actually or apparently taller than usual. The site of the tracheal wound was plainly visible with the laryngoscope for several months after the operation.

Up to this time, five months after the operation, she has developed no symptoms of any constitutional disease.

A few words in regard to the anatomy of the parts involved and the pathological conditions present in the acute obstructive diseases of the larynx will, I hope, be sufficient apology and explanation for having reported the foregoing cases under the above title.

The mucous membrane of the larynx, as all well know, is more or less intimately attached to the underlying structures by a layer of connective tissue varying in thickness and density in different regions of the larynx. This connective tissue is especially abundant and lax in the ary-epiglottic folds, the ventricular bands, and posterior surface of the epiglottis. These areas of connective tissue are of course subject to the same diseases as the connective tissue in other parts of the body, and under certain conditions become the seat of an inflammatory infiltration or serous transudation sufficient in extent or quantity to lessen or altogether occlude the lumen of the larynx, and produce death by mechanical interference with respiration. Much confusion, in the nomenclature as well as in the treatment of the acute obstructive diseases of the larynx, has been caused by grouping together the several different pathological conditions of the connective tissue of the larynx under the general term "Œdema of the Glottis," or "Œdema of the Larynx," the first of which is not only a misnomer, but an anatomical impossibility, from the fact that in the true vocal cord the mucous membrane is firmly adherent to the underlying structures. The last is, to say the least, ill-chosen, or should be used in a restricted sense to apply to the non-inflammatory cases; for this reason I have presumed to say a few words in regard to the nosology of this particular branch of laryngology.

In enumerating the pathological conditions of the laryngeal connective tissue we have left, after eliminating those infiltrations and exudations which form a part of the clinical history of perichondritis, tubercular and syphilitic laryngitis, two distinct affections, one an inflammatory infiltration due to some form of sepsis, and which may terminate in resolution (as in the two cases reported), or in suppuration, either circumscribed or diffuse; the other a non-inflammatory serous transudation, due to some renal or hepatic disease, some blood dyscrasia, or circulatory disturbance. Now, in order to describe the conditions more explicitly to avoid confusion, and at the same time to conform to the nomenclature of general medicine and surgery, I would designate the former affection as laryngeal cellulitis, the latter as laryngeal anasarca. As to what proportion of the cases are inflammatory, and what are dropsical, I have no means of knowing, but am inclined to think that by far the larger proportion of cases are inflammatory, as localized anasarcas are rather rare in any part of the body.

I have purposely laid considerable stress upon the fact that in the so-called œdema the lesion is in the sub-mucous connective tissue and not in the mucous membrane, for the reason that the opinion seems to be more or less prevalent that œdema is a sequela or complication of catarrhal laryngitis, an opinion which seems to me to be entirely erroneous.

A marked impairment of the voice may follow an acute catarrhal laryngitis, but an obstruction sufficient to interfere to any considerable extent with respiration is always due to some involvement of the connective tissue. The literature on "Œdema of the Larynx" is rather voluminous, but confusing, ambiguous,

and unsatisfactory. Most of the authors that I have consulted quote largely from the statistics and conclusions of Sesteir, of Paris, who collected and tabulated two hundred and forty-five cases of œdema of the larynx, and wrote a monograph on the subject in 1852. You will remember that this was before the day of the laryngoscope, and that four-fifths of these cases were gleaned from medical literature of that day when it was customary to call all forms of laryngeal obstruction "Œdema Glottitis." Again, several authors quote from the statistics of Peltesohn, who in 3,887 autopsies found œdema of the larynx 210 times, or 1 in 18, while Hoffman, in the same city, in 6,062 autopsies found only 33, or 1 in 183. The divisions that these statisticians make of their cases into primary and secondary œdemas fail to convey to me any definite impression either of the pathology or etiology of the affection. Owing to the faulty classification, and the fact that the statistics are made almost entirely from post-mortem examinations, it is impossible to form an intelligent estimate of the mortality.

As to the treatment, the text-books recommend hypodermatic injections of pilocarpine, steam inhalations, and especially scarification. As to scarification I wish to demur; I can see how in cases of anasarca it would lessen the effusion, or in slight inflammatory affections the local depletion might be beneficial, but when the case has become at all urgent, scarification would add a serious complication in the way of hemorrhage, which would be sufficient to excite paroxysms of coughing, which may at any time prove fatal. Aside from this, we know that the swelling due to cellulitis in other parts of the body is not readily controlled by incisions. Most of the cases will require the more radical measure of tracheotomy, which should be performed early without subjecting the patient to hours and days of danger and distress. Intubation is not suited to these cases.

A PIECE OF BONE IN THE APPENDIX VERMIFORMIS.

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The piece of bone shown in Fig. 1 was found in a man, aged sixty-seven, who died at the Metropolitan Hospital. Death occurred from chronic diffuse nephritis and a complicating broncho-pneumonia.

On opening the abdominal cavity the tip of the appendix, uncovered by the small intestine, was found enlarged and lying on the sacral promontory. The appendix itself arose from the lower end of the cæcum, and curved inward and upward. As a whole it was longer and larger than normal. It had a mesentery for more than half its length, but was not bound down, nor was there any evidence, old or recent, of inflammation. When the appendix was slit open a foreign body, which upon examination proved to be a piece of bone, was found at the point of enlargement. From the shape and appearance of the piece I should say it is a fragment of a large bone. It is rounded at one end, while the other presents four projecting points. It seems probable that any one of the points would have penetrated the intestinal or appendicular wall during a strong contraction. The bone measures five-eighths of an inch in its long diameter and one-fourth of an inch in its broadest transverse diameter. It entered the appendix, blunt end foremost, and travelled as far as it could go (Fig. 2). The wall of the appendix encircled it so closely that the point of the scissors was introduced with difficulty. The piece of bone was enveloped in mucus, which filled the lumen of the appendix throughout its whole length. A localized thickening of the wall of the appendix had taken place at the site of the bone. Microscopically the thickening was found to be due to a local hyperplasia of the submucous coat, and the mucous membrane had been denuded of its epithelium. From the localized thickening of the wall it may be assumed that this body has been in the appendix for a long time.

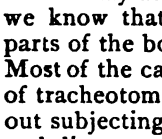

Fig. 1.

A complete history would add much interest to the case. The bone is larger than the lumen of the appendix, and must have caused marked distention as it travelled along. The length of time occupied in the passage would be an interesting point. Reasoning from analogous conditions in the ureters and bile-ducts, the man probably had a protracted attack of sharp colic, the pain having its centre, at least, in the neighborhood of the right iliac fossa.

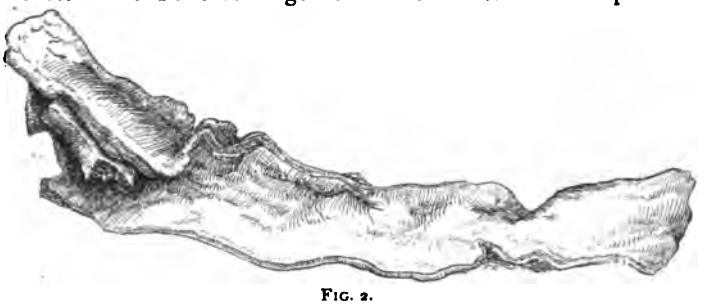

Fig. 2.

In a valuable contribution to the pathology of the vermiform appendix[1] we find the following statements with reference to foreign bodies:

"The literature of the subject reveals a most extraordinary collection of substances which are stated to have been found within the cavity of the appendix. Thus fruit-seeds, cherry-stones, hairs, bristles, shot, pins, gall-stones, lumbricoids, pills, teeth, peanuts, shells, and bones have at all times been recorded as having been found within the appendix. I venture to assert that many of them are inaccurate. From their similarity in size, shape, and appearance, so-called fecal concretions have frequently been mistaken for foreign bodies. It may be said that the occurrence of foreign bodies, properly so called, within the cavity of the appendix, is exceedingly rare, and probably much more so than has been usually believed; in proof of this statement there are the following facts: That in my series of anatomical cases in no single instance did I find a foreign body of any description. Concretions were found in several instances, but these are not included under the present term."

In further proof of the above statements the claim is made that "the anatomical position of the appendix renders it a physical improbability that any foreign body, particularly one the size of a cherry-stone, or even a shot, could enter the organ." Without wishing to discredit the author's observations, I should like to say that my own are not in accord with this statement. While it must be admitted as true of a large number of cases, it is not true of all. The point of origin of the appendix is variable. In the majority of cases which I have examined it has arisen from the wall of the cæcum a little above its lower extremity, and in a recent autopsy as much as four inches above, though in others it has arisen directly from the lower end. Moreover, the direction of the appendix is not always the same. It may pass upward or downward, and in almost all cases where it has come off from the blind extremity of the cæcum it has passed over the pelvic brim and downward into the pelvic cavity. Such a point of origin and such a direction, instead of rendering it physically improbable, renders it probable that a foreign body would enter the appendix. The action of gravity would tend to carry it into the neighborhood of the opening with the individual in the upright position. In the case under consideration the point of

[1] Pathology of the Vermiform Appendix, by Richard J. A. Berry, M.D., Journal of Pathology and Bacteriology, April, 1895.

origin was at the blind extremity, but the appendix curved upon itself so that its tip lay upon the promontory of the sacrum.

In the absence of any evidence as to the direction of the peristaltic wave in the human appendix, no positive statements can be made as to the assistance it would lend in carrying a body onward. While in the intestine, as a whole, the peristaltic wave is, for the most part, in one direction, it does, under certain conditions, travel in the other. Dr. W. Gilman Thompson tells me that in the appendix of the rabbit the wave travels in both directions, and this must be true of all animals in whom the appendix has a digestive function to perform. After the partially digested food has entered that organ, the refuse must find exit, and that only by reversed peristalsis.

In the present case the foreign body is too large to have moved along the lumen of the appendix without the aid of muscular contraction, and its expulsion would have been prevented by the sharp, projecting points. The fact that the so-called fecal concretions (appendicular calculi) remain in the appendix, at least long enough for their formation, would make it appear probable that the reverse peristaltic wave is feeble, if it occurs at all.

A CASE OF ACUTE THYROIDITIS.

By JOHN H. BRADSHAW, M.D.,

ORANGE, N. J.

EARLY in December, 1894, I was consulted by a young married lady for a sore neck and throat. A history of exposure to cold was given, the lady having taken the day previous a five hours' drive in an open carriage with insufficient clothing. During this ride she had repeatedly expressed herself as being very chilly. Soreness of the neck was felt the same night. Upon examination of the neck and throat nothing abnormal was seen or felt. No redness of the pharynx, no laryngitis, no swelling of the tonsils or cervical glands could be found to account for the dysphagia, which was, when seen by me, the principal symptom complained of by the patient.

The patient was told she suffered from muscular rheumatism, and was put on fair doses of salicylate of soda without relief. Even phenacetine, which was afterward added, gave but little intermission to the pain. The dysphagia increased, even talking caused the patient to clutch at her throat with every evidence of acute suffering. I confess I was puzzled; but in the absence of any sore throat, properly speaking; in the absence of any elevation of temperature; in the absence of any physical signs, I confidently told the patient she undoubtedly had one of those obscure forms of that strange and erratic complaint called the grip. This seemed to satisfy her completely, for the early diagnosis of rheumatism of the throat the patient herself had scouted.

But I watched the case rather carefully. There was so much prostration on the fifth day of the attack that the patient took to her bed. Eating was now almost an impossibility; she looked badly and felt very weak. It was only toward the end of the first week that any enlargement of the neck was to be seen. By the tenth day there was a typical enlargement of the thyroid gland, as one sees it in true goitre. As the gland enlarged, the pain in deglutition diminished, and the patient was able to go about the house and attend to her duties. During the next ten days the gland grew smaller and smaller, and at the end of the third week from the attack the swelling and soreness disappeared entirely.

I report this case of acute thyroiditis because it is the first I have met with in my practice, and because I do not think the affection receives much notice in our text-books or literature.

The disease is an acute disease, running a regular course, having a tendency to spontaneous cure, like so many acute infectious glandular affections. The cause in my case was exposure to cold. The first and principal symptom throughout the attack was pain located in the thyroid region, with intense dysphagia, some expectoration of mucus, and afterward enlargement of the thyroid gland. The pain is greatest during the first of the disease, while the gland is enlarging. The disease ran its course without fever. Whether the natural tendency of the disease without treatment is to the formation of pus, from the experience of one case I should think such not to be the case. Local and internal medication did not prevent the attack lasting three weeks.

Should I meet with another case, and early recognize its nature, I would keep hot anodyne fomentations over the thyroid gland; and I would administer aconite, small doses of quinine, and enough of the analgesics to keep the patient from acute suffering.

ATROPHY OF THE UTERUS.

By HILBERT B. TINGLEY, M.D.,

ROCKAWAY BEACH, N. Y.

I REPORT the following case as one of more than ordinary interest, especially as to the result:

I was called on Saturday morning, August 12, 1893, at about nine o'clock, to attend Mrs. C——, aged twenty-two, and found her just entering upon the second stage of labor. She gave the following history: Some two years before she was delivered of a large child, which "could not be born alive," and she had some trouble afterward which left her with a "sore spot" in the right side. She had been told that she could not be delivered of a living child, consequently she expected trouble and was very nervous. Upon examination I found a narrow pelvis, but not abnormally so. The head was engaged, but movable. About 11 A.M. the pains became weak and the head was found to be impacted. I then gave an anæsthetic, and after some trouble succeeded in delivering the woman of a fine, big boy. In a few minutes I attempted to remove the placenta by the combined method, but it refused to come. After a short wait I attempted to remove it by the hand within the vagina, but found it adherent to almost the whole uterine wall, but principally upon the right side and the fundus, so firmly that I could not remove it. In a few minutes hemorrhage began. I then sent for Dr. Van Valzah, and upon consultation we decided that the only thing to do was to empty the uterus as quickly as possible, and we then began to remove the placenta piecemeal, and by seven o'clock had removed it as thoroughly as possible in the weakened condition of the patient; we then irrigated and packed the uterus with iodoform gauze, ten per cent.

August 13th.—Temperature normal; patient doing well.

August 14th.—Removed gauze, irrigated, and repacked.

August 16th.—Removed the gauze and irrigated each day until 25th, when she was able to sit up in bed.

August 26th.—About midnight she had a severe hemorrhage, which was checked with some difficulty. I then kept the patient in bed until September 2d, when I gave an anæsthetic and curetted, removing a large handful of fragments of placenta, etc., after which the uterus was kept packed for about one week, being irrigated at intervals. The patient made an uninterrupted and perfect recovery.

In October, 1894, she weaned the baby, and as she had not menstruated by July, 1895, she came to me for consultation, although she felt perfectly well. Upon examination I found the cervix gone, the os appearing like a small hole in the vault of the vagina, the ovaries and tubes almost obliterated and the uterus in normal position, but about one and one-half inch long and about as thick as a man's thumb. Upon attempting to pass a sound I could not get above the internal os—in fact the uterus and appendages were almost entirely atrophied. What was the cause of the atrophy? The sexual function and desire was unimpaired.

REMOVAL OF AN INTUBATION-TUBE FROM THE BRONCHUS BY TRACHEOTOMY—RECOVERY.

By CHARLES H. MAYO, M.D.,

SURGEON TO ST. MARY'S HOSPITAL, ROCHESTER, MINN.

On July 6, 1895, I was called, in consultation, by Dr. F. R Mosse, to make an immediate intubation upon H. F——, a boy five years old. He had been sick four days with an increasing croup cough and fever, was cyanotic and struggling for air, and although a bacteriological examination was not made, the case was one which, in practice, is considered and treated as membranous croup. The third in the series of O'Dwyer's intubation-tubes (the one directed to be used in children from four to six years of age) was inserted, the result being complete relief of the dyspnœa. The head of the tube rested well above the vocal cords, easy to reach with the finger. The condition of the child improved, and the tube was removed at the end of the third day. The breathing was comparatively easy, and after watching the patient half an hour it was considered safe to leave the house. Three hours later I was hurriedly called to reinsert the tube for rapidly developing dyspnœa. The tube was allowed to remain two days this time, when it was removed without difficulty; but, as before, it became necessary to reinsert it six hours later for impending suffocation. Shreds of membrane with tenacious mucus were loosened and thrown out by the manipulation of finger and tube. The tube was left, head well up and fitting snugly in the swollen tissues of the larynx. After remaining forty-two hours this third time, it was noticeable that the breathing was more difficult and noisy. On examining with the finger I was surprised not to feel the head of the tube, and to find that the swelling and œdema of the larynx and immediate structures had disappeared. Reaching further over into the œsophagus, the head of the tube could now be felt in the trachea, just below the vocal cords. The trachea was compressed about the tube and forced up, while the extractor was introduced into the larynx, the finger behind the larynx holding the tube forward. The difficulties will be readily understood by those accustomed to intubating. During the third attempt at extraction the tube was felt to slip down into the bronchus. Efforts at respiration became furious, cyanosis coming on rapidly, and it was evident that the tube must be removed at once. Immediate and rapid preparations for tracheotomy were made. The child's condition had grown worse, and respiration had entirely ceased just before the first incision of a low tracheotomy. The operation was pushed rapidly until the trachea was opened and caught by two artery-clamps at the sides of the incision. My assistant grasped the child by the feet and held him head downward. Efforts at artificial respiration were now commenced. A probe was inserted through the incision into the left bronchus, but coming in contact with nothing metallic, it was passed into the right where it clicked the lost tube. It loosened it and occasioned a slight cough when the tube slipped down to, and was withdrawn through, the incision. After fifteen minutes longer of forced respiration it became natural and the child soon regained consciousness. A tracheotomy tube was procured and inserted in the wound, where it was allowed to remain six days. In spite of a septic broncho-pneumonia the patient made a perfect recovery. The particular tube was one which had been used by me in three previous cases.

With a considerable experience in intubation and knowledge of its literature I have heretofore had no fear of this most rare accident.

Correspondence.

OUR PARIS LETTER.

(From our Special Correspondent.)

PASTEUR—LARREY.

PARIS, October 12, 1895.

Two great losses have just befallen the scientific world—Pasteur, the illustrious *savant*, was buried on Saturday, a national funeral having been accorded him by the Government, and Baron Larrey, the eminent military surgeon, has since passed away. A brief review of their remarkable careers well merits the earnest attention of all interested in science and military surgery.

Pasteur was a quiet, laborious student from his youth up, and after having gone through all the grades except that of Doctor, taught chemistry; he soon began to turn his attention more especially to the study of fermentation and contagion, it being from this that his grand discoveries came. We arrange them in the following order: 1. Pasteur saw that contagion, like fermentation, was always the function of a living organism—a microbe. 2. In his experiments with pébrine, a parasitic disease of the silkworm, he demonstrated conclusively the modes of contagion or penetration of microbes into the economy by alimentation, by contact, as well as by atmospheric dust. 3. Charbon-pustule maligne, or anthrax, and afterward chicken cholera, led him to his greatest discovery, viz., the attenuation of virus and the fixity of the different classes of attenuated virus, proceeding all from a fixed virus. 4. Finally, the treatment of hydrophobia learned us, among other things, that a virus can be successfully neutralized even after penetration into our tissues.

Every discovery of Pasteur's was a struggle—for each discovery raised him determined adversaries. The biologists and physicians resented that a chemist should dare infringe upon their territory, and one of them declared, at the Academy of Medicine, "Yes, microbiology constitutes for medicine at once a social and intellectual peril, for it leads to homicide and infatuation." Pasteur lived, however, to see his most violent opposers become his most ardent supporters. Professor Grancher tells us how his labors in the treatment of hydrophobia began. He says: "I had been working for some months in Pasteur's laboratory when he did me the honor to consult me in the case of little Meister. He was a boy that had come from Alsace, upon the advice of Dr. Weber, to be treated by Pasteur. Meister had been seriously bitten in fourteen different places by a mad dog. But Pasteur, in spite of his scientific faith in experimental pathology, in spite of his belief in the identity of human and animal physiology and pathology, hesitated to inoculate Meister; he therefore asked Vulpian and myself to give him our opinions. It appeared to us that the experiments of Pasteur authorized him to obey a natural sentiment of humanity and inoculate Meister. He then delegated

me to make the inoculations, which I did, with more concentrated virus each day, under the skin of the abdomen. This was in the month of July, 1885, and the 26th of October of the same year Pasteur communicated the facts to the Academy of Medicine. A cloud of distrust followed the burst of enthusiasm. Then came the case of Jupille, who was bitten in the same month of the same year in the Jura, while rescuing from a mad dog some school children at play, and of whom a statue now stands in front of the Institute Pasteur. Jupille was entirely cured, and is still an attendant in the Institute. In 1887 there was still some distrust of the method upon the part of the medical profession, but the day soon came when it triumphed; people belonging to all nations came for the prophylactic or curative treatment, and Pasteur Institutes were established in different parts of the world. Pasteur's most brilliant experiment was with the sheep that were being decimated by charbon. His work for the prevention and cure of Asiatic cholera was not entirely concluded when death put an end to his labors. In speaking to his class and co-workers, Pasteur had that simple but powerful eloquence that goes to the soul by sure and comforting truths; his expressions were always noble because he had noble ideas. He died having faith in a better humanity. He said: "I believe invincibly that science and peace will triumph over ignorance and war; that peoples will be of accord not to destroy but to edify, and that the future will belong to those who have done most for suffering humanity." What more fitting epitaph for the world's greatest scientist?

Baron Larrey, father and son, whose names have been identified with the Napoleonic dynasty for nearly a hundred years, was the student of Dupuytren and of his father, the great surgeon of the armies of Napoleon I.

Professor Agrégé of Surgery at the Faculty of Medicine of Paris, of External Pathology at Val-de-Grace, and Surgeon-in-chief of the Military Hospital of Gros-Caillou, he subsequently became the physician of Napoleon III., Surgeon-in-Chief of the Army of Italy, President of the Society of Surgery and of the Academy of Medicine, also Member of the Academy of Sciences, where he occupied Civiale's chair. He was a grand officer of the Legion of Honor and attained to numerous other positions of honor, including that of deputy as well. From the double point of view of professional courage and military virtue he was a brave man; at twenty-four years of age he took service in the Picpus Hospital at the height of the terrible epidemic of Asiatic cholera in 1832; he had a horse killed under him at the battle of Solferino; during the siege of Paris in 1871 he was Surgeon-in-chief of the besieged armies, when he was more prodigal of his services than his rank demanded.

Baron Larrey was a man of science of high value, and although he does not leave behind him any resounding discoveries yet he has written voluminously, as his father before him had done, on military surgery, of which he had become the apostle and oracle. He was very proud of having seen the Emperor Napoleon I. at a review, to which his father took him in 1815. He was then only six years of age. After passing along the front line of troops, he recounts, "the emperor came toward us. My sister, who was with me, made a gracious courtesy, while I inclined my head respectfully. Napoleon I., who was accompanied by my father, addressed him: 'Are those your children, Larrey,' and tapping me on the cheek with his right hand he added, 'we will try and make something of him, won't we? As for the rest, he has only to resemble you.'" This he did.

"How is Practice, John?"
"All gone! She died last week!"

CHLOROFORM WITH OXYGEN.

To the Editor of the Medical Record.

SIR: The valuable and instructive paper of my friend Dr. Cole, in your issue of the 12th ultimo, will doubtless set many other surgeons to experimenting with oxygen combined with ether, and probably other anæsthetics, and it is to be hoped that their results will be recorded as accurately and carefully as Dr. Cole's seem to have been. The matter is a vital one. My only excuse for trespassing upon your valuable space is that I have heard of a case which ought to be reported, if it has not been, in which oxygen was combined with chloroform with the happiest results.

The operator, whose name I do not know, is said to have produced complete anæsthesia in a feeble old man with senile gangrene with a few drachms of chloroform combined with oxygen, so that he was able to amputate the leg at the knee-joint, the patient standing the operation well and making a good recovery, although the case was so unpromising that a number of other surgeons had declined to operate.

If oxygen will sustain the heart and respiration, and keep up the anæsthesia in feeble and unpromising cases when combined with ether, as it surely seemed to do in the cases reported by Dr. Cole, is it unreasonable to hope that its combination with chloroform may obviate the dangers attendant upon the use of that more elegant and efficient anæsthetic?

Very truly yours,
RICHARD C. NEWTON, M.D.

MONTCLAIR, N. J., October 21, 1895.

THE QUESTION OF AN INTERNATIONAL LANGUAGE.

To the Editor of the Medical Record.

SIR: I am interested and amused by the letters on this subject appearing in your columns, and would not for the world say a word in disparagement of either Greek or Latin. I love the former, it is our *lingua sancta*, and am moderately pleased with the latter language, but when I see a correspondent recommending the adoption of a barbarous dialect of the grand old Latin tongue, I must confess my blood begins to boil. French is bad enough, but Spanish is worse, and practically unintelligible to any person unacquainted with Latin or French. How many of your readers, who know nothing of the language of old Rome, or of that of modern Paris, could make out a word of the paragraph given by your correspondent in what he fondly assumes to be Spanish? Not one, I venture to say, bar the word "gonorrea," which, of course, is Greek pure and simple. Is it not a fact that considerably over one hundred millions of people to-day speak and write English, and its use is spreading daily and hourly; there is a ready-made international language for you, and what more can anybody want?

I dare say the Frenchman and the German would squirm at the idea—let them—their fancies do not alter facts; both nations have annexed many of our words, and now that the United States are increasing their population by leaps and bounds; that a great English-speaking nation is springing up in South and Central Africa and another in Australia; that Russia has made the teaching of English obligatory in her schools; that the Japanese have done the same, and almost adopted it as their national tongue; that it is daily becoming more familiar to the millions of India, I consider it is very bad taste and shows a great deal of ignorance on the part of any English-speaking person to stand

up and advocate its being forsaken by those whose language it is in favor of any other, new or old.

Even in diplomatic circles English is gaining ground, and I venture to predict that before the end of the next century English will be the language of the world.

It is nor a perfect language, perhaps, but it is a good, practical one. I remember when I was in Australia a French blacksmith on the diggings (a Parisian by the way) once said to me: "Without English the work of the mines could not be got through. A Frenchman comes into my forge and he says to me, 'Bonjour, monsieur, voulez-vous me faire une pointe à ciseau (ou aigüe), à ce pic?' What circumlocution! An Englishman comes, holds up his pick, and says, 'Square' (or 'round'), et tout est dit!"

Perhaps your readers can apply the moral, but for goodness' sake let us hear no more about the want of an international language; we have one—English—and so much the worse for those who are too proud or too stupid to use it. Yours, etc.,

W. T. GREENE, M.D.

BELVEDERE, KENT, ENGLAND, October 10, 1895.

THE CURVED CAPSULE KNIFE.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: The undersigned has an especial reason to feel flattered by the distinguished mark of appreciation bestowed upon an instrument designed by him several years ago, and described in the MEDICAL RECORD of September 28, 1895, in that Dr. John E. Weeks, of New York, has concluded to appropriate (by inference) the paternity of the design, under the name of "A Knife-needle," etc., in the MEDICAL RECORD of September 28th. This knife was made for me by Tiemann four or five years ago, and has been used by me ever since as a better instrument for its purpose than the straight capsule knife, commended by H. Knopp. To save space, I described the knife, together with a slight modification of it designed for operations on the membrana tympani, well knowing that any instruction to those competent to use such a knife, as to the method of use, would be entirely unnecessary. Mr. E. B. Meyrowitz, who obtained from me the model after which the instrument delineated on page 467 of the MEDICAL RECORD has been constructed, in asking me to describe the two instruments, *i.e.*, capsule knife and tympanic knife, furnished me with only one cut, and that is how I came to speak of both knives under one caption. The ophthalmic surgeon will find the use of the curved capsule knife to be attended with fewer difficulties than that of the straight knife. In certain cases a knife with a very much greater curvature to its blade than that shown in the cut of my capsule knife, might be used to great advantage, and the principle of the inclined plane be still further produced in the knife; the mechanism through which curved blades cut being well known to all surgeons.

The discission knife devised by me, and which Meyrowitz himself saw me operate with more than two years ago, at which time I explained to him its advantages over Knopp's knife and also the technique of its use, has not a two-edged point. The two-edged point exploited by Dr. Weeks, in his description, is not an advantage but the contrary. The back of the knife must be closely applied to the corresponding angle of the corneal wound, and the whole thickness of the cornea is the pivot along which the blade glides as it enters the anterior chamber, there being just sufficient division of tissue effected by the cutting edge to provide space for the entrance of the blade. The triangular wound is exactly filled by the blade and subsequently by the shank. Now, if the initial puncture has any other shape than that of the blade of the knife, there will result a minute, in this case triangular, space between the back of the knife and the corresponding angle of the wound. Again, the sweep of the handle, made necessary to maintain the tangent as between the blade and the plane of the cornea, as the anterior chamber is entered, will inevitably cause the edged back of the knife to cut, which is not desired.

The increased intra-ocular tension induced by the pressure of the fixation forceps, and the pressure of the point of the knife, together with a faulty incision, will result often in escape of aqueous. This in turn embarrasses the surgeon, increases the difficulties of the operation and the danger to the patient, and may necessitate the abandonment of the operation for the time. It may be claimed that the double-edged knife is easier of introduction than the one properly made, and this claim is too puerile to discuss.

CORNELIUS WILLIAMS, M.D.

ST. PAUL, MINN., October 1, 1895.

REQUIREMENTS FOR INSANE ASYLUM PHYSICIANS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: After reading Dr. McClain's article I would suggest the following notice for insertion in the medical journals when a vacancy occurs in any insane hospital:

Vacancy.—The position of Junior Assistant at the Blank Asylum is vacant. Applications will be received by the Superintendent for the next six months. Applicants must be expert surgeons, specialists in eye and ear, nose and throat, brain, lungs and heart, liver and stomach, diseases of women, etc. Applicants must not be identified with any political party or have any views on the political questions of the day, and must not be under forty-five years of age. The salary is six hundred dollars a year, including board and washing.

Respectfully,

F. M. WILES, M.D.

INDIANAPOLIS, IND.

ALKALINE INJECTIONS IN GONORRHŒA.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In the MEDICAL RECORD of September 7th there appears an article on gonorrhœa by Dr. Philip Jaisohn. In speaking of the mixed infection in this form of urethritis he writes: "There is nothing which will destroy these pyogenic cocci more effectually than the solution of bichloride of mercury." "For this purpose," he says, "I use the mercurial solution at the strength of one to ten thousand, making this alkaline by adding liquor potassii at the proportion of one-half drachm to the ounce."

I wish to call his attention to the fact that his injection contains no bichloride of mercury whatever. The mixture consists of a solution of chloride and hydrate of potassium, with a precipitate of the yellow oxide of mercury. The last salt may be a good application in gonorrhœa, but if it is desired, in this case, a "shake" label must be put on the bottle. When solutions of the caustic alkalies are mixed with solutions of salts of mercury, the oxide of mercury is formed, which, being insoluble, is thrown down in the form of a precipitate thus: $HgCl_2 + 2KHO = HgO + 2KCl + H_2O$. This is not written with a desire to be over-critical; chemical incompatibilities in prescriptions may be allowable, or even sometimes desirable. Long experience in compounding prescriptions has led me to believe that doctors are very prone to lose sight of the fact that chemical compounds may not partake of any of the properties

of their factors. If good results are obtained from any treatment, it is desirable that we trace the results to the real cause. A physician once came into a drug store and asked me to compound, quickly, a prescription containing ammonium carbonate. As I rubbed up the salt with the menstruum in the mortar, he became impatient and said: "Now, I'll give you a pointer; just add a little acetic acid to that and it will dissolve without trouble." To my protest that the therapeutic effect might not be the same he replied: "You put the carbonate of ammonia in, it must be there, so what's the difference? A little acetic acid will do no harm." Yours very truly,

D. H. GALLOWAY, PH.G., M.D.

CHICAGO, October 13, 1895.

Society Reports.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Annual Meeting, October 28, 1895.

EGBERT H. GRANDIN, M.D., PRESIDENT, IN THE CHAIR.

THE meeting was devoted to the reading of reports, election of officers, and executive and new business. The Treasurer's report showed a smaller balance than at the close of last year. The Committee on Hygiene made no report. The report of the Board of Censors consisted of the report of the Counsel of the Society, Mr. Taylor. Only five hundred dollars had been collected as fines against illegal practitioners during the year, but the way had been made easier for the enforcement of the law in the future. It would, however, involve much work, no less work, indeed, than in the past.

Action of Commissioners of Public Charities and Correction Condemned.—By unanimous consent DR. N. E. BRILL was permitted to offer a resolution out of the regular order of business.

Whereas, The Commissioners of Public Charities and Correction have, without preferring charges against them, abolished the consulting and medical boards of certain hospitals (named); and,

Whereas, These Commissioners have conferred upon the College of Physicians and Surgeons, University Medical College, Bellevue Medical College, and Fourth Division of Bellevue Hospital the power to fill all vacancies upon the medical boards of these hospitals, and to appoint all internes in these hospitals; and,

Whereas, The colleges named are incorporated institutions, and their faculties with the Fourth Division of Bellevue Hospital are composed of less than one hundred physicians; and,

Whereas, There are in the county of New York about three thousand physicians; and,

Whereas, These three thousand physicians are excluded from positions upon the medical boards of the hospitals mentioned, as well as of Bellevue and Harlem Hospitals, except by courtesy of the faculties of the incorporated colleges and the Fourth Division of Bellevue Hospital; and,

Whereas, These hospitals are county hospitals, supported by the tax-payers of the county; be it

Resolved, That we, the Medical Society of the County of New York, protest against this outrage upon the medical profession of the county of New York, and condemn this action of the Commissioners in delivering to these incorporated colleges three-fourths of the appointments upon the consulting and medical boards of those hospitals to whose support the profession at large, as tax-payers, contribute.

The resolution was adopted with scarcely a dissenting voice, and the President was given power to appoint a committee of five, himself a member of it, to carry the resolution at once to the Commissioners and the Mayor.

Rights of Free Speech to be Defended.—The Society in executive session decided to defend Dr. Van Fleet in the suit brought against him by a refracting optician for some remarks made in relation to the latter's advertisement in the *Medical Directory*.

Officers.—The following were elected to office: *President*, E. D. Fisher; *First Vice-President*, Frederic Peterson; *Second Vice-President*, J. H. Fruitnight; *Secretary*, C. H. Avery; *Assistant Secretary*, W. E. Bullard; *Treasurer*, John S. Warren; *Censors*, B. F. Curtis, E. H. Grandin, S. D. Powell, A. M. Jacobus, C. L. Gibson. Thirty-five delegates were elected to the State Medical Society.

DR. R. A. MURRAY, of the Committee on Prize Essays, stated that no essay had been received deemed worthy of the prize.

DR. E. B. BRONSON read the report of the Committee on Ethics. Charges had been brought against several members for violating Chapter XVI. of the By-Laws, relating to affixing one's certificate to proprietary articles, etc. Little could be done except call the attention of the offenders to the by-laws, and receive their apologies.

New Instruments.

A NEW NASAL SEPTUM KNIFE.[1]

BY SAMUEL GOLDSTEIN, M.D.,

NEW YORK.

ATTENDING SURGEON, NEW YORK THROAT AND NOSE HOSPITAL; ASSISTANT VISITING SURGEON, INFANTS' AND CHILDREN'S HOSPITAL, RANDALL'S ISLAND, NOSE, THROAT, AND EAR DIVISION, ETC.

THIS instrument, that I with pleasure place before you, will, I hope, receive the benefit of your favorable attention. The simplicity of construction, ease, and expedition with which it can be manipulated, and facility in taking it apart for cleaning, will at once be manifest to you. The knife consists of a staff, at the proximal end of which is a ring for the thumb; near its distal extremity the staff is made wider and perforated. The perforation is of such size and shape as to allow it to pass over growths of any kind usually seen on the septum. Below this perforation is a slit, to allow the passage of the blade of the knife, which has perfect freedom of motion in two grooves, one on each side of the staff.

The cutting edge of the staff is convex, very sharp, and so curved as to fit around the growth, before it is pushed home in the act of cutting; the two ends of the knife are blunt, in order the more surely to avoid any damage to the mucous membrane of the parts not included in the growth. There are two rings on the staff, one on each side, for the index and middle fingers; these rings allow the operator to keep a firm hold of the instrument, when in position over the growth that is to be removed.

The thumb-ring at the proximal end of the staff is fastened by a screw, so that it can be removed when taking the instrument apart. The purpose of making this ring detachable is to allow the blade of the knife to be easily pushed forward,

[1] Presented before the Metropolitan Medical Society, September 24, 1895.

and removed from the staff of the instrument for cleansing.

The method of using the instrument is as follows: The nose is examined, the growth located; the knife is placed in position, completely surrounding the growth; the thumb, in the ring at the end of the staff, is pushed forward from the operator (the index and middle fingers in the rings on each side of the staff, pressing the instrument tightly against the septum), and the growth is cut through, and may then be removed with any nasal forceps.

To me, this septum knife has made the operation simplicity itself; there need be no scraping, or curetting, or boring, or mangling of the mucous membrane, or fear of the danger of perforating the septum.

The operation is done with ease and rapidity, and is consequently painless under the usual cocaine anæsthesia, as it consumes so little time.

The septum knife is adjustable for growths of any size or consistency, and may be employed equally well on either side of the septum. My plans have been very accurately carried out by Messrs. George Tiemann & Co.

166 East Ninety-third Street.

A NEW NASAL SAW.

By H. DUDLEY YOUNG, M.D.,

Boston, Mass.

Accompanying is a diagram of a nasal saw, I recently designed for the removal of small cartilaginous and osseous outgrowths. The blade is less than a millimetre thick, three millimetres wide, and about one inch and one-quarter in length, probe-pointed, and attached to a straight handle, which is of metal, nickel-plated. In

the experience of the writer the obtuse-angle handled instruments, while allowing a better view during an operative procedure, are not so easily controlled.

The advantages claimed for this saw are its short, narrow blade, with probe-point, and long straight handle, all of which make it a convenient instrument for the removal of outgrowths from any portion of the nares. The cut represents the saw at about one-half its actual size.

Acknowledgment is tendered Messrs. Feick Brothers, Pittsburg, Pa., whose superior workmanship has enabled me to place this little instrument in the hands of the profession.

Free Medical Treatment and Tea.—A Liverpool grocer has issued a circular to his hoped-for customers agreeing to provide them with free medical attendance whenever they may fall ill, the only condition being that they purchase a quarter of a pound of tea each week. The intending patient must have bought a quarter of a pound a week for at least four weeks before he can avail himself of the free treatment, and if he fails to buy his tea for two weeks in succession he will forfeit all right to the services of the grocer's medical assistant. In the circular announcing this wonderful scheme are the names and addresses of the medical men who are ready to further the enterprising grocer's advertising dodge by contracting with him to treat his customers.

Professor Schede, Director of the Surgical Department of the Hamburg General Hospital, has been appointed to the Chair of Surgery in the University of Bonn, in succession to Professor Trendelenburg.

Surgical Suggestions.

Malignant Disease of the Rectum.—In choosing between extirpation and colotomy, it is necessary to consider the compass of the disease, hence the extent of the operation and the ability of the patient to go safely through with it. When the neoplasm is of limited extent, movable, and easily approached by the dorsal incision, and the patient in a fair general condition, extirpation is to be preferred; in other cases, colotomy. It must be remembered that a rectum after the operation of extirpation is seldom a perfect one in function, and that we often pay a high price in the way of risk for the choice between incontinence in the perineum and incontinence in the groin. I think it safe to say that in the near future colotomy will be made oftener and earlier the world over.—Evans.

Dr. A. Leveran, who was an army surgeon at Algiers, was the first to observe in blood taken from malarious soldiers, pigmented discoid bodies, and also spherical pigmented bodies possessing flagella, whose extremely rapid and varied movements left no doubt as to their nature; this was on November 6, 1880.

The Treatment of Chancroids in Women.—After an extensive trial of other remedies, Dr. Herff expresses a preference for liquefied carbolic acid, which he has successfully employed in over one hundred cases. His manner of procedure is as follows: After careful disinfection of the genitals, with sublimate solution, the ulcers are dried with cotton, and then lightly touched with carbolic acid, any excess being wiped off with cotton. If the ulcers are very large and situated in the vicinity of the clitoris or urethra, previous cocaining is advisable. The after-treatment consists of sitz-baths, and irrigation of carbolic acid or permanganate of potash solutions. At the end of four or five days, the majority of the ulcers have begun to cicatrize, although it may be necessary to cauterize one or more which refuses to heal. If the adjacent lymphatic glands are already affected, this usually subsides spontaneously in a short time. Occasionally rest in bed may be required.—*Monatschr. f. Geburtsh. and Gynækol.*

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending October 26, 1895.

	Cases.	Deaths.
Tuberculosis	102	113
Typhoid fever	67	9
Scarlet fever	45	2
Cerebro-spinal meningitis	2	6
Measles	51	7
Diphtheria	175	28
Small-pox	1	1

The Dispensary—A Disease of the Body Politic.—Julius Weiss, M.D., New York, writes:

Synonyms.—Out-door department, ante and post-graduate's reservoir, embryonic specialists' and writers' Eldorado, etc.

Definition.—A chronic contagious disease, manifested by degeneration and atrophy of the pocket-books of the bulk of physicians and druggists, and by peculiar cerebral developments in patients, as, hallucinations of poverty and delusions of getting something for nothing.

Pathogenesis and Etiology.—The chief factor in causation is the desire of building up a reputation as a

specialist by increased opportunities for observation and experience and the naturally accompanying financial gain.

About twelve years ago, after a meeting of the German Medical Association on Second Avenue, a few of us retired to a cosey refreshment place, and the scheme of launching the German Polyclinic was hatched. Each colleague that joined the corporation thought it expedient to contribute $100.00 C. O. D. Since that time the usual Board of Directors and other paraphernalia have appeared and tertiary symptoms developed in the shape of St. Mark's Hospital. Six years ago a colleague called on me to assist him in starting the East-side Dispensary, 327 East Third Street. He was shocked to learn that foreign doctors were reducing medical fees to twenty-five cents. How much better to treat people free of charge! A faculty was gathered, per capita tax of $35.00 was imposed, and another successful institution is the result. The inevitable tertiary symptoms will follow, as a hospital is threatened. On the West Side we had considerable trouble. We had about $25,000 (collected from philanthropic citizens). But business in the old building of the German West-side Dispensary was bad. A new set of doctors took hold of the matter, and erected a beautiful centre for pauperization in Forty-second Street, between Eighth and Ninth Avenues. From last reports business has improved considerably. These few instances will suffice to illustrate the contagiousness of the disease, and the nature of the disease germ, viz., competition and gain.

Symptoms.—These vary according to the severity of the ailment. In some dispensaries as the East Side, Good Samaritan, Bellevue, Centre Street, Grove Street, Northwestern, the deserving poor form ninety-five per cent. of the number of patients treated. In others, as the New York Hospital, Vanderbilt Clinic, Manhattan Eye and Throat, Presbyterian, New York Polyclinic, the number of deserving poor is probably only twenty per cent. The Mt. Sinai and German Dispensaries also treat a large number of undeserving people. In the New York Hospital, out-door patients pay one dollar initiation fee. But practically, since such patients seldom return a second time, this so-called charitable institution charges as much as the ordinary practitioner. The Vanderbilt Clinic has injured the West-side practitioner very noticeably. While the purses of the attending staff undergo a peculiar fatty infiltration, those of the majority of doctors suffer fibroid changes and consequent atrophy and shrinkage.

Therapeusis.—A committee might be appointed by our medical societies to investigate the true state of affairs in various dispensaries, and prepare a full report upon the same. Some practical remedy may possibly be suggested by such a body. The Charity Organization Society will be of great aid in such an investigation. Prophylaxis in the way of discouraging future unnecessary institutions may be tried. Above all, physicians ought to insist upon getting paid for their work, and not allow a false sense of pride and dignity to breed among the people an habitual misconception that the service of doctors are not to be paid like those of the lawyer, engineer, or mechanic. Loose business methods among physicians, more than dispensaries, create a sentiment of financial valuelessness of medical work. The very men who shout against dispensaries send well-to-do patients there for treatment by specialists. In brief, reform must come from harmonious co-operation among practitioners themselves.

The Beginning of Structural Disease.—In the treatment of organic or structural diseases, as of the nervous system, the blood-vessels, and various vital organs, the fact is quite generally overlooked that the structural change is a consequence, and not an actual disease. The real disease is the morbid process which has resulted in the tissue-change. Nothing could be more unphilosophical than the limitation of the therapeutic efforts to such measures as may be supposed to be calculated to affect favorably the morbid structures. A rational mode of treatment must be based upon a recognition of the producing cause of the morbid changes which have taken place. The researches of Bouchard and other modern investigators have thrown great light upon this subject, and have placed upon more than probable grounds the theory that the presence in the blood and tissues of various morbid substances of a toxic character, such as uric acid, and various leucomaïnes and ptomaïnes, originating in the tissues as the result of imperfect oxidation or absorbed from the alimentary canal wherein they are produced by microbic action and morbid digestive processes, constitutes the real morbid entity in a large number of organic or structural maladies, especially those of the nervous system and kidneys. In the treatment of these affections, it is, then, of the utmost importance that the physician should look carefully after the processes of digestion and respiration. These are the two great means by which the blood is to be purified. The exclusion from the dietary of poisonous substances, and of such food substances as readily undergo putrefactive processes in the alimentary canal, and the introduction of an increased quantity of oxygen whereby the poisons resulting from morbid tissue-changes may be destroyed by oxidation, constitute the most important measures for combating the onward march of an organic affection. Remedies of any sort, if aimed directly at the morbid tissue itself, will fail to accomplish anything more than temporary palliation, unless combined with measures which strike at the root of the disease. An ideal mode of treatment will necessarily include both classes of remedies. Bacteriology and physiological chemistry are opening up for us, almost daily, new lines of thought, new methods of treatment, and new possibilities of cure.—*Modern Medicine.*

The Last Illness of Pasteur.—Pasteur was a striking example of the fact that sometimes a person may have a cerebral hemorrhage and live many years, thereafter doing the very best work of his life. Pasteur was first attacked with a hemorrhage in 1868, twenty-seven years ago. But it left scarcely any traces, and he continued in good health until 1888, when his health began to decline. It was about this time that he was made the object of the most violent attacks from many members of the medical profession and the scientific world, on account of his claims regarding the prevention of rabies. In 1892 he had several attacks of uræmia, and at that time he was found to have some cardiac lesion. His last illness was due to a sudden accession of uræmia, with very intense dyspnœa, and a feeble and irregular pulse. He succumbed within a few hours after the attack came on.

The Late Dr. Henry W. Rand.—At a meeting of the College Faculty of the Long Island College Hospital, held October 8, 1895, the following report was unanimously adopted: "The Committee appointed at the last meeting of the Faculty to take action in regard to the death of Professor Henry W. Rand, submits the following: The pain at parting from our beloved associate, Professor Rand, cannot be expressed in words. We can only say that his loss is deeply felt, and that our sorrow is as profound as was our love for him. Our admiration for the man was the highest and most enduring, and was inspired by his many noble qualities of head and heart. In all his relations to us, the teaching Faculty of this institution, he was always honest, honorable, earnest, and competent. He was securely established upon the highest plane of professional success, and while we were rejoicing in the hope that he would continue his good work for many years, he was suddenly called hence. We all feel that his devotion to his profession, his interest in his brethren, and his ceaseless services to those committed to his care, were instrumental in taking him from us at the noon-time of

his noble life. While this thought adds greatly to the burden of our grief, it magnifies the greatness and goodness of the man. There was no shadow of selfishness in the heart of this man, who gave all for the welfare of others. Feeling keenly our own loss, we naturally think of his family, and our sympathy is extended to them in all kindness and sincerity. The Committee suggests that this all too meagre tribute to the memory of our deceased associate be spread in full upon the minutes, and be published in the medical press and in the daily press of Brooklyn; and that a copy be transmitted to his family.

"ALEX J. C. SKENE,
"JARVIS S. WIGHT,
"FRANK E. WEST,
"*Committee.*"

The Annual Meeting of the Association of German Naturalists and Medical Men was held at Lubeck, from September 15th to 21st, the President being Professor Wislicenus, of Leipsic. Professor Klebs read a paper of a theoretical character on some problems concerning the physiology of generation. Professor Behring made a speech on the results and objects of serotherapy. Behring stated that the time had passed when medical men should use expressions like "genus epidemicus," in order to explain the degree of mortality. He stated that vaccination had succeeded in compelling this genus to withdraw; this had been done in the case of malaria by quinine and in smallpox by vaccination. He believed that the same effect on the "genus epidemicus" of diphtheria was produced by antitoxin. Professor Behring then went on to give a large number of statistics in rebuttal of criticisms that had been made upon his method, and expressed the opinion that the mortality from diphtheria could be made to fall to five per cent. Even if something less than this were done, forty-five thousand lives would be yearly saved in Germany. At present mortality rates the lives of fifteen thousand people had already been saved. The protecting or immunizing effect, he added, was not yet so obvious as the curative, because the number of cases reported was still too small. Professor Ridle, of Vienna, read a paper on surgical operations on the skull. He stated that of one hundred brain tumors, six only are found and operated on; in three of these death occurs from the operation, and that three per cent. only have a favorable issue.

The Late Dr. Frederick M. Warner.—At a special meeting of the Medical Board of the City Hospital, held at the Academy of Medicine on October 21, 1895, the following resolutions were adopted by the Board:

"*Whereas*, It has pleased God to remove our late colleague, Frederick M. Warner, M.D., from his field of labor in the City Hospital; and

"*Whereas*, He was by temperament, experience, and education thoroughly equipped for the alleviation of human suffering in the City Hospital, where he labored zealously and conscientiously for several years;

"*Resolved*, That we, his late colleagues, express our sincere admiration of him as an associate, and our profound regret that his future—so full of brightness and promise—should be lost by death.

"*Resolved*, That we tender his family our deep sympathy with them in their bereavement, and that a memorial page be set aside in our book of minutes.

"*Resolved*, That an engrossed copy of these resolutions be sent his family.

"J. BLAKE WHITE,
"THOMAS H. ALLEN,
"J. R. HAYDEN, "SIMON J. WALSH,
Secretary. "*Committee.*"

The Slowness of our System of Advancement.—The slowness with which promotion sometimes arrives in our system of advancement by seniority is illustrated by the recent "elevation" of Dr. Lauder Brunton to a full physicianship at Bartholomew's. The name of Lauder Brunton is certainly anything but unknown, yet for twenty-five years his field of energy has been limited by the walls of the out-patient room. Indeed, this promotion has only occurred through the institution of an extra post, and it has been calculated that but for its creation Dr. Brunton might have reached the limit of age before he had been relieved from the drudgery of the ambulatorium.—London Correspondent of the *Therapeutic Gazette.*

New Anatomy Law in Wisconsin.—Section 1437, of chapter 58, of the annotated statutes of Wisconsin, was amended by the last legislature so that every public officer having charge of the body of any deceased person, required to be buried at the public expense, not merely "may," but "shall, without charge," deliver such body to that member or agent of the State or any county medical society, or of any legally organized medical college, who shall first present to him an order therefor, signed by the president or secretary thereof, "stating" that such body will be used only for the promotion of anatomic science within the State, and that the remains shall be afterward decently buried without public charge. But, as heretofore, no body of any person who in his last sickness requests to be buried, or of any stranger or traveller who shall have suddenly died, shall be so disposed of. And no person so having charge of any such body, it is added, shall sell or deliver the same to anyone to be used for scientific or any other purposes outside of the State of Wisconsin. Any officer or other person violating any of the provisions of this act shall be liable to the person, society, or corporation aggrieved in the sum of $50 damages, to be recovered in an action therefor.

Subcutaneous Emphysema caused by Straining during Parturition.—Dr. Ulrik was called in to see a primipara, aged twenty-eight, who, after having been delivered of a stillborn twin, had suddenly become incapable of further assisting the progress of the labor, (*British Medical Journal*). An hour and a half after the birth of the twin the woman's strength seemed almost gone, but on some strong pains again commencing she was told by the midwife to attempt further straining efforts, during one of which a sudden swelling of the face and neck was produced, coincident with a complete cessation of the pains, which did not again return. The second twin was easily delivered by the forceps. The face had the appearance of pronounced œdema; the deformity was considerable, the skin pale and tightly stretched, especially over the cheeks and under the eyes, which the patient could scarcely open. Downward the swelling extended over the whole neck region and the upper part of the chest, and also into the axillæ, and behind as far as the scapular spines. Everywhere the characteristic crepitant sensation was experienced. The breathing was unimpaired, and there were no signs of lung disease. The emphysema began to disappear after a couple of days, and was quite gone in a fortnight. The patient had not subsequently developed any lung affection. The author believes that the air after the rupture of the air-cells must have found its way to the hilum, and thence along the great vessels and trachea through the mediastinum to the loose tissues of the neck and face; the nervous shock produced by the accident evidently caused the sudden cessation of the pains. He considers the accident so natural that it seems strange that it should not occur more often.

Surgery of Contusions of the Abdomen.—The Paris correspondent of the *Medical Press* writes that M. Michaux spoke at great length recently on the results of surgical intervention in cases of contusion of the abdomen. He said that all authors were agreed on the subject of early interference, but the greater number advised that the surgeon should wait at least for

the symptoms of peritonitis, while he considered that the best treatment of grave contusions of the abdomen consisted in an immediate operation, for, if no visceral lesion were discovered no harm would have been done to the patient. He had occasion to operate eleven times in the last four years for contusions of the abdomen, the history of which he would not give in detail, but would mention some particulars of a few of the cases. The first was that of a drayman who was knocked down by a large barrel of wine, and was carried to the hospital with all the signs of rupture of the intestines. Laparotomy was performed, but the patient succumbed the following day. A second was operated on for a tear in the transverse colon and made a rapid recovery, in spite of a considerable effusion of blood into the abdominal cavity. Another case was operated on with success on the third day after the accident, while a similar result was obtained in a fourth laparotomy performed on the seventeenth day for rupture of the biliary ducts. In April, last year, M. Michaux operated, ten hours after the accident, on a railway employee caught between the buffers of two wagons on a level with the epigastrium. About three quarts of blood were found in the abdomen and a rent in the mesentery of six inches in length; this tear was sutured and the man recovered. A short time afterward he was called to operate on a mason, aged thirty-nine, who had fallen from the second story of a house on the angle of a marble table. By this accident some of the lower ribs on the left side were broken and a rent on the under surface of the left lobe of the liver, with a small effusion of blood, was produced. The man got well without much trouble. In an anatomical point of view, the eleven cases might be classed as follows: Three ruptures of the intestines; one of the biliary ducts, two of the liver (slight), three of the mesentery, one of probable rupture of the kidney, and one (double) rupture of the bladder, with fracture of the bones. His friend, M. Gross, in a recent publication, mentions seven similar cases, so that of the total eighteen cases, twelve were exceedingly grave, and all were accompanied with considerable effusion of blood. In a clinical point of view, these contusions of the abdomen submitted to his observation, presented the two characters: 1. Period traumatic, collapse more or less prolonged. 2. Reaction, characterized by high temperature, delirium, and the premonitory symptoms of peritonitis. The shock was always intense and more marked in slight contusions than in the graver cases. At the end of from two to seven hours the patient enters the second stage. In this first period, also, the abdomen is retracted, the muscles strongly contracted over the seat of the lesion, and great pain is experienced to the touch. As soon as the temperature rises the patient must be closely watched, as the time for interfering is at hand. However, during the first twenty-four hours, no certain sign denoting a lesion of the viscera, such as a rupture of the intestine, is manifest. But experience having shown that in three-fifths of the cases grave lesions do exist, and that death is almost always the consequence, it can easily be understood that laparotomy, for the purpose of exploring the region, imposes itself as an absolute necessity, as alone it permits us to recognize with certainty the nature and extent of the evil and the application of the treatment. It should be practised within the first twenty hours after the accident, and as rapidly as possible, care being taken to remove the blood and any other liquid.

A Death from Nitrous Oxide.—Mrs. Flora Joseph, forty-two years of age, died on October 5th, under the influence of nitrous-oxide gas, in a dentist's chair in East Eighty-sixth Street. Artificial respiration, the hypodermic use of whiskey and strychnia, and other appropriate measures were promptly resorted to, but without result.

BOOKS RECEIVED.

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Original Articles.

SOME CONSIDERATIONS WITH REGARD TO THE SENILE HEART.[1]

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THE term "Senile Heart" is an unfortunate one, since it implies that the disease thus characterized exists only in the aged. Degenerative changes in the myocardium and in the arteries underlie the group of symptoms that constitute the clinical history of this affection, and yet these degenerative changes are by no means limited to persons of advanced age. Balfour, although fully acquainted with this myocardial degeneration, repeats all through his book that the senile heart is a weak heart, which having become hypertrophied as years advanced, is deprived at length of sufficient nutrition, either through anæmia or through vascular changes in the organ itself, and thus weakened, becomes incapable any longer of carrying on the circulation against the peripheral resistance set up by the arterial rigidity incident to senility. This is undoubtedly true; but it seems to me that greater stress should be laid on degeneration of the myocardium in considering the etiology and pathology of the senile heart.

The man who, at forty-seven, perchance, with rigid arteries, succumbs to ingravescent cardiac asthenia—to use Balfour's favorite expression—"dies because disease of the heart muscle has paved the way for gradual heart failure." This degeneration may not be fatty, and may not be apparent after death to the unaided eye. It is more often what is known as "chronic myocarditis," or "hyperplasia of the interstitial connective tissue," and requires the microscope for its detection. Even then its real extent may not be discovered, because of faulty methods or of inadequate search. We have been accustomed to think of degeneration of the myocardium as affecting generally the ventricles, and of these, particularly the left; whereas recent observations indicate that the auricles may be more frequently and extensively degenerated than appears microscopically, or than are the ventricles.

Radazewsky[2] has published an account of his painstaking investigations into the condition of the myocardium in six cases of heart disease. Two were chronic valvulitis, two chronic myocarditis, one was cardiac debility and dilatation of the right ventricle with pulmonary emphysema, and one a hypertrophied and dilated heart in an old man of seventy-two. The author's object was to determine the extent and location of fibroid, not fatty, degeneration, with special reference to its bearing on the clinical characters of the pulse. Numerous small pieces, amounting in some instances to as many as one hundred and five, were taken from the auricles and ventricles, and after being appropriately prepared, were studied microscopically and compared with similar fragments taken from a young and healthy heart. In four of the six, the connective-tissue changes were most marked in the auricles—sometimes the right, sometimes the left—but involving both. In these four, arrhythmia of the pulse had been a marked clinical feature, whereas regularity of the pulse had been noted in the two cases in which fibroid degeneration of the ventricles exceeded the changes in the auricles. With reference to the conjunction of a regular pulse with degeneration of the left ventricle, Radazewsky cites the conclusion of Hampeln, who, in a study of five cases of myocarditis that had manifested regularity of the pulse, says essentially that the character of the pulse, as to regularity or irregularity, affords no basis for conclusion concerning the condition of the heart muscle. In other words, perfect regularity of the pulse does not exclude the existence of degeneration of the myocardium.

On the other hand, although Radazewsky recognizes his material as too meagre to establish his conclusions, he nevertheless thinks it sufficient to justify the deduction that arrhythmia indicates a preponderating degeneration of the auricles. Furthermore, this assumption accords with the discoveries of Romberg, Krehl, and others, who have shown that the automatic and rhythmic action of the heart originates in the muscle-fibres themselves, and not in the cardiac ganglia as formerly supposed, and that the primary impulse to contraction starts in the walls of the auricles near the openings of the great venous trunks. To us Radazewsky's studies are valuable by teaching that degeneration of the auricles may exist even when the myocardium of the ventricles is comparatively healthy. But they are not alone valuable from the stand-point of morbid anatomy; they may aid us in forming our diagnosis and prognosis. If Hampeln is right, that regularity of the pulse may coexist with dangerous degeneration of the ventricles, and if it shall be proved that degeneration of the auricles causes cardiac arrhythmia, then, in any given case, the character of the heart's action may aid us in locating the chief seat of myocardial sclerosis. Moreover, as it seems to me, the prognosis as to life may depend somewhat upon the seat of this change. As the walls of the left ventricle are subjected to the greatest strain, so preponderating degeneration of these is the most serious and likely to prove the most rapidly fatal. On the other hand, disease of the auricles, unless having caused destruction of the individual muscle-fibres, may give rise to an irregular pulse without seriously threatening life. Radazewsky's observations help me to understand some cases that at the time were rather puzzling. For instance, I can recall an elderly man who was suffering from cardiac feebleness, with so irregular and intermittent a pulse that it seemed to me the poor overstrained and dilated organ was likely to give up the struggle at any moment; and yet this heart went on beating for more than a year and a half before it succumbed.

I have under occasional observation a gentleman of seventy-one who, a year ago this time suffered with cardiac asthma of such severity that he thinks he was snatched from the grave, and who is now able to attend to business in a moderate fashion. Yet this patient's pulse is at times too irregular to be counted, and according to his statement has been so for several years. On the other hand, I have known patients with dilated and degenerated hearts who seemed in no im-

[1] Read at the Mississippi Valley Medical Association's Twenty-first Annual Meeting, held at Detroit, September 3, 1895.

[2] Zeitschrift f. klin. Med., Band 27, S. 381.

minent danger, and yet died suddenly a short time afterward, or failed steadily and rapidly in spite of treatment; and in these cases the pulse, though more or less rapid and weak, presented little, if any, irregularity.

Although recognizing the folly of attempting to base prognosis in these cases on the rhythm of the pulse alone, I have come to dread the weak accelerated, but regular, pulse sometimes observed in connection with dilatation of the heart in elderly men, and to regard a pulse irregular in force, volume, and rhythm, apart from other grave symptoms, as much less serious than I formerly did. It is quite otherwise with intermittence of the heart's action, if the intermissions set in unexpectedly after a period of rapid regular action. There is positive danger in such cases of the inhibition resulting in permanent asystole. Furthermore, valuable prognostic data are furnished by the effect of exercise on the character of the pulse. If gentle walking cause a weak, irregular pulse to become fuller, stronger, and more regular, it is a favorable indication. If, on the contrary, it occasions greater feebleness and rapidity, with irregularity, perchance intermittence, it portends evil, and indicates physical rest. It is a sure sign that the heart muscle is unequal to the strain.

Another symptom common to senile hearts, although of very variable severity, is dyspnœa. We have been taught to believe this due to pulmonary engorgement, together with accumulation of carbonic acid. But recent experiments and observations by Zerner[1] have shown that two other factors are concerned in its production, namely, increased volume or swelling, together with lessened elasticity, that is, rigidity or stiffness of the lungs. This enables us to understand the striking difference in the degree of dyspnœa displayed by patients, who otherwise manifest on examination no great dissimilarity in the dilatation of their hearts or the rigidity of their arteries. During the past few months I have attended two men—one aged forty-seven, the other aged fifty-three—in whom this sympton was a most distressing feature. The former used to say he could breathe only about an inch deep, while the latter suffered from paroxysms of such frightful dyspnœa that he seemed in imminent danger of strangulation. Indeed, during the last few weeks of life his want of breath was so extreme and constant and the veins of the neck were so turgid as to resemble pressure from a mediastinal tumor, and to necessitate frequent resort to large doses of morphine hypodermatically. Yet the post-mortem examination in this case revealed nothing to explain the dyspnœa aside from the usual changes in the lungs, heart, and kidneys, depending upon sclerosis of the coronary arteries and of the general aortic system. A peculiar characteristic of breathlessness due to coronary sclerosis is its occurrence during the act of dressing, as in raising the arms to comb the hair or fasten the necktie. Stooping to tie the shoes also occasions dyspnœa in these cases. Yet this is much less trustworthy as an indication of coronary sclerosis, since individuals with abdominal corpulence are often unable to stoop without shortness of breath, probably from pressure of the abdominal on the thoracic viscera. In such I have often found more relief to follow a brisk purge than is the case in coronary sclerosis.

Another manifestation of dyspnœa of quite a different sort is that paroxysmal exacerbation which comes on at night most commonly, and is called cardiac asthma. Conheim has shown its dependence on inequality in the strength of the two ventricles, whereby the right forces more blood into the lungs than the left can forward into the aorta. This results in acute hyperæmia and œdema of the lungs, with the sense of suffocation, the copious râles, cough, muco-serous expectoration, and small feeble pulse, which constitute the chief phenomena of these attacks. Balfour speaks of them as *angina sine dolore*, adopting the term invented by Gairdner. They are truly paroxysms of suffering akin to agony, but I am not convinced of their possessing sufficient etiological relationship to angina pectoris to like the term *angina sine dolore*. Since disproportionate feebleness of the left ventricle is present in these attacks, it has always seemed to me that the use of nitre fumes, asthma pastilles, etc., might be dangerous. Cardio-vascular depressants, which assuredly nitre fumes are, are contra-indicated, unless arterial spasm be clearly determined, to precipitate or maintain the attacks. By all odds the best treatment for such a paroxysm is the hypodermic administration of an eighth of a grain of morphine with a two-hundredth of atropine. Relief afforded is generally prompt and complete, the patient soon falling into quiet sleep, from which he wakes next morning refreshed and apparently none the worse.

Finally, there is a form of dyspnœa which is generally thought to usher in the last stage of the struggle; this is the Cheyne-Stokes respiration. It is very rightly regarded as a very grave prognostic omen, but that it may appear for a time and then vanish completely *pari passu*, with improvement in other symptoms, is borne out by the case of an old gentleman, aged eighty, whom I now have under observation. Last April this patient manifested this type of breathing in a typical manner—so much so, that a physician who saw him in consultation assured the family that the end could not be far distant, as he had never known Cheyne-Stokes respiration to last for longer than about three weeks. Nevertheless, this symptom has now been absent for three months or more, and the old gentleman declares he is better now than he was a year ago. In his case the respiration assumed the Cheyne-Stokes type chiefly when he was asleep, although it was not always absent during waking hours. The patient of seventy-one years of age, previously referred to in this paper, exhibited this type of breathing only when unconscious in sleep; and it has seemed to me that when such is the case, Cheyne-Stokes respiration may be regarded as of less evil portent than when it is constant both waking and sleeping. Of course, I do not refer to that physiological form of Cheyne-Stokes respiration which Murri has shown may sometimes be observed during profound sleep, even when the heart is healthy. In the case just cited there was a pathological condition to account for the occurrence of this type of breathing.

The treatment of this form of dyspnœa has been the subject of considerable contention in Germany. At the meeting of the Congress for Internal Medicine in Wiesbaden, in 1892, Unverricht read a paper in which he expressed the decided opinion that morphine and atropine exert no antagonistic influence upon Cheyne-Stokes respiration. Indeed, some observers have even gone so far as to assert that morphine intensifies this phenomenon. Stadelmann[1] has published the results of something like twenty-five observations of the effect of morphine and atropine, alone and combined, upon this type of breathing. The observations were made on two patients, and the doses were 0.01 to 0.02 of morphine, and 0.001 to 0.0015 of atropine. The effect was neither uniform nor constant; sometimes shortening a period of apnœa, sometimes that of dyspnœa, and then again at other times lengthening one or the other, or both. In five experiments Cheyne-Stokes breathing was lessened or removed by the morphine, as against four trials in which it was aggravated. Although Stadelmann's observations showed so inconstant and unreliable an effect on the part of morphine as to appear to confirm Unverricht's assertions, he nevertheless concluded that the effect of this agent on the whole was to mitigate the severity of the attacks. There certainly seemed to be no injurious effect exerted

[1] Zeitschrift f. klin. Med., Band 27, S. 529.

[1] Zeitschrift f. klin. Med., Band 26, S 267.

by the morphine, and since it undoubtedly blunts the patient's sensibility and induces sleep, I can see no contraindication to its employment, even if it seems occasionally to change an irregular, unperiodic form of dyspnœa into the periodic type characteristic of Cheyne-Stokes respiration. Its beneficial action was so marked in the case of the gentleman, aged seventy-one, already cited, that I think it best to append a brief description of its effects in this case. The night before I was called to see this patient had been one of intolerable suffering; so soon as he dozed off, if but for a moment, he would wake up with a start, clutching his throat and declaring he was going to be suffocated. Nitro-glycerine and other cardiac stimulants had been administered freely without relief. His dread of the forthcoming night was so great that it was decided I should remain with him. I resolved to try morphine, but notwithstanding my assurance that he would certainly experience relief and pass a comfortable night in sleep, I could not obtain his consent to its use before midnight. At length, after his suffering of the night previous had begun to be repeated, he yielded. One-eighth grain of morphine with one two-hundredth grain of atropine was injected, and in a few minutes he was sleeping peacefully, although exhibiting Cheyne-Stokes respiration. From that time forward, for two months, he received his nightly injection of morphine, which never lost its effect and never had to be increased. When, at last, in response to treatment, his heart had regained something of its former vigor, chloralamid and bromide of potash were substituted as a hypnotic. Depression following the withdrawal of the morphine was trifling, and lasted but for a day. At the present writing, this patient considers himself in pretty fair health, although still under occasional observation.

It may be that this was an example of irregular dyspnœa having been changed by the morphine into the Cheyne-Stokes type of breathing. Yet, if my memory is not at fault, this character of respiration did not wholly disappear with the withdrawal of the morphine. The two-hundredth grain of atropine was not sufficient to antagonize the influence of the morphine. Nevertheless, I shall hereafter employ morphine alone, using as small a dose as will suffice. The remedy should always be administered hypodermically, not only because more prompt than by the mouth, but because more efficient. Another reason for its use in this manner is its action as a cardiac stimulant.

Conclusions.—1. The term senile heart is unfortunate, because the degenerative changes underlying the disease are not limited to the aged.

2. The changes in the heart muscle are generally those of chronic myocarditis, and their real extent and location often escape recognition.

3. Radazewsky's investigations indicate that the connective-tissue changes affect the auricles more often than is generally supposed, and often exceed degeneration of the ventricles.

4. Fibrosis of the auricles causes cardiac arrhythmia, whereas fibroid degeneration of the ventricles does not produce irregularity of the pulse.

5. Cardiac dyspnœa has been shown by Zerner to depend upon swelling and rigidity of the lungs, in addition to pulmonary engorgement and accumulation of carbonic acid in the blood; and this probably explains the striking difference in the degree of dyspnœa displayed by patients with similar cardiac lesions.

6. That paroxysmal exacerbation of dyspnœa, called cardiac asthma, is due to disproportionate weakness of the left ventricle, and is most promptly and efficiently relieved by the hypodermic injection of morphine, one-eighth, and atropine, one two-hundredth of a grain.

7. Stadelmann's experiments appear to confirm Unverricht's assertion, that morphine and atropine exert no antagonistic influence over attacks of Cheyne-Stokes respiration.

8. Nevertheless, since morphine hypodermically was shown to sometimes modify in a favorable manner the severity of the attacks, and since it blunts the patient's sense of dyspnœa and induces sleep, its employment hypodermically is justified in these cases.

9. Morphine should be administered in cardiac cases hypodermically, and in as small a dose as will accomplish the result desired; and given in this manner it acts as a powerful cardiac stimulant.

VENETIAN BUILDING.

WHAT SHOULD BE THE POLICY OF THE STATE TOWARD PROSTITUTION?[1]

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A DISCUSSION of this trite subject would be useless to-day, were there not a possibility that the time had come when an enlightened public sentiment might effect something of real value. This discussion of the subject of prostitution must be based upon facts. History must be recognized, efforts already made toward the restriction of the vice and the results obtained must be appreciated at their true value. It is the truth that in all large cities the habitat of the prostitute is to most people of respectability as much an undiscovered country as the interior of Africa; it is truly as much a *terra incognita* as the island of Tierra del Fuego.

Indeed, there is an involuntary feeling of disgust and abhorrence when prostitution is mentioned. The whole matter is to most people so loathsome that they cannot even speak of it without horror. However, it is needless to say to medical men that the importance of the subject justifies its scientific study and its very serious consideration. It is said one cannot touch pitch without being defiled; nevertheless, the annals of medicine show many instances of martyrdom to the cause of science. The deaths due to sucking of the tracheotomy wound in diphtheria, and the many deaths that have occurred throughout the world due to scientific effort made in the study of disease, suffice to demonstrate the courage of the medical man and the sociologist in the discharge of what they believe to be their duties.

In reference to the study of prostitution, moreover, the effects of this vice must be judged by the truth as demonstrated by actual observation and experience. Inherent notions of right and wrong are out of place, for they are at best but relative—often geographical. Preconceived ideas, founded on religion, are inconsistent with the spirit of the times and incompatible with the scientific methods of a liberal profession.

Let us, then, very briefly study this matter, let us know what it is, why it persists, how it thrives, and as we take cognizance of the etiological factors incident to its existence and perpetuation, let us endeavor, if we cannot do away with it entirely, at least to suggest some remedial measures tending to diminish its extent, to control its objectionable features, and to eliminate its pernicious effects. Some people object to this, as I have already said. They claim the whole subject of prostitution is so degrading that its very mention is contaminating. I need not stop here to demonstrate to medical men the absurdity of this position. Nor do I need to insist further upon the importance of its consideration. As a matter of fact history shows that it has always existed. We certainly know its prevalence everywhere to-day. I for one cannot see how, for many generations to come at least, we can expect to eradicate it. As a matter of fact, next to the instinct of self-preservation the instinct which dictates the perpetuation of the species is dominant in all animals. Fortunately, in the genus *homo* this instinct does not exist

[1] Remarks made at the September Meeting of the Doctors' Club of Chicago.

in the female to the extent that it is found in the male, otherwise there would be no such thing as virtue or morality. There are philosophers—master minds—who after conscientious and critical study of the subject in all its relationships do not hesitate to assert that prostitution is desirable. Be this as it may, it is certain it is less objectionable than certain other evils. The great historian Lecky characterizes the prostitute as the eternal priestess of humanity, blasted for the sins of the entire people. There is no doubt that she is of value as a safeguard to the virtue of the family. If, in a word, our religion, our education, and our civilization cannot teach our young men to refrain from the sexual act until such time as it may legitimately be indulged in, it is decidedly better for us to have these young men cohabit with women of the town rather than with the wives and daughters of their neighbors. It is better for them to do this rather than indulge in the disgraceful practices and degrading crimes against nature, which prevail even in our midst to-day.

When we consider what shall be done with the prostitute, certain persons in the community, dominated by a sense of disgust, which all must entertain for her if they had not thought in a sense of justice regarding the causes that have made her what she is, cry out: "Away with her. Prostitution is so baneful, let us stamp it out, let us have none of it." How little such persons know of history or of human nature. The most stringent measures have at different times been adopted. Invariably they have proven ineffectual. Prostitutes have been publicly horsewhipped; their noses and ears have been cut; they have been ordered thrown in the river; they have suffered every degradation, but they still exist. Indeed, St. Louis, in 1254, was forced to the conclusion that suppression was worse than useless, and I think I may safely say that a consistent study of the facts will reveal that since that time all efforts at restricting the vice by summary legislation have ig nominiously failed. If prostitution has not been allowed to exist publicly, it has existed clandestinely, and its evils have been greater because no longer under supervision or control.

I will not go into the history of prostitution. The recent edition of Sanger's work and the comprehensive treatises of Jeannel and Parent du Chatelet give full details of a most interesting character. My own observation teaches me that women, as a rule, become prostitutes not from passion but from necessity. With imperfect and insufficient education, with degrading environments, without the fostering care of family, young women only too often, dominated by love and vanity, which Chesterfield has described as the two universal characteristics of women, fall ready victims to the lust of man. Then, again, the insufficient wages paid by many of our leading merchants to young women in their employ is unquestionably an etiological factor in the development of prostitution. Illegitimate pregnancy, as I have abundant opportunity of noting, causes many a woman to adopt a life of shame. She does this not because she wishes it, but because in the present state of our society in all large cities there is no place for the illegitimate infant—no helping hand for the erring woman. Many women through force of circumstances find themselves burdened with an illegitimate child which perhaps they desert. Ignorant of all reputable means of maintaining life, realizing after a few days of effort the impossibility of finding employment adequate for her maintenance, let me ask you, as matter of fact, "what is there for such a woman to do?" There is but really and actually one method by which she can live. She becomes a prostitute rather than starve.

I will not attempt to describe her daily life. In the works I have referred to you may read all details if you choose. As a matter of fact, in this country when a woman enters a house of prostitution, she too often enters what is practically a prison, from which escape is impossible. The methods of the proprietors of these houses are generally known. The young woman is furnished with clothing and anything else she may desire, so that she may remain constantly in the debt of the proprietor. As long as her attractions make her capable of adding to the revenue of the house, she remains there. When disease or debauchery shall have degraded her to such an extent that she is no longer sought by the patrons of the house, she is thrown out as a worthless piece of merchandise. Then comes further degradation, still more debauchery, from which transient relief is obtained only by the use of opium. Finally, and in a very few years, death closes the scene. One more woman has run her course, one more victim has met her fate, that is all.

Prostitution is not attractive. Pope's lines, where he speaks of vice and says:

> "But seen too oft, familiar with her face,
> We first endure, then pity, then embrace,"

do not apply here. To many an unfortunate woman the prospect of proper clothing, three meals a day, and no work, is undoubtedly preferable to starvation on the public streets or a sojourn in the bridewell. The hideousness of her calling, the revolting characteristics of her occupation are soon revealed to her oftentimes when no turning back is possible, when she has become in effect a slave of lust for life.

Few women become votaries of the vice from choice. In the great majority of cases the prostitute is what she is because man has in one way or another made her so. Under these circumstances, however disgusting and degrading may be her calling, I cannot in justice bring myself to look upon her with abhorrence, for I appreciate the circumstances that have made her what she is.

Now if we are to consider calmly and dispassionately the remedy of prostitution, we must take cognizance of its etiological factors and our remedy must be largely sociological. We cannot eradicate one of the great instincts of human nature, but we can and should teach its control. We should improve the economic conditions under which dependent women live, and we should open up all possible avenues of honest industry where women can find means of support. We can teach our young girls the perils that beset them. This may be immodest, but in certain States of the Union where the age of consent occurs before the girl has menstruated, or very soon afterward, it is only just to teach the child that knowledge which may enable her in a small degree to realize the dangers against which she is called upon to protect herself.

With these remarks upon the subject of prostitution in general, the causes which determine its existence and are instrumental in its maintenance, and with this reference to the prophylaxis of the condition, a prophylaxis based on facts, attested by history and by everyday observation, I proceed to the consideration of the policy of the State toward what is called the social evil.

As a matter of fact, in Illinois we are permitted to take no official cognizance of prostitution, nor to pass laws regulating it in any way. There is a State law against such action, just as I am informed there is a State law against keeping saloons open on Sunday. I hold this law to be wrong in principle and ineffectual in practice. I believe in the supremacy of the individual, and while I do not regard license as liberty, I think prostitution, which exists everywhere, can best be controlled by municipal rather than State legislation, for its evils vary in accordance with local rather than general conditions.

If this is true, the State law must first be repealed before we can take action of any sort. For the purpose of discussion, assuming this to have been done, assuming the possibility of doing what we think best in the matter, let us now determine if we wish to do

anything and to what extent, without infringing on the constitutional prerogative of every individual not a criminal, we are capable of limiting the extent or controlling the ill effects of prostitution. This brings us to the consideration of another matter of vital importance in this connection. I refer, of course, to venereal disease, which is chiefly disseminated by promiscuous sexual intercourse. Right here we are again met by objectors—not bigots or fanatics alone, but medical men of sincerity and honesty, whose motives cannot be gainsaid. They say: "If a man does such things let him take the consequences. He ought to know better." Armstrong, of New York, says that *caveat emptor* is the maxim of the market-place. I am glad to reply to him that it is not the maxim of the sanitarian, whose duty consists in doing more than crying "Beware," otherwise we had better abolish all our Boards of Health. As a matter of fact, there is no thought of guaranteeing the health of an individual any more than there is thought of a government pledging itself to guarantee immunity from epidemics.

Venereal disease is recognized, by those who know about it, as wide-spreading in its effects. The position has been taken that any attempt at controlling disease results in the extension of prostitution. It is said that if men knew they were safe, they would gratify their sexual passion more freely than they do now. In other words, men are said to be restrained by the fear of disease more than anything else. And then some persons say it serves them right if they are wicked enough to consort with prostitutes. They get only what they deserve. The wages of sin is death. The absurdity of this statement, as White has pointed out, is seen if it is followed to its logical conclusion. If it is right for every man who has intercourse with a prostitute to become diseased as a divine retribution for his indiscretion, we must encourage disease in each prostitute to make sure that no transgressor fails to receive his just punishment for his sin. Moreover, the man is often not the only victim. His wife, his children, his neighbors, all persons he comes in contact with, may fall innocent victims to the disease that he disseminates.

For this reason, if for no other, medical men must consider the prophylaxis of venereal disease in its relations to prostitution. All will agree, I am sure, that there is a possibility of improving the present conditions; all will acknowledge that something should be done rather than persist in the "let-alone" policy now in existence.

This thought leads to the consideration of the method called regulation, which means usually a systematic registration of all prostitutes and periodical inspection by deputized medical men. It means in some countries many things besides, dependent on local conditions. I will not detail the varied statistics that have been compiled in attempts at determining the value or worthlessness of regulation. It is easy to prove almost anything by statistics. I will simply say now that in every instance where regulation has been persisted in for any considerable length of time under proper supervision by qualified officials, the result has been in the main satisfactory. It has not always been as satisfactory as we would wish, but it has accomplished something. It has diminished venereal disease among soldiers and civilians, and brought more cases to the proper hospitals where the disease could be most satisfactorily treated. It has decreased the number of public women and produced a marked disappearance of young prostitutes. It has lessened the number and improved the character of the public houses. It has made segregation a possibility, so that police surveillance and supervision have been more systematic. It has restricted debauchery and prevented the use of these houses as the harborers of thieves and other criminals. Can it truthfully be said that the "let-alone" policy has accomplished even one of these results? The proper policy of the political body, be it State or municipality, that has jurisdiction over prostitution, should be not to close the eyes and say nothing exists because nothing is seen. Much less should the presence of prostitution be disregarded on account of its loathsomeness or its contaminating influence. By education, by religious instruction, by the judicious inculcation of adequate knowledge, by proper environment, and above all by a radical improvement in the economic conditions of our dependent young women, by teaching our young men principles of honor, of justice, of chivalry, and of charity for those who in pity should be able to look to them for protection and support—by these means we shall tend to restrict prostitution by preventing its increase through the agency of rational measures consistently applied.

As for the prostitute of to-day, let us grant her that liberty to which she is entitled; let us realize why she is what she is, and be just to her. At the same time, when we are permitted by the repeal of the State law to act in her case as we act toward every other source of infection, we will take all proper measures to diminish the extension of the disease to which she is specially liable, and in our endeavor to act in this manner for the welfare of the public, history shows we may count on her active co-operation.

I have made my answer to the question of the evening. You will pardon me if I add a thought as to immediate action. There are matters of importance that can receive attention at once. They pertain not to prostitution as such, nor to its regulation nor restriction, except incidentally. They concern medical men especially, for they relate to a medical matter worthy of very serious consideration.

Something can be done now to lessen the extent of venereal disease. In corporate institutions where large bodies of men are congregated, there can be proper inspection and suitable treatment which will diminish the spread of disease. In our houses of correction, our prisons, our asylums, our refuges, free treatment can be offered, and in most cases it will be gladly accepted. Our dispensary and hospital facilities for the care of venereal diseases are singularly inadequate for a metropolis like Chicago. Hospitals should be built and maintained exclusively for the treatment of this class of cases. The interests of the community demand that if we must have the prostitute, we shall do our best to have her free from disease. Our treatment may not be all we would desire. It is, however, better to have a certain amount of treatment than to have none at all. If we cannot take a woman with gonorrhœa and cart her off to a hospital to be kept locked up there until she is well, as is done in Berlin and Paris, we can treat her as much as she will allow and instruct her in the use of antiseptic douches, for by that means some man may escape infection. If we cannot detain a woman with chancroid, we can destroy the virulence of the disease as far as possible, for it is better to do that than to do nothing. If we cannot keep a syphilitic woman under observation for two years, as I believe should invariably be done, we can treat her as long as she will permit, for incomplete treatment is better than none at all.

In a word, let us do all we can to treat disease, for that is the main object of our existence. Let us do the best we can in these cases, for there is much left undone that, with proper facilities, might be done to-day.

While awaiting the time when prophylactic measures shall diminish prostitution, let us for the present devote our energies toward the institution and perfection of such means as in our judgment will best tend to minimize its pernicious effects.

The Insane in Scotland.—On January 1st, in the present year, there were 13,852 insane persons under official cognizance in Scotland.

DIET AND SYSTEMATIC MUSCULAR EXERCISE IN THE TREATMENT OF TUBERCULOSIS.[1]

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Up to about twelve years ago the treatment of tuberculosis was entirely empirical. In 1882 Robert Koch, of Berlin, for the first time proved beyond a doubt that this disease was caused by bacilli which, on account of their peculiar behavior toward strong acid, could be positively diagnosed in every case of tuberculosis. All subsequent experiments have shown that Koch's statements were perfectly correct, and to-day we can say that there is no tuberculosis without the presence of these characteristic tubercle bacilli. It is true that at the commencement of the affection it is not always easy to find the bacilli, but careful examination of the sputa at different times will invariably show their presence in a greater or less degree.

Tuberculosis may start very slowly and gradually; so much so that, physically, no characteristic symptoms of the disease may be found, but examination of the sputa will already, at this early period, demonstrate the presence of the bacilli. In every case of cough which has lasted for some time the physician should invariably make it the rule to examine the sputum, whether he suspects tuberculosis or not. If this is done, and only then, can we expect better results from our treatment than we have heretofore achieved.

In a large number of cases bacilli may be found in the sputa long before there are any well-marked physical signs, so that their detection will afford the first clue to the patient's malady. Even at the present day some physicians claim that there are cases of phthisis without the presence of tubercle bacilli. The trouble with them will, however, simply lie in the meaning of the word "Phthisis," as some will call a chronic catarrhal pneumonia fibroid phthisis. That this is not tuberculosis need hardly be mentioned.

Another mistake which is often made is to call tubercle bacilli the sole cause of tubercular infection, since tuberculosis will never affect people with good constitutions, but only those with poor, broken-down constitutions. People with good constitutions may continually inhale the bacilli without any bad effects whatever. The human body may be in a condition that is termed health, and still pathogenic bacteria may be present; these are kept in abeyance by the defensive action of the blood-serum and leucocytes. It is this repressive power of the blood that keeps them from propagating and doing injury to the economy.

Bacteria often seem to be destroyed by phagocytosis. There is an antibacterial property in the tissues, fluids, and secretions of the body, and these are natural defences against the growth of micro-organisms. The contact of germs does not lead to infection unless the material is present to favor their development. One of these causes is a poor or broken-down constitution. When this is present any existing bacteria will multiply and thrive. Another cause is the presence of the products of fermentation, inflammatory exudates, and diminished blood-supply. If the constitution is improved, and the pabulum upon which the bacteria thrive removed or its formation stopped, their development is hindered or entirely checked, and thus the severer forms of inflammation are obviated. A plant cannot grow upon a rock or thrive upon barren soil, and so it is with all forms of life, even the minute organisms. The substances upon the surfaces of wounds which cause the development of micro-organisms and thus produce infection, are readily removed by the most important and chief means for all sterilization, that is, the mechanical purification by washing and cleansing with water. Why should not the substances in the interior of the organism, which are the pabulum for bacterial development, also be removed, at least to a great extent, through the channels of the body which terminate directly in the emunctory organs. It is quite possible that the sewage system of the tissues, when properly stimulated in the work of elimination, will carry along in its circulation much of the material which causes infection, and thus produce what might be termed an internal sterilization or asepsis. Many seem to think that because a germ once entered the body, it cannot be removed until it is thoroughly digested; but why should not cleanliness, applied to the internal organs whenever possible, aid in the elimination of the micro-organisms? If we cleanse the oral cavity daily, we may just as well go farther and cleanse the stomach and intestines. Tubercle and other bacilli usually enter the organism by the canals and ducts which communicate with the outside of the body. The alimentary canal in many cases is the primary means of entrance. The infection then extends by following various routes. The bacilli are carried along the lymphatic channels into the tissues or lymphatic glands. These glands appear to have the power of arresting the infection for a time at least, before it finally passes into the blood, and this would seem to be the critical period in the treatment. Pure or sterilized granite or trap-rock waters, taken hot in sufficient quantities and at proper times, combined with systematic muscular exercise, hot baths, and massage, will certainly help to cleanse out the tissues of the body.

We may furthermore take advantage of the bactericidal properties of the blood-serum. This protective property of nature is best enhanced by enriching the blood by the various means within our power, one of the most important of which is scientific dieting. The ordinary diet of individuals is often extremely bad, the place of wholesome food being taken by sweets and stimulants, such as sugar, pastry, tea, coffee, and alcoholic drinks, so that not infrequently patients will grow weak and the constitution will suffer simply on account of the deprivation of proper nourishment.

The plan of treatment which I have already described in the *New York Medical Journal* for October, 1894, consists in giving at rather frequent intervals a considerable quantity of carefully roasted or broiled beef or mutton, raw eggs, stale bread, butter, sterilized milk, and vegetables. After a few days of treatment the meat should not be less in amount than a pound a day, and the quantity of bread and vegetables should be even, if possible, somewhat larger. When there is a disgust for the meat diet the stomach needs special treatment, for a short time only, by the addition of a digestant such as dilute hydrochloric acid and hot water to remove irritations.

Tuberculosis is the great destroyer, as it is the most frequent of all fatal diseases; and malnutrition and defective elimination, which will sooner or later break down the constitution, are at its foundation. It is estimated that in the United States nearly five hundred individuals die of this disease every twenty four hours. Its extreme prevalence and destructiveness have urged physicians in all countries to make strenuous efforts for its prevention and extermination.

It has been mentioned in this paper a number of times that constitution is one of the most important points in the development of tuberculosis. It may be well to show how the constitution of the patient can easily be determined under the microscope. Not only may this be done by the colorless blood-corpuscles, but also by the inflammatory pus-corpuscles which we will invariably find present in every sputum in which there is an inflammation of any kind whatever.

These views were first announced by Carl Heitzmann in 1879, and have since been corroborated by a number of independent observers both here and abroad.

[1] Read before the New York County Medical Association, October 21, 1895.

They are the following: The amount of living matter within a limited bulk of a corpuscle varies greatly in different individuals. It is obvious that what is called a healthy or vigorous constitution is based upon a large amount of living matter in the body, the new-growth of which in morbid processes is very lively; while a phthisical or so-called scrofulous diathesis must be caused by a relatively small amount of living matter, the new-growth of which is scanty in morbid processes. In other words, a corpuscle will exhibit coarse granulation, or it will be almost homogeneous-looking, under the microscope, owing to the large amount of living matter in strong individuals of good constitution; while a corpuscle taken from a person with a weak or tuberculous constitution will be pale and finely granular, as but little living matter is present in it. In a given case, therefore, the more numerous the coarsely granular pus-corpuscles or colorless blood-corpuscles present, the better the constitution; and, on the other hand, the more abundant the finely granular ones, the worse the constitution; and when the corpuscles become broken up and disintegrated we can say that death is not far distant. As long, then, as we find the coarsely granular homogeneous corpuscles predominating, so long there will be no danger of the individual contracting tuberculosis; and when upon examination we find that the corpuscles do not contain a sufficient amount of living matter, that is, they have become more or less finely granular, we should at once resort to all possible means to increase the living matter, as otherwise tuberculosis may set in at any time.

Klebs, in the *Journal of the American Medical Association* for October 12, 1895, says, in speaking of antiphthisin in tubercular affections of children:

"It would certainly be unreasonable to demand that this remedy, which has a specific germicidal effect upon the tubercle bacillus only, shall also remove and cause the cure of pathologic changes, which result remotely from the primary cause and, more unreasonable still, that the remedy shall also favorably influence and cure complications, which like infection with other pathogenic germs have no relation to tuberculosis at all, more than that they may be associated in the same patient.

"In all such cases it is necessary to remove the complications by other treatment, either before or in conjunction with the application of the specific remedy; but the final results are determined by the importance and curability of such attending pathologic processes.

"We see thus, that the use of a specific germicidal remedy can only be fully effective when the disease is still uncomplicated by secondary degenerations, and is free from complications which, unfortunately, are present in most cases of tubercular disease as they come under our notice; there are, however, not a few cases of purely tubercular affections in an early stage in which the results of specific medication are highly satisfactory. . . . For these, as in all other therapeutic efforts, the only unavoidable condition is that the organism itself shall still have the power to use and appropriate the introduced curative substance; for under no circumstances can we otherwise conceive the cure of disease, than that the living organism must, itself, take an active part in its removal."

In closing his paper he says, "Finally, I wish to point out that, in all tubercular affections the same as in many other severe and serious diseases, their treatment in hospitals or special institutions offers great advantages over that of private practice."

The means of improving the general constitution have already been partly stated above, but I wish to dwell especially upon the good results obtained from regular systematic physical exercise. The medical profession has always deemed physical education a hygienic measure of the greatest importance.

The well-known Dr. Gustaf Zander says: "Experience having shown that regular muscular exercises, gradually made more strenuous, not only develop and strengthen the muscles, but promote the removal of pathological changes in the tissues, give tone to the nervous system, and vitalize the circulation of the blood and lymph, and the activity of many organs, it is natural that such exercises should be included among therapeutic agents. For this purpose there was, however, requisite the power to execute these exercises according to physiological laws, and to modify their action, like that of any other therapeutic agent, according to the needs of each individual case." Therefore those persons who take up physical culture without a competent medical instructor, may do themselves serious injury, or at least obtain no special benefit from it, by attempting methods unsuited to their physical condition, or neglecting to carry out a practical system in a proper manner. Physical culture at home soon becomes a matter of drudgery to the weak and illy developed, who especially require it. As the interest is lost, it is neglected or carried out in a desultory manner, and thus the beneficial results are not obtained Under a competent medical instructor there is, along with sustained interest, a rapid and harmonious development of those portions of the body which most need it. Hysterical women and neurasthenic patients of both sexes especially, and also children, should not be allowed to take this exercise at home, as they perform it without system, overdoing it one day and entirely neglecting it the next. Very judicious passive exercise should begin the treatment, which should be gradually increased; at the same time they are under control, which strengthens their will-power, and they have to obey instead of ordering others about.

The indications and contra-indications for muscular exercise should be carefully determined. Exercise does not do everything; sometimes rest and drugs are needed. Therapeutics always belong to the physician, and not to the layman. The pleasurable massage following the bath is something difficult, and with many impossible, to obtain at home, and it should not be in the hands of laymen.

To overcome the deformity of round shoulders, the muscles of the back and abdomen must be systematically exercised and strengthened. The flattening of the chest, which is the result of the shoulders falling forward, tends to the production of lung disease, by interfering with their complete expansion. To overcome this deformity, the patient should stand with head erect, with the abdomen drawn back and chest projecting, and then forcibly draw the shoulders back as far as possible, as if to make the shoulder-blades meet. This should be performed from ten to fifty times daily; in fact, at frequent intervals during the day, whether exercising or not. All shoulder-braces are useless for this purpose.

For broadening the chest, assume the erect posture. The movement should be as follows: starting with the hands in front of the hips, to force them by a lateral and backward movement as high above and behind the head as possible. A modification of this movement, which is easier and more graceful, consists in starting with the arms extended behind the back, and letting them go up alternately as far as possible, while keeping the elbows perfectly rigid. All these exercises are best performed with light dumb-bells, from two to five pounds in weight. This last movement is of especial advantage in drawing upward and outward the sides of the chest, thus increasing its capacity.

Another beneficial exercise for deepening the chest and straightening back the shoulders, is to stand with arms projecting straight forward, elbows perfectly stiff. Let the arms go straight backward as far as they will, on a level with the shoulders. Meanwhile, the erect posture must be maintained—head erect, chest projecting, and chin drawn in. This is a splendid exercise for increasing the lung capacity. These movements should be repeated until the particular muscles involved become fatigued, when the instructor will

change them and bring into use another set of muscles, and so on. The respirations should be full and free, and the air perfectly pure. A system of this kind, carried out in a scientific manner, strengthens not only the muscles, but all the vital functions, and is adapted not only to adults but to children as well. Respiration and digestion are improved with the increase of vitality, and the elimination of the waste of the body is greatly enhanced. By specific exercises the chest cavity is broadened and deepened, and the chest expansion and manner of breathing greatly improved and permanently benefited. Not only the lungs, but the brain and nervous system are powerfully influenced by systematic bodily exercise The brain will accomplish only imperfect results if the body is not in a state of health.

Everywhere we see the lack of physical culture, men, women, and children, with narrow chests, pale, emaciated faces, and a general look of exhaustion, are met daily. If extreme leanness is not present, obesity produces ugliness of the human form. A comely, erect, well-formed body is much less common. Judicious, systematic muscular exercise, and a proper dietary, give vigor, activity, and courage, both mental and physical.

The supply of oxygen is greatly increased by deep, full inhalations in the open air, thus increasing the lung capacity, purifying the blood, and strengthening the nervous system. The temperature of the body is equalized as a result of the muscular exercise, and the eliminative system stimulated to increased activity; while digestion and assimilation are brought to their highest point of efficiency.

I desire to refer at this point to Dr. Wischnewetzky, who first established a complete mechanico-therapeutic Zander institute in this country, and directed it for five years, but at present has no connection with the institution. Therefore he cannot be held responsible for its present methods of advertising in the daily newspapers. He says, in "Contributions to Mechanico-therapeutics and Orthopedics," vol. i., No. 2: "By affording a basis for the scientific medical application and discussion of Mechanico-therapeutics, Dr. Zander has placed the subject above the level of a peculiarly Swedish method, and has enriched the science of medicine. Hence, although Dr. Zander is a Swedish physician, his method can no more be called Swedish than pathological anatomy, which has been so effectively promoted in Germany, is German, or antiseptic surgery English, because Joseph Lister was born in England. . . .

"The physician has here forced the mechanical progress of our age into the service of medicine for the solution of problems of an anatomical nature. He enables us to exercise any given group of muscles strictly in accordance with the laws of physiology; to exclude any other group at will; to determine which groups are called into action, and to what extent in every movement made.

"By subjecting to localization, measurement, and control a therapeutic agent which, for want of these qualifications, was not susceptible of rigid scrutiny, Dr. Zander has created the basis for the use of mechanical treatment as an agent capable of fulfilling all the conditions imposed by the most exigent scientific criticism.

"The importance of systematically organized muscular exercise is no longer a subject of debate. The question always open for the conscientious physician is: "How shall such treatment be administered without risk of harm and with all the benefit which is in many cases obtainable from it?"

In this article nothing has been said of the medical treatment by inhalations, creosote, terebene, and its allies, etc., which is often curative and of great importance in this disease.

776 Madison Avenue.

A REPORT OF A SERIES OF CASES OF MULTIPLE NEURITIS IN INFANTS IN THE CITY OF BRIDGEPORT, CONN.[1]

By GRÆME M. HAMMOND, M.D.,

NEW YORK.

Isolated cases of multiple neuritis in infants are of rare occurrence. A sequence of such cases occurring within a limited geographical area is particularly interesting, both from clinical and etiological points of view. Cases of neuritis in children are perhaps more common than is generally believed. Browning, of Brooklyn, pointed out a short time ago that many cases of so-called anterior poliomyelitis in childhood were, in reality, cases of neuritis, probably of malarial origin, and Sachs, in his text-book, refers to many cases of neuritis in children, who have been exposed to some toxic poison. But I have not been able within the limited time since this series of cases became known to me, to discover, at least in this country, any similar group of cases occurring in such a circumscribed locality.

Epidemic neuroses, with the exception of cerebro-spinal meningitis, are of very infrequent occurrence. In this country an epidemic of poliomyelitis was reported over fifty years ago by Dr. Colmer, and then not again until 1894, when a similar epidemic occurred in Vermont, the details of which were reported in full by Dr. Caverly in the Medical Record of December 4, 1894. In Europe epidemics of poliomyelitis have been reported by Briegleb in 1890, and in Stockholm by Medin in 1891. None of these were described to be epidemics of multiple neuritis, nor can I find any trace in literature of epidemics similar to the series of cases I propose presenting to you this evening. The Vermont epidemic affected many of the lower animals as well as the human species. I am inclined to believe, from a study of Dr. Caverly's cases, that only a certain proportion were examples of poliomyelitis pure and simple. In that epidemic there seemed to be some undiscovered morbid agent which profoundly impressed the nervous system affecting different individuals with a similar inflammatory process, but implicating different portions of the cerebro-spinal system. Thus it seems to me, merely from reading Dr. Caverly's account of the epidemic, that there were cases not only of poliomyelitis, but also of spinal meningitis and cerebral meningitis, either independently or in combination. Medin's analysis of forty-four cases in the Stockholm epidemic shows there was more than simple poliomyelitis. There were ophthalmoplegias, facial and laryngeal paralyses, and in a few cases distinct implication of the vagus, symptoms which are quite foreign to typical poliomyelitis.

The present series of cases, comprising ten, occurred between December, 1894, and the present time. This is hardly sufficient to be regarded as an epidemic, and yet the nature of the disease is such, and its occurrence in infancy is so rare, that ten cases discovered in one locality and all within a few months may properly be regarded as an epidemic. They may certainly be regarded as extraordinary, and the presumption does not seem unreasonable that some atmospheric germ as unknown to us as that which caused the Vermont epidemic, and probably similar to it, is responsible for the cases I propose to bring to your notice this evening.

Last January, Dr. J. W. Wright, of Bridgeport, asked me to see his little girl, then twenty-one months of age. The history of the case was as follows: She had always been a strong and vigorous child. About Christmas she did not appear to be feeling well, and after a few days of discomfort, complained of pain in her feet. The pain ascended and seemed to affect both feet and legs equally. With the advent of the pain, progressive paralysis appeared, beginning in both feet and gradually extending upward. When I saw her both legs were

[1] Read before the New York Neurological Society, October 1, 1895.

absolutely paralyzed. The muscles of the back were so weakened that she could not sit up, both arms were greatly weakened but retained feeble motion. The child seemed to be free from pain so long as she remained quiescent, but as soon as the limbs were moved or even pressed, particularly over the nerve-trunks, she shrieked with pain. There was apparently little or no pain in the arms. The gums were swollen and exquisitely tender. Tests in regard to the different forms of sensibility could not be made both on account of the youth of the patient, and because of the suffering such an examination would necessarily entail. I saw the patient about two weeks later, in consultation with Dr. Garlick. Her condition was unchanged, except that she had been seized with a double pneumonia, which may or may not have been part of the infectious process. From this she recovered. A few weeks later the symptoms of neuritis began to diminish. The pain subsided, motion gradually returned, and in about four months she seemed restored to her normal condition.

CASE II.—About a hundred yards from Dr. Wright's residence, I found a child, three and a half years of age, who had had the first case, as far as I could ascertain. His initial symptoms began a few weeks before those of the case just described, and differed but little and immaterially in their clinical features. This case also recovered.

The notes of the next six cases have been given to me by Dr. John C. Lynch. They were all cases occurring in his practice in Bridgeport.

CASE III.—Francis P——, 9 Grand Street, Bridgeport, Conn.; aged fourteen months ; Irish parents, family history good ; no syphilis, father intemperate. The child is the youngest of four and has always been healthy till the present trouble. Thursday, May 30th, his mother took him in a baby-carriage to see a parade. The child was restless that night and slept poorly, but the mother thought it was due to teething. Three or four days before this the child rolled out of the bed, but did not seem to be hurt very much as he did not wake up or cry. The next day the mother noticed that he could not use his right hand, then his left hand became affected, and finally both legs were paralyzed. On June 2d his mother brought him to my office. The temperature was 103° F.; pulse, 127; respiration, 38, with paralysis of both upper and lower extremities. There was hyperæsthesia and tenderness and stiffness on motion. Reflexes were abolished and the characteristic wrist and foot drop were present. Faradic excitability was lost, but the paralyzed muscles responded slowly to strong currents of galvanism. His condition remained about the same for ten days. It then remained stationary for fourteen days, and then slight improvement was noticed in the right arm, left leg, and right leg. The pain was very severe, markedly so at night, requiring one-quarter grain morphia six times a day to control it. The child recovered.

CASE IV.—Annie S——, aged twenty months ; born in the city ; mother American and father Irish. No hereditary history. On June 13, 1895, the child was taken with a chill which recurred every other day for three days. On June 16th consulted Dr. W., who said she had malaria in the worst form. Tuesday evening, June 19th, patient was brought to my office, at that time had projectile vomiting, strabismus, and arching of the spine backward. The temperature was 105° F. ; pulse, 90 ; respiration, 24. The bowels were costive, tongue heavily coated, urine highly colored and stained the linen. The diagnosis of meningitis was made. On June 20th, the condition was unchanged, the child very restless and seemed to be in extreme pain. On June 22d, I noticed loss of power of the right arm. A microscopical examination of blood showed the presence of plasmodia. On June 23d both legs became paralyzed. There was intense pain on passive movements of the limbs, and also on pressure particularly along the course of the nerves. The reflexes were absent and the muscles failed to respond to faradism, and the reactions to galvanism were greatly diminished. The patient's condition remained practically unchanged up to July 16th, then slight motion of the hands was observed. Patient has continued to improve gradually up to the present time, with complete use of both arms, but is still unable to use the legs.

CASE V.—Francis G——, aged twenty-two months ; born in the city ; parents Irish ; heredity negative. On May 16, 1895, had a mild attack of scarlet fever. On June 16th, after his usual afternoon sleep, awoke with headache and fever. His temperature was 101° F.; pulse, 110 ; respiration, 28. The next day the patient was comparatively well. Microscopical examination showed plasmodia. One week later, he was seized with the loss of power of both legs. His mother said she thought the right leg was first involved, and then the left one. She had noticed the loss of power coming on for three or four days. He remained about the same for three weeks, then he began gradually to improve. He has now fair motion of both legs. There was diminished reaction to the galvanic current and slight response to a very strong faradic current.

CASE VI.—Thomas O'Brien, aged four years and six months ; parents Irish, healthy ; no history of intemperance or specific trouble. Youngest but one of eight children, two of whom are dead. One was still-born and the other died of cholera infantum, aged seven months. One child aged eight idiotic. The child in question presents stigmata of degeneration. On June 23d, it complained of appetite and general soreness, and there was vomiting and fever several days. When I was called, there was loss of power of both legs, the temperature was 101° F.; pulse, 120 ; respiration, 40. The muscles of both legs refused to respond to faradism, but did respond to galvanism. Plasmodium malaria in the blood. There was a loss of the reflexes, and there was foot drop of the left foot. The child slowly improved, and at the present time is able to stand.

CASE VII.—John S——, aged twenty months ; born in Hartford ; parents American, healthy. No specific history or intemperance. Patient youngest of three children. Healthy, except congenital club-foot, which has been corrected by operation. On August 21st he awoke with severe pains at 3 A.M. Mother supposed it due to colic and gave castor-oil and paragoric. I saw the patient three days afterward and found him suffering from loss of power of both legs and right arm. Temperature, 102° F.; pulse, 130 ; respiration, 33. There was some opisthotonos, and also severe pain on attempting to move the limbs or on lifting the child. There was slight response to faradism, diminished reaction to galvanism. The patient gradually improved and now, nearly six weeks after the disease began, can sit up and has regained the complete use of the right hand. The legs are improving.

CASE VIII.—Charles M——, twin child ; aged nineteen months ; parents American ; good family history. Last January, 1895, had acute pneumonia. He is the youngest of six children. One child died of meningitis and complicated otitis media. On August 22d he was taken sick with fever, vomited three or four times during the afternoon and evening. I saw the patient at 9 P.M. His temperature was 100° F.; pulse, 105. He was restless and seemed to be in considerable pain. The mother thought the child suffered most pain on being moved or lifted up. Three or four days later it was noticed that the child could not draw his legs up, and finally both legs became paralyzed. The muscles responded slightly to strong faradic currents and also to galvanism. This patient has not yet recovered.

CASE IX.—This case occurred in the practice of Dr. J. W. Wright. The patient was four months and a half old. The disease came on with fever, which varied from 101° to 105° F. The pain in this case began in the trunk on both sides of the body over the ribs.

Touching the skin over this region gave rise to great pain. There was vomiting, the head and back were stiff, and there was persistent insomnia. All the limbs could be moved, but the child would become rigid when he was picked up. The paralysis gradually ascended and finally involved the muscles of deglutition, and the infant died about one month after the beginning of the disease.

CASE X.—This case I saw in consultation with Dr. Samuel M. Garlick and Dr. John C. Lynch. The sickness began with fever and vomiting. First one leg and then the other gradually became paralyzed until all motion was completely arrested. There was spontaneous pain in the legs, and increased pain when the limbs were moved. The nerve-trunks were sensitive, the reflexes were absent, and electrical contractility was entirely abolished. The arms were slightly paralyzed and for one day swallowing was interfered with. Like the others, improvement began after several weeks' illness and is still going on, but the child has not by any means recovered yet.

A brief summary of the most important details of these cases is stated in the accompanying table. The average age of the ten cases is two years and three months. Eight out of the ten cases began in the warm weather of June and August. Medin's cases of poliomyelitis all occurred in the summer months, and Saelis[1] states that seventy-five per cent. of his cases of poliomyelitis began between the months of July and October. In three cases both arms and both legs were paralyzed; in two cases both legs and the right arm were affected; in four cases only the legs were implicated, and in one case the intercostal muscles were the primary seat of the paralysis. The fourth and ninth cases presented typical symptoms of meningitis. The fourth case recovered, and the ninth case, who died, was unfortunately not subjected to a post-mortem examination, but it is quite possible that in both these cases the meninges were affected.

None of the physicians in Bridgeport whom I have questioned have ever met cases presenting these clinical features, until this series of cases began last winter. In regard to the diagnosis, I do not see how any other conclusion can be reached than that they were cases of multiple neuritis. The combination of sensory and motor symptoms; the gradual and symmetrical extension of the disease; the local tenderness over the nerve-trunks; the length of time the illness lasted; the gradual and, in some instances, complete recovery of the patients, and the absence of characteristic symptoms of other diseases, makes a diagnosis of neuritis comparatively simple. The succession of cases and their great similarity point to a common cause of origin. In one case Dr. Lynch discovered the grippe bacillus in the blood, and in two other cases the blood showed the characteristic evidences of malaria. But this proves nothing. Grippe and malaria are common among infants, but such a series of cases as these is almost unique. Careful inquiry in towns in the neighborhood of Bridgeport fails to bring to light any similar cases. In Fairfield, about four miles from Bridgeport, there is one case of anterior poliomyelitis. I did not see this case. The diagnosis was made by Dr. Garlick, of Bridgeport, and confirmed by Dr. N. P. Gibney. It is possible that the etiology of this case may be identical with that of the cases just reported.

TABLE OF CASES.

Cases.	Age.	Disease Began.	Initial Symptoms.	Location of Paralysis.	Improvement Begun.	Duration of Disease.	Associated Symptoms.
1	21 mos.	Late in Dec., 1894.	None observed.	Both lower limbs; both upper limbs (slightly) and muscles of the back.	Three months.	Four months.	None observed.
2	3½ yrs.	Early in Dec., 1894.	None observed.	Both legs.	Two months.	Three months.	None observed.
3	14 mos.	June 1, 1895.	Fever (101° F.).	Both upper and both lower limbs.	In about one month.	Not known positively, but about three months.	None observed.
4	20 mos.	June 13, 1895.	Chills, fever (105° F.), and vomiting.	Right arm, then both legs.	In about one month.	Recovery not completed at the end of three months and a half.	Strabismus and opisthotonos.
5	22 mos.	June 16, 1895.	Headache and fever.	Right leg, then left leg.	Three weeks.	Three months.	None observed.
6	4½ yrs.	June 23, 1895.	Vomiting and fever (101° F.).	Both legs.	Not known.	Four months.	None observed.
7	20 mos.	Aug. 21, 1895.	Pain and fever (102° F.).	Both legs, then right arm.	Not known.	Recovery of arm at end of four months; legs still weak.	None observed.
8	19 mos.	Aug. 22, 1895.	Vomiting and fever (100° F.).	Both legs.	Not begun yet.	It is now five weeks since the disease began and patient is not yet well.	None observed.
9	4½ mos.	Aug., 1895.	Fever (105° F.).	Intercostal muscles and muscles of deglutition.	No improvement.	Died in one month.	Vomiting and stiffness of the back; rigidity of all the muscles when child was lifted.
10	4½ yrs.	Aug., 1895.	Vomiting and fever.	Both legs, upper extremities slightly.	In about six weeks.	Not yet recovered.	None observed.

THE LIMITS OF DISEASES OF THE RECTUM AS A SPECIALTY.

BY CHARLES B. KELSEY, M.D.,

NEW YORK.

FOR two years now we have had, in America, a quarterly journal devoted chiefly to diseases of the rectum, but not exclusively. During the last meeting of the American Medical Association, an effort was made to organize a Society of Rectal Surgeons—whether successful or not I do not know.

I believe I may venture to say, without fear of successful contradiction, that no man has ever attained any great prominence in surgery who has confined himself absolutely to diseases of the rectum, to the exclusion of correlated lines of work and study.

Van Buren, up to the time of his death, was America's greatest authority on the rectum, but the rectum was never his "specialty." Allingham is, perhaps, the best living English authority in the same field, but he, although like Van Buren the author of a standard textbook on diseases of the rectum, has always been a general surgeon.

These facts lead one interested to consider the scope of this particular branch of surgery, and to question seriously whether the surgery of the rectum alone can ever properly take its place among the well-established specialties.

The simple fact is that the lower four inches of the alimentary canal do not afford sufficient scope for the mental activity of a man of active mind and surgical tendencies. To such an one, after a time, piles, fissures, fistulæ, and pruritus become simply routine practice, affording very little field for original thought.

Ten or twenty times a year he is called upon to do real surgery—capital surgery. Colotomy interests him, both in deciding when it should be done and in its

[1] Nervous Diseases of Children.

actual performance; and an extirpation calls forth all his powers. There is probably to-day no more difficult surgical operation than extirpation of the rectum, and there is little question but that the man who can do that well is more than equal to the average demands made upon the technical skill and nerve of the general surgeon. But the man who can do extirpations and colotomies will not be content to pass his life in discussing whether the ligature or the clamp and cautery is the better operation for piles; and the man who cannot do these operations when called upon, has little claim to the reputation of a surgeon, though he may be a very successful practitioner.

The fact is that piles are only piles even after a man has become familiar with them and knows best how to cure them; and so it is with fistula, fissure, and pruritus. The specialist will do better in all these cases than the general practitioner; he will know better when to operate and how to operate; and will get better results and less failures; but his work will still be confined in the main to minor surgery, and unless he can go a long way outside of and beyond these cases, he sinks sooner or later into a groove and must lose his place and his interest in the great surgical advances of the day.

On the other hand, the man who can successfully treat all the cases that are sent to the office of a specialist as cases of diseases of the rectum, must be familiar with a very wide range of work, and must be ready at any moment to step into the field of gynecology, abdominal, and genito-urinary surgery, and compete on equal terms with those who make a specialty of these lines of work; otherwise he must transfer a certain large proportion of his cases to them for treatment in the first place.

Outside of the plain cases of piles, fistula, pruritus, etc., about one half of all the cases that come to my own office are cases complaining of the one symptom of painful or irregular defecation, with or without some palpable disease of the rectum; and I do not hesitate to say that these are the cases that have really exercised my thought and surgical ability in a constantly increasing proportion for years.

Painful and irregular defecation! What may this not mean? What may be necessary to relieve it? It may mean anything from a fissure to uterine fibroids, from constipation to intestinal obstruction by a band in the abdomen; and for its cure almost any operation in rectal, abdominal, gynecological, or genito-urinary surgery may be necessary. It is just here that the surgeon may discover the great difference between curing a patient and curing a case of piles by operating on the manifest disease, and finding his patient no better after the operation than before.

In women one of the first things to learn is to make a complete and satisfactory examination of the pelvic organs, either with one finger in the rectum or by conjoined manipulation per rectum instead of per vaginam. In all of these cases of painful or irregular defecation in woman which come to a rectal specialist, an examination per rectum is expected, and I do not hesitate to say that when no mechanical or painful obstacle to a complete examination is found, a more thorough and satisfactory examination of the pelvic viscera may be made while the finger of the surgeon is still in the rectum, than by withdrawing it, changing the position of the patient, and introducing the finger into the vagina. To the man with a long finger it is simply surprising how high into the pelvis he can reach per rectum, when there is no vaginal vault to limit his digital exploration. I would not seem to argue for the substitution of rectal for vaginal digital examination—as the rule—in uterine cases, but would call attention to the fact that, when the finger has been inserted into the rectum for an examination of that canal, there is no reason to withdraw it and make a vaginal examination to find out the condition of the tubes, ovaries, ligaments, or uterus. To discover the condition of the cervix may require a vaginal examination, and it may also be impossible to tell which end of the pear-shaped uterus is pressing upon the rectum with only the finger in that canal, and without conjoined touch; but all other conditions may be made out at least as well, if not better, by the finger in the rectum as by the finger in the vagina. Every gynecologist knows this fact, and I state it now simply from the standpoint of one who for years has been in the habit of making his pelvic examinations in this way instead of in the usual way, simply because his patients come to him for a rectal, and not necessarily for a vaginal, examination, and because he seldom finds it necessary to interrogate both canals. The gynecologist proceeds merely in a reverse order, but the result reached is the same in both cases.

Ever since the country began to be flooded with "rectal specialists," it has been a standing joke whether a case of recto-vaginal fistula, or of laceration through the sphincters, belonged properly to the gynecologist or the rectal specialist. The answer, I conceive, is that it belongs to the man who by skill in technique and experience is best fitted to do the necessary operation. To whom does a case like the following, which was cured at my clinic last winter, belong? An unmarried woman, aged thirty-eight, had for ten years been living in sanitariums for difficulty in defecation, generally considered as chronic constipation. She was a miserable wreck, and most of her time confined to her bed. Once or twice a week she had a movement of the bowels by laxatives and enemata, and as a result of the consequent exhaustion, generally passed the balance of her time in her room. The mere introduction of a finger through the anus showed that the mechanical obstruction to defecation came from a retroverted movable uterus, closing the rectal canal like a ball-valve when any pressure was brought to bear upon it from above. A simple ventral fixation has made the woman a new creature.

My point is that if such a case as this does not come properly within the range of rectal surgery, then the rectum is no proper specialty for any surgeon; but that if it does, and if the so-called rectal specialist is prepared to treat all the cases that come to him complaining of symptoms referable directly to the rectum, then is his specialty no less a proper one than gynecology, and perhaps rather a larger, from the fact that his cases will include as many men as women.

This case is merely mentioned as one of a type. Every gynecologist knows how many of his cases of proctocele, laceration of the cervix or perineum, prolapsus of the uterus, misplaced and bound-down ovaries, uterine fibroids, and enlargement of the uterus—in fact how much of all his gynecology—comes to him complaining primarily of some trouble with the rectum. The same class of cases come as often to the rectal specialist for the same thing. Shall the gynecologist send his cases to the rectal specialist because they have pain in the rectum? If so he curtails his specialty at least one-half. On the other hand, shall the rectal specialist send the same cases to the gynecologist because they do not happen to have either piles or fissure? If so he becomes merely a "pile-doctor" and is little of a surgeon, nor is his specialty worthy the name, for all that he does can be done as well, with a little practice, by anybody else.

The question is larger than this, however, for not only must the rectal specialist be prepared to do the minor surgery of the gynecologist, but also the major. For example, take the following case, also cured at my clinic, last winter. A young married woman tells me that for twelve years she has had occasional attacks of severe pelvic pain, confining her to bed for a longer or shorter time, and that each has been followed by a free discharge of pus from the rectum, after which the severity of the suffering decreased, the discharge gradu-

ally diminished, and she sank back into her usual state of semi-invalidism with all the symptoms common to cases of old pelvic trouble. The case was sent to me by her physician, as one of abscess of the rectum, but examination revealed the source of the pus to be an old pelvic inflammation which had filled the floor of the pelvis with exudate, and which contained two abscess cavities. Under ether the smaller of these was punctured through the rectum, the opening thus made dilated with forceps introduced while closed and removed while open, and the cavity stuffed with iodo form gauze. After recovery from this a laparotomy was done for the removal of tubes and ovaries, or at least for the exploration and proper treatment of the second pus cavity, by whatever plan might seem indicated after opening the abdomen. It was found that all that could be hoped for by this method was the evacuating of the abscess into the free peritoneum, with drainage through the abdominal incision, and this was abandoned, the abdomen closed, and the second abscess treated like the first by free incision, and drainage into the rectum. The result was good, and although the patient will never be entirely free from symptoms caused by the old trouble, she has been relieved of her chief cause of suffering.

This certainly is gynecology, but is it not as much rectal surgery? Is the rectal specialist to say to a case like this, "If the pus came from an abscess outside of the pelvis or just below the peritoneum, it would be within my specialty; but coming from an inch or so higher, you should apply to somebody else for relief?" Is a perityphlitic abscess pressing upon the rectum and causing constant tenesmus to be shunned, while one originating in an inflammation of the peri-rectal cellular tissue high up and causing the same symptoms is to be incised? Is intestinal obstruction due to stricture within reach of the anus to be operated upon by laparotomy, while exactly the same condition due to stricture just beyond the reach of the finger in the rectum, but plainly within reach by deep palpation of the left side of the pelvis, and requiring exactly the same operation, is to be considered general surgery? The answer rests entirely with the men who make diseases of the rectum a specialty.

Reviewing the work at my own clinic for the past year, I find the usual number of cases of disease confined solely to the lower four inches of the alimentary canal—hæmorrhoids, fissure, fistula, etc. These cases are always interesting; they are the ones the average student comes to study; and I hold that the man who has devoted his chief study to them is better able to treat them successfully than the general surgeon. But it is also conceivable that after twenty years a man may become wearied of any particular routine of minor surgery, and may consign nine-tenths of all the current literature concerning it to the waste-basket without reading.

But in addition to these cases I find also laparotomies for pelvic trouble in women, cases of acute intestinal obstruction in men, perityphlitis, closure of fecal fistulæ both by suture and Murphy's button, intussusception, cancer of the prostate, abscess of the prostate, the usual lesser gynæcological operations, extirpations of the rectum, colotomies, and finally a case demanding Cæsarian section on account of what was supposed to be cancer of the rectum when it was sent to me, but what was also cancer of the uterus and vagina complicated by labor. This case was kindly operated upon by my friend Dr. Edebohls. The others were operated upon by myself. I do not speak of them in detail, because there was nothing remarkable about them except that one and all were sent to me as cases of trouble with the rectum, and almost all of them by fellow-practitioners; and in all of them one of two prominent symptoms was present—either pain in the rectum or difficult and irregular defecation, which had caused them to be considered as cases of rectal disease.

There has never been any question as to the propriety or the status of gynecology as a specialty, because the gynecologist has never considered and taught that his field of work was confined to the vagina, and that everything outside that canal should go to the man best fitted for abdominal surgery. And yet this is exactly the status of the rectal specialist, both in his own estimation and consequently in that of the medical profession at large and the public.

Our leading gynecologists have always been surgeons—bold, original, great surgeons. Men confining themselves to a certain line of work, it is true, but not limiting that work solely to the vagina, and capable of curing the patients who come to them. If the men who are constantly starting out as rectal specialists are willing to take the same broad view, and fit themselves by years of surgical training to live up to it in practice, then may rectal surgery as a specialty hope for a firm and honorable position in the future. But if to the coming generation as to the past, the rectal specialist is to be either an advertising quack, or a man who has taken a six weeks' special course at a post-graduate medical college, has seen a few operations for piles and fistula, and imagines himself thus fitted for his life-work as a surgeon; then is the future of the specialty not difficult to foresee.

ENDOCARDITIS IN COUNTRY PRACTICE.

By JAMES E. FREE, M.D.,

BILLINGS, MONT.

A TYPHOID-FEVER patient began to exhibit an irregular temperature after the fastigium. One day the thermometer registered 97.6°, next day 103°, another day 100° F. Profuse perspirations came on at irregular intervals, when no acetanilide had been administered. At the commencement of the fever this antipyretic had been used, and the hope was indulged that these symptoms were due to the cumulative action of the drug. An odd pulse, exhaustion, and dyspnœa supervened. Gradually the symptoms of enteric fever faded, tenderness abated, but the patient did not convalesce. He grew worse. There was a tricuspid murmur and a sort of blowing systolic thrill. Death ended the painful suspense, and at the autopsy there was found perforation of the auricular septum. There was no valvular disease on the left side of the heart. The perforation was large enough to admit the end of an ordinary lead-pencil. Around it was a collar of fibrin, which was the seat of a swarm of micrococci, the streptococcus pyogenes aureus. Injection of cultures of this microbe into a prairie dog produced no effect. Following out the ideas and directions of Wyssokovitch, a fine probe was passed into the carotid artery, and an effort made to abrade the aortic valves. Several dogs died from the pseudo-scientific handling, but one lived to develop symptoms of ulcerative endocarditis. Vegetations were found on all the valves of the heart. Injections of the same material into the intestinal canal and peritoneum, after wounding with the probe, were without results where the dogs lived more than twenty-four hours.

The typhoid process in the case mentioned brought to light a lesion of the tricuspid valve, perhaps, which had been unsuspected. Insufficiency and venous engorgement made their *début*, vegetations developed, and an embolus was found located in the brain, in front of the fissure of Sylvius, which was the explanation of the difficulty of speech noticed for several days prior to death. This embolus was the resting-place of micrococci. An inflammatory process was lighted up by the products of the typhoid poison in the auricular septum and in the brain. Necrosis of tissue resulted. If the circulation could be carried on around these

dead spots, and the poisonous material could be encysted, nothing more serious than a temporary paresis of function might result, and the disappearance of the typhoid fever might have saved the body from further attack. The perforation of the septum permitted a side-tracking of some of the blood. Poisoned by the endocarditis, the blood did not nourish the tissues properly. Foreign substances demanded too much attention from the excretory organs, and the usual products of waste were not handled in a workmanlike manner. Nature, goaded to desperation, made heroic efforts to fulfil her contract to get rid of unnecessary material by vicarious perspirations. With every portion of the body invaded by the septic matter, the problem of getting rid of it was a serious one. What method was used to supply the enormous waste of fluid-constituents, further than thirst, is not known. Transfusion of normal saline solution might have been of value, but was not tried. Not having the true Athenian thirst for new things, in emergencies, is sometimes a misfortune to the physician, and a calamity to the patient. An artificial serum in such a case would at least be aseptic. The sweat did not remedy the difficulty. It was a gallant effort, but barren of results. An examination of the sweat would perhaps have shown some of the germs cleverly entrapped and forced out of the body. How the glands managed to make their captures would be an interesting study. Investigators tell of marvellous motions and selective actions in protoplasm, which it would be worth while to recognize, if possible, in country practice. Some of the ptomaïnes would be forced out of the circulation also. Ptomaïnes would not likely have an elective affinity for the solid constituents of the blood. From its ravages in the body it would seem as if it could penetrate any tissue in company with serum—for instance, into joints, peritoneal cavity, etc. The product of the sweat-glands may be infective in some disease.

The heart and uterus are two organs which can be seriously disabled without showing the red flag of pain. This cannot be from lack of nerve-supply, either direct or indirect, but must be a provision of nature with the object in view of pensioning these mainsprings of life.

The death of a patient is regarded as an intervention of Providence. Any other way of looking at the matter would consign the inexperienced medical man to a hell on earth, or, at least, to purgatory. Experience stimulates the hypothesis-centre and develops the thinker. In medicine we must think ourselves out of purgatory.

Most cases of tricuspid diseases are said to be congenital. It is easy to fall back on congenital excuses when the devil and the deep sea are on either hand. Cases of cancer and tuberculosis may be due to preventable hygienic causes. A woman might be called upon to bear about in her body wrongs due to having a sexual hog for a husband. Prolific childbearing wears out the uterine tissue, on the same principle that makes the gun-barrel wear out. Orgasm in the male may be like the firing of a rocket. The stick is coming down after the explosion before the female can attain the climax. Specific infection could be imagined to have some relation to orgasm and the ejaculatory act to absorption. The presence of seminal fluid upon the genitalia, when satisfaction has not been complete, may have an irritating effect on the mucous membrane. Heart-action can be irritable from ungratified sexual desire, just as it may be from the use of tobacco, loss of sleep, fatigue, and anxiety. The morbid habit once established takes care of itself. Chronic congestion, unhealthful function, permanent disability, abortive nerve-force, and the birth of pathological cells, are steps in degeneration. A hunchback is nature's effort to make a correct vertebrate. Cancer and tuberculosis result from nature's failure to score one hundred per cent. If the healthy young woman, who marries and breaks down in middle life, and develops carcinoma of the genital organs at the climacteric, had remained single, worn bloomers, and cultivated her physical powers on a bicycle, she would have escaped the gynecologist. There is physiology in the new woman's knickerbockers. People tainted with tuberculosis who are in the habit of developing the air-cells of the lungs are laying up treasure for the future. Normal demand for oxygen is a good barometer to measure the demand and supply of fat. The inherited vice may not be in an organ, but depend upon a poorly developed nervous system, which, when stimulated, does not give the Macedonian cry to the passive parts of the body. What an organ does not do, may be from a lack of knowledge. It must be taught, developed, strengthened. Give it a crutch, or open its blind eyes, as the case may be. Club-foot, twins, red hair, spinal curvature, are evidences of abnormal tendency; so is spina bifida, or open foramen ovale. One man may give a monstrosity a start in life, another may write a French novel.

When a patient, who has had a reasonably healthy heart before an attack of typhoid fever, begins during convalescence to manifest a set of foreign symptoms, grafted on the original complaint, there is not a relapse, but a new birth. Pallor, diaphoresis, shallow and rapid respiration, Cheyne-Stokes breathing, murmurs behind the ensiform cartilage, and to the left, which die out toward the apex, jugular congestion, and venous pulse, are omens of evil. Tricuspid disease produces this picture. In the present case how are they explained? The blood-stream first strikes the right heart. It carries with it the product of the typhoid bacillus toward the nervous centres. Delirium of fever is one evidence of this intoxication, and the mental unsoundness and general systemic unsteadiness is further proof of the effects of the toxin. Deafness, insanity, and baldness are so many display advertisements.

If the patient, years before, had rheumatism, he need not be aware of the fact that it involved and crippled the heart. Carrying an insurance policy is not, nowadays, a certificate to the absence of the trademark of rheumatism, a valvular vaccination. The lactic acid, or whatever the deposit may be composed of, is just as likely to accumulate on the valves of the heart as around the joints.

There is a mechanical explanation for this result. Nature had a hard problem to solve in making a passable bridge for the soft structures over the jointed bones. The circulation does go over these bridges; but sometimes it requires the sacrifice of tremendous energy on the part of the heart. There is muscular force, often inevitably applied to the vessels and tissues, which makes some of their contents exude. It is not normal exosmose and endosmose, but the effect of the pressure of extension and flexion; abduction and adduction. The tricuspid valve, let us say, is fed internally and externally with rheumatoid blood. Constant systole interferes with nutrition. Motion and pressure cause an exudate. Once the process is lighted up, no winged angel of rest ever comes to its relief. The process is destined to extend and become chronic. Nature must cut her coat according to her cloth. An adjustment to surroundings takes place. Such is the condition of affairs when the typhoid poison is taken aboard. Before this time the only sign of inflammation of the tricuspid cusps visible would show themselves when violent exercise is taken. Sudden demands on the heart's reserve force would cause a circulatory commotion. It could not respond with vigor; shortness of breath, faintness, fluttering, would evidence an atheromatous degeneration. Sleeping on the left side is usually impossible in endocarditis. The liver, stomach, and lungs, all jumping up and down over the heart, would cause irregular blood-supply to the brain, which would be manifested by troublesome

dreams, nightmare, or sense of discomfort sharp enough to rouse the patient, or at least to roll him over.

Systemic typhoid infection would, of course, result in high temperature. That would mean a stimulated heart. The fluid it was engaged in pumping to every part of the body would be abnormally heated. It would have a deleterious action on cell elements. Rapid combustion of tissues would be going on. The candle is burning at both ends. The choicest protoplasm would be crippled or killed. The survival of the fittest is the rule in health. Tissues select the perfect article.

What is only half-baked is passed by. Any kind of a supply is thankfully received in diseases which interfere with the manufacturing process. To avoid starvation nature drops her standard.

The heart draws its sustenance from the blood *en passant*. A perforated auricular septum would lead to a mixed blood-current. Each contraction would send some of the material, destined to be excreted by the lungs, into the heart muscles. Here is a factor in endocarditis, because the enemy has obtained an entrance into the very citadel. Then the starved blood adds fuel to the flame, for failure to nourish would have its evil influences multiplied by matter fit only for excretion, to say nothing of possible putrefaction. The micrococci and ptomaïnes are still other elements of danger, likewise the rheumatic affection.

What measures can be adopted to relieve such a heavily handicapped heart? Occasionally quinine, sulpho-carbolate of soda, or some antiseptic may postpone the fatal termination. A heart often carries much poisonous excretory matter through the circulatory system. Witness the puerperal state, which is in itself a favorite stamping ground of endocarditis. Deposit of fibrin is another result of blood degeneration. The tricuspid insufficiency permits longer contact with valvular surface than health makes provision for. One of the laws of the circulation is that the blood must circulate. Blood brought to a standstill is liable to coagulate, deposit fibrin.

The condition of the spleen in endocarditis is an anomaly to a country practitioner. It becomes rapidly enlarged; circulation is interfered with. The function of the spleen seems to be to receive a large quantity of blood, for which no visible return is made to the body. It may be the pressure regulator in health and the garbage-box in disease. Enormous increase of function causes hypertrophy. The spleen is unprovided with an apparatus to manufacture a secretion. Otherwise there would be provision made to neutralize poisonous material sent to it. The virulence of the disease, probably, has some relation to the extent of the hypertrophic dilatation. Here the proteids of the blood not being required to elaborate an organic product are appropriated for food by the micro-organisms and ferments. The ulcerative endocarditis in this instance was a septicæmia, showing itself in the heart, because there it found a joint in nature's armor.

The Increase of Crime in France.—Professor Joly declares that crime is rapidly on the increase in France. In 1860 the number of minors brought up for trial was 5,400, whereas in 1891 their number exceeded 7,000. In 1892 the number of habitual criminals known to the police exceeded 100,000. The offences which escape punishment are also constantly on the increase. In 1891 there were 83,000 offences which escaped punishment, and in 1892, 89,000. With regard to the nature of the unpunished offences, M. Joly says that first of all come robberies, ninety per cent. of which were unpunished in 1890. Then follow criminal attempts against trains and railways, thefts, counterfeiting, arson, the infliction of personal injury by stabbing, etc., and infanticide.

Progress of Medical Science.

The Relation Between Serous Pleurisy and Tuberculosis.—Professor Eichhorst, of Zurich, at the annual meeting of the Swiss Medical Association, remarked that in a certain number of cases the relation between serous pleurisy and tuberculosis should not be overlooked, because patients cured of serous pleurisy run a great risk of becoming tuberculous later on. Bass has found that at the end of five years only thirty-three per cent. of such patients were still living. However, tuberculous areas are not always found at autopsies, and the two diseases are so frequent that it is often difficult to say which of them was the primary affection. For a long time he has submitted the pleuritic effusion to microscopical examination, and when bacilli were present the diagnosis is not doubtful; if they are not, however, one has not the right to exclude tuberculous infection, but should then have recourse to experiments. In a series of such experiments he injected with a Pravaz syringe fifteen minims of effusion into the peritoneal cavities of eleven guinea-pigs; ten of these remained perfectly healthy, while one only showed a tuberculous infection of the abdominal lymphatic glands. These results correspond to the observations of other authors. He thought that perhaps the volume injected was insufficient to insure the invariable presence of bacilli in the injected dose. He therefore had a syringe made, by means of which he injected one-half fluid ounce, and the results were entirely changed; twenty-three such injections of serous effusion to as many guinea-pigs infected fifteen, or sixty-five per cent. Five of the patients, whose pleuritic effusions have been used in these experiments and infected the animals with tuberculosis, returned to his service later on with tuberculosis. It must, therefore, be admitted that two-thirds of the cases of serous pleurisy are, in fact, tuberculous, and that recoveries in most of the cases are but conditional. The infection originates but rarely in the lungs, generally in the tracheo-bronchial glands. By the same method he found that in twenty-seven cases of serous pericarditis, eight, or twenty-nine per cent., were of tuberculous origin. It is probably the same with other serous affections, and those which are called spontaneous are without doubt very often infectious tuberculous cases. In the discussion which followed, M. de Cérenville, of Lausanne, expressed the opinion that tuberculous pleurisy presented differential characteristic signs: hyperthermia was much less, often not exceeding 100.4° F., and the effusion was more quickly produced. On the other hand, it sometimes happens that, even if the pleurisy were tuberculous, tuberculosis never develops. He considered the prognosis of Dr. Eichhorst as perhaps a little too gloomy. Dr. Socin, of Bâle, believed that in patients stricken with surgical tuberculosis, a history of serous pleurisy may be often found; in several hundred cases where no pulmonary symptoms could be proved, eight per cent. had had anterior serous pleurisy, and often many years had elapsed before the appearance of surgical tuberculosis. This form of the disease seems to develop sooner than pulmonary tuberculosis.—*Correspondenz-Blatt für Schweizer Aerzte.*

Alkalinity of the Blood and Infection.—Dr. Fodor records a number of experiments showing the influence of the alkalinity of the blood on diseases produced by micro-organisms. Four series of experiments on animals are first reported which show clearly that, by the administration of alkalies (sodium bicarbonate by the mouth or by subcutaneous injection), the power of resistance against infection with cultures of anthrax bacilli is greatly increased. The normal alkalinity of the blood was determined by the examination of seventy-

six healthy rabbits, and four experiments are reported showing the increase in the alkalinity of the blood which occurs after the administration of sodium bicarbonate. The author then records the results of a large number of observations on the alkalinity of the blood in rabbits after infection with the bacilli of anthrax, cholera, typhoid fever, tuberculosis, and erysipelas. These observations show that in the living organism, after infection with certain bacilli, there is first an increase of the alkalinity of the blood and then a diminution of the same, more or less. If the infection is fatal, the diminution of the alkalinity is marked and progressive; if not fatal, the diminution is slight, and is followed by an increase of the same, in consequence of which the alkalinity of the blood becomes permanently higher than before the infection. Thus there exists a connection between the pathological action of certain bacteria and the alkalinity of the blood. Those rabbits having the greater alkalinity of the blood, as well as those in which the alkalinity of the blood is increased to a greater extent after infection, have greater power of resistance against certain infectious organisms (anthrax bacilli) than the rabbits in which the alkalinity of the blood is less. It appears, therefore, that the degree of alkalinity of the blood, as well as the power of the organism to increase this alkalinity with corresponding intensity after infection, is of essential influence upon immunity.—*Centralblatt für Bakteriologie.*

Suture of the Heart.—Dr. Del Vecchio, as the results of experiments on dogs, concludes that suture of the heart in cases of wound is possible. (*The British Medical Journal.*) At the Congress in Rome, he showed a dog whose left ventricle had been wounded in two places (one penetrating into the ventricular cavity) forty days previously. The author had sutured the two wounds with catgut and silk, and the dog appeared at the time of exhibition to be in perfect health; it was killed on the forty-second day after suture. The apex of the heart was found firmly adherent to the thoracic parietes. Both wounds were firmly healed, and in one the scar could be seen on the endocardium, proving the penetration. An interrupted suture was found to answer better than a double continuous suture, as necrosis generally followed the use of the latter. Dogs present a special difficulty in these experiments, inasmuch as one has to open the pleural cavity to reach the heart. In cases of wound of the human heart Del Vecchio proposes the following operative procedure: Two longitudinal incisions to be made from the lower border of the third rib to the upper border of the seventh, the one along the lower margin of the sternum, the other 5 to 10 mm. inside the nipple line; these incisions to be joined by a horizontal one made in the fourth intercostal space. The fourth, fifth, and sixth ribs and cartilages to be divided, and the outer cutaneous flaps turned up. The pleura to be separated and pushed on one side with the finger, exposing the pericardium, which is incised longitudinally. The wound is then united by interrupted sutures. Death in cases of wound of the heart seems to be chiefly due to pressure from the blood effused into the pericardial sac. Since this pressure is also a check to further hemorrhage, it is a nice question whether operative interference may not do more harm than good as far as the hemorrhage is concerned. Paracentesis may, however, be practised, to be followed, if necessary, by free incision of the pericardium. Fischer collected 376 cases of heart wound with a mortality (two to three minutes after injury) of twenty per cent. Death has been noted in periods varying from a few seconds to nine months after the injury.

Mechanism and Treatment of Complete Procidentia Uteri.—Dr. Grace Peckham-Murray, of this city, has presented in clear and comprehensive outline all definite information upon this subject developed in modern thought and experience. In regard to mechanism, the following summary and conclusions are given: 1. The pelvic floor has little to do in causing complete procidentia. The proofs of this are: It occurs in children, in young women, without so much as destroying the hymen. It is rarely, if ever, seen in cases of complete laceration of the perineum. 2. The vagina may have both an active and a passive action in the mechanism of descent. If the band of levator and muscles which surrounds its tube in the lower third is lacerated, and its lower portion is still held by the rectum, the muscles surrounding it act with powerful traction to bring down the posterior wall of the rectum; the traction, with traction of a like nature on the part of the bladder, causes a prolapse of the vagina alone if confined to the lower portion, but when it involves the upper portion there is dragging of the neck of the uterus, which, if the uterine supports are not lax, results in the great hypertrophy and lengthening of the neck which simulates complete procidentia. If the uterine ligaments are relaxed, the uterus will follow sooner or later. The softening and relaxing of the connective tissue during pregnancy make the detachment of the utero- and vagino-vesical attachments an easy matter, rendering and predisposing to prolapsus. The uterus can press down the vagina before it, making the vagina a passive agent in cases of rapid labor when the os is not dilated and the uterus descends toward the vulva with the expulsive force of the third stage; also when it is heavy from lack of involution, as when the patient gets up too soon after confinement, or when subinvolution does not take place. The vagina affords support to the uterus by its attachment to its neck; but it is a question whether it acts as a supporting column in the sense expressed by some writers, and whether the angle it forms with the uterus has a supporting value. Clinical experience shows many cases in which the walls of the vagina bulge and are prolapsed, in which the uterus retains its position, and also many cases of congenital retro-displacements, in which the uterus remains at its normal plane. 3. The action of the ligaments is more passive than active. They are naturally lax, owing to the necessity of uterine movements and uterine growth in pregnancy. If traction occurs from below, and the ligaments are lax, descent of the uterus is more facile. The importance of the utero-sacral ligaments is exaggerated by most writers. The appearance of the ligaments in cases of prolapse does not show their action; the stretching, breaking, elongating is the result of the displacement, not the cause. In this respect experiments on the cadaver may be trusted for displacements of the uterus on the normal plane, but not in descent. 4. The greatest factor to be considered in uterine displacements, and the least understood, is intra-abdominal pressure. In the normal state there is such an adjustment of this that the uterus is easily maintained in position, with little aid from ligaments, vagina, or perineum, in spite of weight of abdominal viscera, or the great and constantly recurring force of expulsive effort. When this equation is disturbed descent becomes easy. The maintenance of the uterus in its normal position is more a matter of physico-dynamics than is generally supposed. 5. Owing to a laxity of tissues, inherited or the result of disease or subinvolution, there may be a greater predisposition to procidentia uteri. The loss of fat has nothing to do with it, cases occurring very frequently in women with great accumulation of abdominal and other fat. The shape and inclination of the pelvis may also favor this condition. Some writers think that too much is attributed to pregnancy as an etiological factor. Owing to its relaxing effects on all the ligaments and connective tissues, the heavy uterus of subinvolution, and insufficient care, it can, in the author's estimation, be held responsible for ninety per cent. of the cases.

The treatment resolves itself into two classes—non-surgical treatment, which includes therapeutics, support,

and massage; and surgical operations. The summary of treatment is as follows: 1. Restore the uterus to place. If sensitive and eroded, use antiseptic tampons of cotton. If the tissues are soft and relaxed, astringents, as tannin and iodine, should be used. Heal the erosions with five per cent. solution of nitrate of silver. If the tissues are hardened by long exposure outside the vagina, astringents should not be used, but vaseline or oily preparations employed. 2. Massage has not been found of much benefit in these cases. If it is to be of use, the improvement will be immediate. It will not avail in cases where there is a congenital tendency to displacements, but in those in which involution has not gone on to completion, or there is trouble with the circulation, massage and gymnastics may be of service. 3. Pessaries which are well fitting may relieve the patient greatly, and should be used as soon as possible, as they hold the uterus better in place than any tampon. Many patients are made very comfortable with pessaries, which they learn to take care of themselves, and some cases have been cured after a time by the support of the organ; the congestion has been relieved, the tissues have become normal, and the ligaments have regained their tonicity. 4. The surgical procedures have, from the earliest times, been without number. Not much reliance has been placed upon those which simply narrow the vaginal outlet. The most serviceable of all is Le Fort's operation, not as popular among American surgeons as it deserves to be, owing to its supposed interference with childbirth. French physicians say it is no obstruction. The partition which this operation forms, practically making two vaginæ, becomes thinned and attenuated in labor, and at the last moment can be cut. The cases operated upon by the author proved successful, the good results remaining after a lapse of years. For complete procidentia uteri many surgeons perform high amputation of the cervix; and, if the case demands it, combine with it some of the operations for narrowing the vagina. The shortening of the round ligaments is generally conceded at the present time as not applicable to the cure of complete procidentia, and many believe that the day is not far distant when it will cease to be considered. Conservative surgeons regard ventro-fixation and hysterectomy as measures too radical to be employed generally, and the success of vaginal fixation, as recommended by Schücking and many others who have followed his method, has not been established. Gynecologists will look for the results of the new and simple procedure recommended by Freund with the greatest interest. This consists in encircling the vagina with silver-wire sutures, quilted in at equal distances, beginning near the cervix, and restoring the uterus to place in much the same way as in Le Fort's operation.

Displacements of the Liver.—Dr. Graham states that within certain limits the liver is freely movable, and that in women with pendulous abdomens it may descend one inch below its normal position without causing any unpleasant symptoms. Cases with marked undoubted displacement of the liver are rare, however (*The American Journal of the Medical Sciences*).

A short account of the literature on the subject is given, also a representation of Heister's remarkable case, published in 1754, in which the normal transverse diameter of the liver had become practically vertical. In 1892 Faure published fifty-four cases collected from the literature. Since then several others have been reported, and these have been collected, making a total of seventy cases, which are given in tabulated form.

The author is of the opinion that the recorded cases might be divided into two classes: 1, The wanderleber of the Germans, fegato ambulante of the Italians, floating liver, a condition found in women with pendulous abdomens, usually after frequent childbearing; 2, cases in both males and females in which the causes of displacement are varied.

Floating liver is a comparatively rare condition, any marked degree of mobility of this organ being prevented by the number and strength of its ligaments. The ligaments are in all probability of sufficient strength to carry the full weight of the liver without the aid of the abdominal wall. This the writer has demonstrated in the majority of a series of experiments on the cadaver, the details of which are given. The strength of the ligaments of the liver are further shown by the results of several experiments which Faure conducted, in which he found that it took a weight twenty-five times that of the liver in order to rupture them.

Graham reports three cases which occurred in his practice, one of which illustrates well the great relief to the symptoms produced by hepatic displacement by the use of a properly applied abdominal support. In this case relative hepatic dulness did not begin till the seventh rib in the mammillary line was reached, and the lower border of the liver was distinctly palpable two inches below the umbilicus. The patient complained of a weight in the abdomen, dyspnœa, and was very cyanotic. These symptoms were relieved by an abdominal bandage, always returning whenever it was removed.

Winkler is quoted as giving the following causes for hepatic displacement, one acting in succession to the other: 1, Pregnancy of full term; 2, pendulous abdomen; 3, hepar pendens; 4, stretching of the ligaments; 5, tearing and twisting of the suspensory ligaments. Rapid emaciation and disappearance of the abdominal fat are considered by Landau as causes of displacement. Other etiological factors which have been mentioned are coughing, sneezing, vomiting, and tight lacing, the latter, however, tending more to produce a change in form rather than a change in position of the organ. Repeated pregnancies in women, producing pendulous abdomens, seem to be an important etiological factor. Of the cases recorded a synopsis shows that males and females are affected in the proportion of one to four. Displacement comes on later in life in females than in males.

The symptoms usually complained of by patients are a feeling of weight in the abdomen and a dull pain on exertion. A few instances have been recorded with a sudden onset of symptoms, which were those practically of shock. Other symptoms which have been noted are dyspnœa, cyanosis, nausea, vomiting, and, in some cases, jaundice. An examination of the abdomen should show the presence of a tumor, which can be easily felt and which resembles the liver in size, shape, and consistence. There should be tympanitic resonance over the area where hepatic dulness normally exists.

The conditions for which a floating liver is most likely to be mistaken are typhlitis, ovarian cyst, movable right kidney, and hydronephrosis. The former condition should be distinguished by the following points: 1, The tumor having an upper smooth surface and a sharply defined anterior border and notch; 2, tympanitic resonance over the normal area of liver-dulness; 3, possibility of partial or complete replacement, when dulness will be found in the normal area. Greatest relief to the symptoms seems to have been obtained by the use of a properly applied abdominal support.

The Woman's Medical Institute in St. Petersburg.—Professor von Anrep, formerly Director of the Russian Imperial Institute of Experimental Medicine, has been appointed Director of the Woman's Medical Institute, to be opened within a few months in St. Petersburg. He is at present the Government representative on the sanitary commission of the Pan-Slavic Exposition to be held in Nijni-Novgorod in 1896.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

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REPORT OF THE SURGEON-GENERAL OF THE NAVY.

THE report of Surgeon-General Tryon of the navy, just submitted to the Secretary of the Navy, contains many important suggestions bearing upon the increase of the efficiency of the Medical Department and the consequent benefit of the sick and wounded of the service. With a zeal for necessary improvements which cannot be too highly commended, the chief medical officer of the navy has lost no opportunity for pressing the claims of needy ones under his immediate supervision. The recommendation to improve the general sanitation and ventilation of our war-ships is timely and necessary. Up to the present time so much attention has been given to the increase of the purely fighting resources of the ships that all other matters have been more or less neglected. Suggestions in this line are eminently proper from the Surgeon-General himself as the spokesman of his corps. He emphasizes the urgent need of improved naval architecture by the following significant facts.

During the year fifty-five cases of heat exhaustion among the engineer force have been reported, the greatest number of cases appearing on the following vessels: Bennington, 11; Bancroft, 8; Columbia, 6; Amphitrite, 5; Raleigh, 5.

These figures are significant and merit attention by the department.

The average temperature of the engine-rooms of modern ships, under ordinary cruising conditions, may range from 106° F., with hatches large and open like the Charleston, to 152° F., in badly arranged and closed ships like the Amphitrite.

In the fire-rooms the average temperature under the above conditions may range from 124° F. in ships with only one set of fires in each fire-room, like the Charleston, to 189° F. when the fire-room is between two sets of fires, like the Cincinnati and Amphitrite. In the case of the Cincinnati, when only one set of fires is used in each fire-room, the average temperature is reduced from 189° to 159° F.

The result of these high temperatures, together with overwork and other trying conditions, is plainly shown by the number of disabilities in the engineer corps attributed to this cause.

The necessity of an organized hospital corps for the navy, instructed, drilled, and equipped for all duties pertaining to such service, is fully set forth. A bill with this object in view, combining every feature required to meet the immediate wants of the service, has been prepared and will be submitted at an early date. The general plan proposes a naval hospital corps consisting of men enlisted for that special duty, and instructed from the beginning at preparatory schools for nurses, to be established at all naval hospitals, in order to qualify them for all hospital work ashore and afloat, giving the Secretary of the Navy authority to enlist, or cause to be enlisted, as many men in the hospital corps as the service may require, and to limit or fix the number and make such regulations for their government as may be necessary.

The demand for more space on shipboard for the use of the Medical Department is founded on the experiences not only of our own navy, but of that of every similar service throughout the civilized world. The number of wounded in action is not only surprising, but truly appalling. It is stated "that a battleship with a complement of five hundred men in action, if not sunk, will have within a few minutes 30 killed and 120 wounded."

In the battle between the Chinese and Japanese fleets, off the Yalu River, September 17, 1894, the fragments of one shell, fired at long range at the Tsi Yuen, killed 7 men and wounded 14. Commander McGiffen states in his account of the battle that one steel shell, having a bursting charge of ninety pounds of powder, struck the Japanese flagship and killed instantly 49 officers and men and wounded over fifty.

It is regretted that the number killed and wounded by every shot on board the several vessels in the engagement cannot be followed, for it would establish, approximately, the number of casualties probable in a naval engagement at the present day.

The figures given, however, must impress everyone with the gravity of the entire question and the necessity of making a commencement of better methods in the service. We are glad to learn that with this end in view a great deal of attention has been paid to the subject during the past year, and medical officers of the navy have been requested to present to the bureau their views regarding the subject.

Attention is also called to the utility of ambulance ships built specially for the care and transfer of sick and wounded during action and at other times, and protected from injury or interference by the flag of the Geneva Cross.

We regret to learn that vacancies in the medical corps still exist. Although there were two hundred and sixty-nine applications for information only thirty-three men were enrolled as candidates for examination, and of these only nineteen presented themselves before the Board, and only four were found to be qualified. This is in strong contrast with the similar corps of the army and hospital marine, positions in which are promptly filled by eager and competent applicants. All this proves, as has been stated often before, that the navy does not tempt the young medical man as does either the army or marine hospital service. Nor will this condition of things be different until the Navy Department makes the position of the surgeon, as to rank, pay, and privileges, equal to that of his brother in the tent or quarantine hospital. We are pleased to note that the general health of the navy has been good.

A SATISFIED REFORM COMMISSIONER.

On November 1st occurred the change in the attending staffs of the various city hospitals, whereby a number of experienced men who had given years of faithful service to the care of the city poor were replaced by representatives of the colleges. A reporter of an evening paper called upon President Porter, of the Board of Charities and Corrections, to ask him how the change was made. Mr. Porter expressed himself as charmed with the new move, and assured the reporter that "there was no friction whatever, and that everybody was pleased with the reform" (*sic*). "Not only," he said, "are the medical colleges delighted at the change as in the interest of the poor and of medical science and surgery, but the most prominent and eminent physicians and surgeons in the city have come to me to express their satisfaction."

Of course the medical colleges were delighted at the change "in the interest of the poor and of medical science and surgery." The interest of the poor is the special concern of the colleges, and we do not for a moment doubt this part of Commissioner Porter's statement; but it would be interesting to have the names of "the most prominent and eminent physicians and surgeons in the city" who took the trouble to call upon him to express their satisfaction. In the absence of authentic information we might hazard the guess that they would be found upon the roll of newly appointed visiting physicians and surgeons to the city hospitals.

The genial Commissioner has had opportunity recently of correcting this impression and modifying his views as to substantial endorsement after reading the condemnatory resolutions so unanimously adopted by the Medical Society of the County of New York and the New York County Medical Association. The New York Academy of Medicine is next to be heard on the question of fair play toward many of its most distinguished members. Probably, however, the gentlemen of these associations represent only "the riff-raff of the profession."

THE INCREASE OF GLYCOSURIA.

If we may believe Dr. Worms, of Paris (*Bulletin de l'Académie de Médecine*), one of the manifestations of advancing civilization is an increase in the production of sugar, not through the agency of the corn-stalk or sorghum plant, but through the activity of the human organism. M. Worms has come to the conclusion that in persons engaged in brain work and leading a sedentary life, the proportion of glycosurics is seven per cent. This conclusion was reached from examining the urine of one hundred such persons. Further investigations have raised the proportion of glycosurics to ten per cent., and he considers this the rate in any series of one hundred scientists, artists, business men, doctors, and lawyers, etc., between the ages of forty and sixty. Dr. Worms quotes Bertilly's statistics, which show that diabetes is on the increase, the mortality in Paris having almost doubled in the last ten years. The author's own experience tends to show that glycosuria is increasing, but, happily, it is not the severe type; in fact, he estimates that the proportion of true diabetes, of grave form, to glycosuria is only about five per cent.

It is interesting to learn that glycosuria is one of the innumerable attendants upon a progressive and "hustling" civilization, and also to know that it is not one of the painful and malignant manifestations of our evolution. Glycosuria, in its mild form, is quite compatible with long life, but it compels the sufferer to live a most hygienic existence, both as to diet and mental and physical activity. Glycosuria of this type especially is often associated with excessive nervous activity. The glycosurias that are bred in indolence and over-indulgence are much more severe and dangerous in form.

MEDICAL BIBLIOGRAPHY.

One of the editors of *Le Progrès Médical* discusses the problem of medical bibliography apropos *la mort lamentable* of the *Index Medicus*. The editor of the *Progrès* thinks that the death of this journal was deplorable indeed, but yet was a somewhat legitimate and natural event. He avers that the *Index Medicus*, while extremely useful and erudite and complete, did not solve fully the bibliographic problem; it was rather an opportunist effort, and he opposes, therefore, a rehabilitation of the journal in its present form. There is a science of bibliography, and the editor of the *Index Medicus* is, he believes, a master of it, but the periodical did not give the true solution of the best way to present to the medical public the current scientific work of the world.

This is precisely the idea which the Medical Record has presented and advocated on several occasions. We have disliked to show antagonism to so useful a journal, but it has always seemed to us as though the publication would be more popular if the arrangement were different, if the number of annual issues were less frequent, and if the classifications were somewhat more in accordance with modern nosology.

MONUMENTS IN AMERICA TO FOREIGNERS.

The proposal to erect a beautiful statue to the German poet, Heine, in the Plaza, at the entrance to Central Park, naturally aroused a good deal of protest. This was partly because Heine was a foreigner, partly because the same statue had been rejected by a German city to which it had been offered, and perhaps partly to the fact that Heine's genius did not warrant such a tremendous exploitation. A project quite as preposterous has been started by some enthusiastic admirers of Dr. Samuel Hahnemann. They propose to erect a statue to this particular foreigner in Washington. According to the *Journal of the American Medical Association* the subscriptions to the monument go on swimmingly, while those to the American, Dr. Benjamin Rush, are somewhat halting and insufficient. It would seem wise, apart from any questions of creed or sect, that America wait until a man's own country honors him before they do it themselves. Germany has never ventured to erect a statue to Hahnemann, although he has been dead long enough to allow all per-

sonal prejudices to subside, and there is no tendency in that direction among the Germans now. In fact, the prevailing opinion among his countrymen, so far as we can ascertain, is that Hahnemann, although an earnest student, was a self-deceived philosopher. However, if our American *confrères* wish to put up a statue, they have a right to do so, and we say, let the work go merrily on. We can't have too many good statues to great doctors.

MEDICAL LIBRARIES AND MEDICAL COLLEGES.

DR. BAYARD HOLMES, of Chicago, has written an article upon the subject of the relations of medical libraries to medical schools. He asserts what now all agree, that the lecture system of teaching medical students is a relic of ancient methods that is ineffective, and should, in a large part, be done away with. Among the newer and better agencies for teaching medical students is the use of the medical library. Each school, he thinks, should have a well-equipped library, by the aid of which students would be enabled to study out special questions connected with their regular work, and by which they might be trained in medical bibliography and methods of bibliographical research. It would certainly be a great help if students, before graduating, were taught how to use medical books, where to go to hunt up special information, and how to present the results of their later practical work in a proper, scientific, and interesting manner.

News of the Week.

Tax upon Corsets.—A correspondent of the Académie de Médecine of Paris has written a letter proposing to the Académie to ask for the creation of a tax upon corsets.

The Hypo Club.—The death of a Chicago man, known popularly as "Hypo Joe," calls from the *Chicago Tribune* a statement that there exist in Chicago a small band of men habitually using opiates and other drugs. "Hypo Joe" was known as the president of this "Hypo Club."

The "Medical News" and "Life."—We tender our very warmest congratulations to our esteemed contemporary the *Medical News*, and more especially to its energetic editor, Dr. Gould, for the successful way in which he has "turned down" the anti-vivisection periodical known as *Life*, and circulated in this town as a humorous weekly. We also congratulate the editors of *Life* for the unusual courage and honesty shown by them in publishing a letter from Dr. Gould, which so luminously portrays their methods and their arguments. We are sure that all readers of the correspondence between the editors of *Life* and the *Medical News* will appreciate the fact that Dr. Gould is master of the situation.

Tri-State Medical Society.—At the last meeting of the Tri-State Medical Society (of Iowa, Illinois, and Missouri) the following officers were elected: *President*, Dr. Robert H. Babcock, of Chicago; *First Vice-President*, Dr. A. H. Cordier, of Kansas City; *Second Vice-President*, Dr. W. A. Todd, of Chariton, Ia.; *Treasurer*, Dr. C. S. Chase, of Waterloo, Ia.; *Secretary*, Dr. G. W. Cale, of St. Louis. The next meeting will be held in Chicago the first Tuesday, Wednesday, and Thursday in April, 1896.

The Southern Surgical and Gynecological Association meets in Washington, D. C., on November 12th to 14th.

First Naval Battalion of New York.—Dr. H. Hayle Butts has been appointed surgeon to the First Naval Battalion of New York, *vice* Dr. Van der Poel, resigned.

J. R. Tryon, M.D., LL.D., Surgeon-General United States Navy.—Union College, New York, conferred, at its recent Centennial Commencement, the degree of LL.D. on Surgeon-General Tryon, United States Navy. This is a well-merited compliment to the distinguished chief of the Naval Medical Bureau.

The Late Dr. Frederic M. Warner.—*Whereas*, The Medical Board of the French Hospital have learned of the decease of an esteemed colleague, Frederic M. Warner, in the thirty-ninth year of his age;

Whereas, For a period of three years the said Board derived great benefit from the wise counsel, scientific attainments and devotion of Dr. Warner;

Whereas, The patients in the hospital were uniformly attended with skill and exemplary solicitude by Dr. Warner;

Resolved, That an expression of deep regret and a testimonial of profound admiration be entered on the minutes in memory of our late colleague.

Resolved, That a copy of these resolutions be forwarded to the family of the deceased and be published in the medical press.

EGBERT H. GRANDIN, M.D., *Vice-President.*
RAMON GUITERAS, M.D.
J. DARWIN NAGEL, M.D.

Old Charity Hospital.—The Commissioners of Charities and Correction suggest that still another new name be given to Charity Hospital. Not long ago it was changed to City Hospital, and now Island Point Hospital is suggested. There never was any necessity for changing in the first place, but the Commissioners still believe in unreasonable and radical reforms.

A Pathological Institute for Dublin.—Ireland is usually as quiet a country, so far as medical science is concerned, as it is lively in the matter of politics. We learn that a little evidence of mental activity is taking place in Dublin. It is proposed to undertake the establishment of a pathological and bacteriological institute in that city.

The White Cross Society.—An association by this name has sprung up in Italy for the relief of civilians who, from illness or accident, are unable to work. An organization in Rome, bearing the name of the Crosce Bianca, has at its disposal a well-disciplined corps of young men and women, whose duty it is to pick up and transport to hospitals the victims of accidents or the wounded "soldiers of industry," administering first aid in urgent cases and attending or nursing them afterward.

Small-pox is slowly diminishing in London and in the provinces.

Erratum.—Dr. Frank W. Maloney, of Rochester, N. Y., writes that in his article on "Maternal Impression," in the MEDICAL RECORD of September 28th, his patient was about six weeks pregnant, instead of six months, as it there reads.

A New Dispensary for Brooklyn.—The plans for the Polhemus Memorial Dispensary, which is to be an adjunct to the Long Island College Hospital, have been drawn up and approved. This new dispensary will cost $250,000, and is to be a building six stories in height, with all the modern improvements for dispensary work. When complete, the Long Island College Hospital, the Hoagland Laboratory, and Polhemus Dispensary will form a complete set of buildings for purposes of medical education and philanthropic work.

Dr. Franklin Townsend, of Albany, died on October 31st, aged forty-one.

A Continental Medical Temperance Association has been organized in Europe, with Dr. Smith, of Groosherz, Baden, as president. The object of this association is similar to that of the American and English Medical Temperance Associations.

Red Cross Hospital Association.—This association, which was founded four years ago in this city by the American National Red Cross Association, recently held its annual meeting.

Dr. Catherine C. Runyon has been admitted to membership in the Virginia Medical Society. She is the first female physician admitted to membership.

Successful Excision of Spleen.—There have recently been three successful cases of excision of the spleen for injury at St. Thomas's Hospital, London. These, we are told by *The Lancet*, are the first successful cases that have occurred in Great Britain.

The Doctor on the Stump.—Dr. Alexander J. Stone, Professor of Gynecology in the Minnesota State University, has been stumping the State of Ohio in behalf of ex-Governor Campbell. Incidentally, he has promised to advocate the Mosgrove Bill for medical education. Professor Stone is wandering a little from the beaten paths of gynecological practice, but if he helps along the cause of higher education in Ohio he will be doing a good work.

The Doctors' Campaign in Ohio.—Judging from the activity shown by the Cincinnati *Lancet and Clinic* and the other medical journals in Ohio, the medical profession of that State have this year entered very heartily into the fall campaign. There are, it seems, in the State issues a number of political questions which have no especial medical interest, but the question of proper medical legislation has at last been forced into considerable prominence. Time and again attempts to regulate medical practice and oust the quacks and diploma manufacturers of Ohio have been tried and have uniformly failed. This time there is, we hope, some promise of success. Great credit is due to the *Lancet and Clinic* and its energetic editor for the activity shown in this matter.

The Testimonial Fund to Dr. W. G. Grace, the cricketer, has reached the sum of $25,000, and that sum has been forwarded to the distinguished gentleman. He should send a good contribution to the Sir Andrew Clarke Memorial Fund, which needs additions.

The Medico-Legal Society of Jersey City intends to secure a building suitable for a club-house, and large enough to accommodate all the doctors and lawyers in Hudson County.

Another Whiskey Cure.—Since the development of the Keeley cure there have not many months passed without some new cure for the alcohol or morphine habit appearing on the market. The latest of which we have seen an account is that published by Dr. Matchette in the *Medical World*. Dr. Matchette modestly claims that he has had but two per cent. of failures. He has this merit, at least, that he is willing to publish his method to the world, and does so. Dr. Matchette notes incidentally that the beer habit is more stubborn and resists treatment more than any other. We call the attention of this interesting fact to the civic patriots of the German Reform Union. The method of cure consists in giving the patient a hot bath and a cathartic. He is then given a hypodermic injection of the sulphate of hydrastine, beginning with one-fiftieth of a grain, which is increased until one-twentieth of a grain is given four times a day. If the patient is very nervous, he is given mixtures containing valerian and bromide. During the first few hours, or even days, the patient is furnished with a generous quantity of liquor of the best brand. The essence of Dr. Matchette's cure seems to be sulphate of hydrastine. Hydrastine is put down as "a simple bitter, a hepatic stimulant, an antiperiodic, an emmenagogue." This alleged property of being antialcoholic is certainly somewhat new.

New College.—A Woman's Medical College has been established at Kansas City, Mo.

Defeated Law.—A clerical error defeated the Medical Practice Act recently passed by the Michigan Legislature. The Governor refused to affix his signature.

Death from Riding a Bicycle.—Professor C. V. Riley, the well-known scientist, and for years entomologist of the Department of Agriculture at Washington, was killed while riding a bicycle, on September 15th, in that city. His skull was fractured at the base of the brain, his head coming in contact with the curbstone when thrown from his wheel.

Medical Etiquette at Mineral-water Cures.—A French association, including a large number of physicians who practise at watering-places, has sent out a circular in which it is stated that when a physician sends a patient to a water-cure, he should give him a letter addressed to his *confrère* at that place, and that it is not etiquette for him to prescribe for his patient while there.

The Paris Académie de Médecine has appointed a commission, with Dr. Laveran as chairman, to investigate the means of combating malaria.

Reviews and Notices.

LEPROSY IN ITS CLINICAL AND PATHOLOGICAL ASPECTS. By DR. G. ARMAUER HAUSEN, Inspector-General of Leprosy in Norway; and DR. CARL LOOFT, Former Assistant Physician to the Lungegaards Hospital. Translated by NORMAN WALKER, M.D., F.R.C.P. Edinburgh, Assistant Physician for Dermatology, Edinburgh Royal Infirmary. With numerous Photographs and Colored Plates. Bristol: John Wright & Co. London: Simpkin, Marshall, Hamilton, Kent & Co. (Ltd.). 1895.

THOUGH contained in but 125 pages, exclusive of tables, and histological plates, this work is replete with valuable knowledge. The authors have had so fruitful a field from which to draw their information, and Dr. Hausen at least has had such wide experience in all matters pertaining to the question that one feels great confidence in all one reads.

Five photographic plates are added, which did not exist in the original German edition. The translator has apparently followed the original with great accuracy. The chapter on treatment has been rewritten, giving the views of the late Dr. Danielssen. The closing sentence is significant. It reads: "But we are firmly convinced that isolation *must* be carried out in some appropriate fashion." We commend the work to all interested in the subject.

PHYSICAL AND NATURAL THERAPEUTICS. The Remedial Uses of Atmospheric Pressure, Climate, Heat and Cold, Hydrotherapeutic Measures, Mineral Waters, and Electricity. By GEORGES HAYEM, M.D., Professor of Clinical Medicine in the Faculty of Medicine of Paris. Edited by HOBART AMORY HARE, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. With 113 Illustrations. Philadelphia: Lea Brothers & Co. 1895.

THE editor has acted upon the author's text in such a way as to adapt it to the needs of the American physician, and short articles have been added on the climate and mineral springs of our own country. The author is regarded as one of the most advanced therapeutists of the day, and chapters on atmosphere, climate, thermic agents, hydrotherapeutic measures, mineral waters, and electricity all show not only a wide personal experience but familiarity with the views and writings of other recognized authors. Besides a very full general index there is a therapeutic index, giving the diseases in their alphabetical order and the various physical measures applicable to their cure.

CUTANEOUS MEDICINE. A Systematic Treatise on Diseases of the Skin. By LOUIS A. DUHRING, M.D., Professor of Diseases of the Skin in the University of Pennsylvania; Author of "A Practical Treatise on Diseases of the Skin," and "Atlas of Skin Diseases." Part I. Anatomy of the Skin, Physiology of the Skin, General Symptomatology, General Etiology, General Pathology, General Diagnosis, General Treatment, General Prognosis. Illustrated. Philadelphia: J. B. Lippincott Co. 1895.

AN American work on dermatology of which American physicians should be proud, and especially the members of the American Dermatological Association, "who," as the author says in his dedication to them, "by their faithful service and valuable contributions to this department of medicine have gained the universal respect and honor of the profession." The author's earlier work, which is now out of print, was for many years a standard text-book not only in this country but abroad. The intention has been to amplify, modernize, and improve upon the previous work, making "Cutaneous Medicine" a more comprehensive treatise. The chapters are characterized by a conservatism which has not been unduly influenced by the many attractive theories continually coming up. Where a theory has been proven true, it has been incorporated in the text.

Part I. deals with generalities. After seventy pages of anatomy and physiology we have "General Symptomatology," "General Etiology," "General Pathology," "General Diagnosis," "General Treatment," and "General Prognosis."

Under "Pathology" much pertaining to bacteriology will be new to those possessing Dr. Duhring's "Diseases of the Skin." Under "Treatment" chapters will be found on plaster-muslins, pastes, jellies, salve-pencils, skin-grafting by the various methods, electrolysis, cataphoresis, etc.

The illustrations are text-inserted cuts mainly of anatomical or pathological subjects, for the most part taken from standard works.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, October 17, 1895.

JOSEPH D. BRYANT, M.D., PRESIDENT, IN THE CHAIR.

The Question of Operative Interference in Abscess of Chronic Tubercular Disease of the Joints.—DR. NEWTON M. SCHAFFER read the paper. He said there was no other subject which had come before the orthopedic section of the Academy or before the American Orthopedic Association which had provoked more discussion or given rise to a greater difference of opinion. But while there had been much said about the treatment of chronic abscess in tubercular disease of joints, there had been no statistics. In September, 1891, he had ventured to read a paper on the benign course of abscess in Pott's disease under mechanical treatment, before the American Orthopedic Association, and there was much difference of opinion, but, as usual, no statistics on either side. Under these circumstances he then decided to treat all cases which should come to the New York Orthopedic Hospital without operative interference, and to report the result, which he now did at the end of four years. He first quoted his former paper, just referred to, in justification of this course, for it showed that there were many favorable cases under the mechanical, non-operative treatment, while patients who were operated upon by himself or by others were likely to die of septicæmia. But a *sine qua non* of successful non operative treatment was long and efficient mechanical protection. The surgeon must give the same attention to it that he would in treating a fracture.

The fundamental principle in the treatment of chronic joint disease was protection of the diseased parts while maintaining the activity of other parts of the body. Dr. Schaffer said the plaster-of-Paris splint was not suitable in these cases, and that it ought to be relegated to eighteenth century practice, where it belonged.

At this point he emphasized the fact that there was a great difference between the so-called cold abscess of chronic tubercular disease and ordinary acute abscesses which contained pus. The contents of cold abscesses were frequently quite sterile, their presence gave rise to no temperature: why, then, should we be in a hurry to incise them and admit pathogenic organisms? Such abscesses were simply a sign of disease, the location of which was often at a distance.

But a simple tubercular abscess might undergo change and inflammation occur, with some increase in size, or extension by burrowing. It was under circumstances of this kind that the judgment of the surgeon would be tested. The temptation was to use the knife at once, but Dr. Schaffer's advice was to wait a while, for the septicæmia progress would be likely to pass over if the joint were protected, the patient kept in the air and sunshine, and appetite and digestion maintained. Even if the temperature rise to 101° or 102° F., do not be worried, for in children this is not a serious menace. But if the symptoms should go on, make a free incision. He had often waited, and nature had solved the problem by causing absorption or making a spontaneous opening.

One heard a great deal about the burrowing of abscesses and the maceration of healthy parts. Dr. Schaffer had learned to have, under ordinary circumstances, no fear of burrowing, and maceration existed largely only in the imagination of the doctor. The slow burrowing of a chronic abscess in tubercular disease need not be feared. Rapid burrowing of a more acute process demanded immediate attention.

Did incision, asepsis, irrigation, drainage, etc., meet the indications in the present state of our knowledge of these cases? Did making an opening which communicated with the diseased joint favor ultimate cure? In the very nature of the case it was often impossible to remove all the tubercular material, and it was equally impossible to secure perfect sterilization of the opening or sinus for a long period of time.

The author then gave the results of the treatment of all the cases admitted to the New York Orthopedic Hospital during the four years commencing with May 1, 1892. During this time there had been admitted, 63 patients with hip-joint disease, 18 with Pott's disease, 12 with knee-joint disease, 93 in all. Of these 93 cases of joint disease, 35 had abscess. The treatment consisted of efficient mechanical protection, and the administration of cod-liver oil, etc. The patients were up and about nearly all the time. In most cases only simple external dressings were used; in a few, drainage and irrigation.

Of the 35 cases which included all the abscess cases which had entered the hospital during these four years, 27 remained under the care of the institution a sufficiently long time to test the value of non-interference. In 6 of the 27 cases the abscesses, all large ones, underwent complete absorption. In 2 of them there were two abscesses, making eight abscesses which became absorbed. In 15 of the 27 cases the abscess, after opening spontaneously, closed completely in periods varying from two months to twenty-one months. Of the 27 cases 5 still had small sinuses, but nearly all were practically well and suffered no inconvenience. In 1 case a large abscess was in the way of applying proper mechanical apparatus. Of the 7 other cases out of the 35, 5 died for reasons not attributable to the treatment. The other two patients still had small sinuses which discharged slightly.

Dr. Virgil P. Gibney opened the general discussion. However much we might differ from Dr. Schaffer in our treatment of these cases, we certainly must admire him for having the courage of his convictions in carrying out the plan of non-interference in all cases for four years. The results, too, had been good, but he imagined general hospitals received severer cases.

Probably Dr. Schaffer's results in private practice were even better than those just narrated. The question of best mode of treatment was still an unsettled one, but he was inclined to believe that when the surgeon could make himself master of all the details of aseptic surgery, he would obtain even better results by operative interference than those given by Dr. Schaffer. He did not, however, believe in simply opening an abscess, scraping out the sac, and sewing it up. It was our duty to take a little more time and follow the abscess or sinus down to its origin, and scrape away the dead bone which was feeding it. Of course, he realized the difficulty of reaching all the foci of disease, yet we had to work in that direction in order to accomplish much by surgery.

He summed up his opinion about tubercular abscesses as follows: Where the abscess was small, or even where it was large, if it did not interfere with the application of a protection apparatus to the spine, hip, or knee, it was well to let it alone, but watch it carefully, and if it seemed to be undergoing absorption, proceed with this mode of treatment. But if the abscess should become larger and larger, or if it should become pyogenic after bursting, then it was our duty to open it freely if aspiration failed to cause its permanent disappearance. If the sinus led up to the dorso-lumbar vertebræ we could often reach bits of bone and scrape them away with the long curette; then pack the abscess well, and aim to get healing from the bottom. That meant a long period of patient aseptic dressing. If the abscess stood in the way of efficient mechanical treatment, it should be opened as soon as possible. The kind of abscesses most difficult to handle were those which had sinuses and pockets in different directions. They often went on for years, and finally the patient succumbed to lardaceous disease. Then there were some patients who came from the slums, and who could not be made to thrive do what we might. Again, some did poorly in the hospital, but on being taken to their filthy homes they began to improve. For some, it might be advantageous to make a change of climate, as in pulmonary tuberculosis.

Dr. A. B. Judson said: I have arranged a few propositions which I will present briefly, as my contribution to the evening's discussion. Opening an abscess of chronic tubercular disease of the joint is equivalent to treating a symptom and not the disease. So is dealing with an unimportant incident of the disease under treatment. It distracts attention from the seat of the disease in the bone, where attention is most urgently needed. It is the application of a minor surgical proceeding in the course of a surgical case of the greatest importance. It subjects the patient to the distress and inconvenience of a prolonged discharge, which would be readily submitted to if recovery depended upon it, but which, if these other propositions are correct, is indefensible. It exposes the patient to the danger of an infected wound.

So far as my short experience goes, it is in accord with these propositions. Beginning studies in this direction twenty years ago, I followed the authorities of that day and the traditions of the naval medical service, and made early and free incisions. But I saw reasons to change, and for several years have not seen, and do not expect to see, abscesses of this kind that require opening or any local treatment beyond a simple dressing.

This rule of practice has led to some gratifying observations; for instance, the not infrequent absorption or disappearance of fluid collections coincident with recovery from the bone disease; the spontaneous, painless, and bloodless opening and collapse of abscesses, followed by rapid and permanent closure with recovery from the bone disease; and in other cases, in which wide tracts of the skeleton were deeply diseased, multiple abscesses pursuing a long course without serious reaction or impairment of general health, and followed by recovery, delayed not by the deportment of the soft parts, but by the obstinate nature of the disease in the bony tissue.

These statements would be misleading if I did not also recall attention to the necessity of urgent and assiduous treatment of the disease.

Mechanical Treatment Prevents Abscess.—Dr. Samuel Ketch thought efficient mechanical treatment was important, not only for the cure of chronic tubercular abscess, but also for its prevention, when resorted to at the commencement of the disease. He felt sure that all orthopedic surgeons would agree to let those abscesses alone which produced no symptoms. He had been connected with the New York Orthopedic Hospital and Dispensary for many years—since he served as house-surgeon ten years ago. At that time the staff consisted of general surgeons, and all abscesses were opened under full Listerian dressings. The cases in which this treatment was applied, and those in which exsection was made, continued to have abscesses which gave much more trouble and for a much longer time than abscesses which were allowed to open spontaneously.

Regarding the suggestion of Dr. Gibney, that the cases treated in the hospital might have been selected, he would say that the results of the same treatment in the dispensary cases had been similar, and there cases had to be accepted as they came. Abscesses of acute character, however, should be opened.

Dr. John Dane, of Boston, had made some studies pointing to the number of leucocytes as an indication of mixed infection in the abscesses under considera-

tion. Cases in which permanent drainage was attempted almost invariably showed that they had been contaminated, although in the beginning they might have contained no germs capable of producing pus.

Dr. John A. Wyeth said: Modern pathology holds that a tuberculous abscess does not contain true pus. While in gross appearance it resembles pus, the microscope shows that the normal elements of pus do not exist. Under such a condition the danger of general infection from the bacillus of tuberculosis is very small. This bacillus produces a subacute inflammatory process, which results in a rich granulation tissue, the base of which is composed of newly formed cells, the embryonic tissue of the inflammatory process, which hedges in the tuberculous focus and prevents systemic invasion. The tendency of these products of the tubercular process is to undergo rapid degeneration, due in part to the toxic product of the bacillus of tuberculosis (chemical action) as well as by anæmia, party local and partly systemic. As a result of this retrograde metamorphosis, caseation and liquefaction of caseous material occur, the product being a white liquid of varying consistence, resembling but not being pus.

Under favorable conditions these collections of tuberculous fluid tend to absorption. In the majority of instances the wall of embryonic cells offers sufficient resistance to invasion of the tuberculous germs into the general system. The liquid is absorbed ultimately and carried away as a harmless product, and the remaining caseous matter undergoes granular metamorphosis and of itself ultimately disappears. Such pathological processes do not have symptoms in any way in common with abscesses proper, which are the seat of acute inflammation caused by pyogenic germs. Pain is not a marked symptom, since they can exist for months, as in psoas abscesses, and are not suspected until the collection of this milky fluid is sufficient to attract attention by its pressure upon the abdominal viscera, or protrusion due to its bulk.

It is a recognized fact that these tuberculous foci can become infected with pyogenic micro-organisms without a direct or external wound. Certainly if the medulla of bone can become infected without a direct or external communication, it is just as easy to infect a deep-seated tuberculous fluid when conditions for infection are favorable, the germs travelling through the blood and being deposited in a suitable pabulum.

Accepting as I do the foregoing, the treatment of the two classes is clearly indicated. The simple tuberculous focus, under ordinary conditions, may be left alone to undergo absorption, taking pains by careful nourishment and hygienic precautions to increase the normal resistance of the tissues and prevent general infection. On the other hand, when a tuberculous accumulation is the seat of a mixed infection, as determined by the ordinary symptoms of septic infection, local and general, then a careful aseptic invasion and evacuation of these abscesses is indicated.

Believes in Operating.—Dr. A. M. Phelps said he had to express a somewhat different view. He believed that the surgical profession was fully agreed that abscesses, including those of tubercular nature, should be opened wherever they existed, whether in the shaft of bones, in the joints, in the liver, in the cellular or muscular tissue, or elsewhere. The reason was, that when these tubercular abscesses were left to themselves they, by contact with surrounding tissues, invaded and destroyed them.

He knew that some cases recovered without operative interference, as quoted by the reader of the paper, but one swallow did not make the summer, and in proof of his view he quoted several cases which had gone wrong until in his hands they were submitted to excision of the diseased tissue. In hip joint disease accompanied by abscess, in all cases in which he had operated for exploratory purposes, he had found the head of the bone separated from the neck, and had removed it as a foreign body. In neglected cases of disease of the knee-joint he had found both articulating surfaces destroyed, and in some instances the shaft of the bones invaded. Excision had been followed by cure. Dr. Phelps showed numerous photographs, illustrating, he said, destruction of bone by maceration from neglected and burrowing abscesses.

Dr. Phelps said he operated, and the surgical world operated, for the following reasons, and others: 1. Years of suppuration and mechanical treatment were avoided. 2. To intelligently explore the joint. 3. To get rid of the foreign body. 4. To avoid amyloid disease of the liver and kidneys. 5. To prevent burrowing into important structures and cavities. 6. To prevent destruction by maceration and infection, which in turn led to destruction by necrosis and caries. 7. To get rid of extra-capsular disease and prevent invasion of the joint. 8. By early operation prevent destruction of bone. Finally, he believed that nearly all abscesses should be opened and explored with the finger. But to simply scrape a sinus when dead bone was at the bottom of it was bad practice. It opened the way for infection. All the diseased tissue at the original seat of the disease should be removed if possible.

Dr. R. H. Sayre took issue with one or two statements in the paper. 1. That the recumbent posture in Pott's disease was a failure. In a certain proportion of cases he had found it essential. 2. He disagreed with the statement that plaster of Paris was useless in affording protection in Pott's disease. Regarding the general treatment of chronic abscess, he said Dr. Wyeth had expressed his views better than he could do it himself.

Dr. Leroy W. Hubbard, Chairman of the Orthopedic Section, under whose auspices the discussion was held, said his training had first been in a general hospital, and favored operative treatment in nearly all cases of abscess. Therefore, when he entered upon his service at the New York Orthopedic Hospital and Dispensary, he found himself rather prejudiced against the non-operative methods adopted there; but the results of such treatment soon led him to change his views. He could certainly endorse the conclusions presented so clearly by Dr. Wyeth, that there were some abscesses which should be let alone, others which should be opened, and if opened, it should be treated aseptically, while at the same time efficient protection and mechanical treatment of the joint should be applied.

Dr. Schaffer, in closing the discussion, said his cases had not been selected. He would like the gentlemen to do as he had done, bring forward all the cases which they had treated for a term of years, and not isolated ones intended to support opposing views. Judging by some of the photographs passed around, he would doubt whether the bone disease attributed in some of the cases to burrowing and maceration by pus had that origin.

SECTION ON SURGERY.

Stated Meeting, October 14, 1895.

B. Farquhar Curtis, M.D., Chairman.

Nephrectomy for Pyonephrosis.—The Chairman, Dr. Curtis, presented a man, aged twenty-three, on whom he had performed nephrectomy for surgical kidney. When twelve years of age he had received a kick in the left lumbar region, after which he passed bloody urine for three days, and had severe pain for six weeks. There was also a history of two attacks of urethritis, the latter taking on a chronic form. Five years ago he had had severe pain in the left side, sometimes over the bladder. Later the urine contained a large amount of pus. When he entered the hospital, a year ago in July, Dr. Curtis felt a tumor, the size of a man's head, immovably fixed in the left side, and

extending as high as the diaphragm. On operating, a vertical incision was made anteriorly on the left side, joined by a shorter transverse incision extending outward. Through this opening the shell of kidney was felt, filled with pus, which was evacuated and the tumor then removed. The patient had done well since the operation.

Dr. Curtis thought nephrotomy should be reserved for those cases of nephrosis less in extent than in this case, or where a considerable portion of the kidney yet remained healthy, or where the other kidney was also diseased and one did not care to sacrifice any healthy tissue whatever.

Congenital Backward Displacement of the Head of the Humerus under the Spine of the Scapula.—Dr. A. M. Phelps presented another case of dislocation of the head of the humerus backward under the spine of the scapula, probably of congenital origin. It was by courtesy of Dr. Le Roy W. Hubbard that he was able to present this boy, aged about twelve, and it was proposed that the same operation be done which he had performed for the first time in a case reported at the Section last spring. This patient had visited various surgeons in San Francisco, Chicago, and New York, and, strange to say, all were of opinion that nothing could be done. The operation performed in the former case, and proposed in the present one by Dr. Phelps, consisted in cutting down posterior to the deltoid, freeing the head of the humerus, and shaving this off so as to make it fit the glenoid cavity. It was not advisable to enlarge the glenoid cavity at the same time, as it would endanger anchylosis. Dr. Phelps believed these dislocations at the shoulder, and also dislocations at the hip, arose from trauma inflicted at birth, or possibly they occurred sometimes during intrauterine gestation.

Dr. Le Roy W. Hubbard thought it rather remarkable that within two months after he had seen his first case of the kind described by Dr. Phelps, two others had come under his notice. It seemed strange that so many surgeons had discouraged operation, for, apparently, it was a simple procedure, and a very necessary one in view of the fact that the patient's arm was quite disabled and he was obliged to earn his own living. He was of the opinion with Dr. Phelps, that it was better to reduce the size of the head of the humerus than to enlarge the glenoid cavity.

Dr. Royal Whitman was disposed to think that these cases may originally have belonged to that rather numerous class called obstetrical paralysis leading to subluxation, and that the arm having for years been left in this position assumed the attitude shown.

Dr. Phelps said that against this supposition and in favor of dislocation, was the fact that in his first case he found the posterior border of the glenoid cavity broken away, where the head of the bone had slipped back to make a new articulation.

Carcinoma of Breast; Excision, including Glands and Pectoral Muscles.—Dr. F. J. A. Torek presented a woman, about forty years of age, on whom he had operated for cancer of the breast, removing not only the breast, but also both pectoral muscles and the axillary and clavicular fat, all in one mass, as recently described in the Medical Record by Dr. Willy Meyer. His reason was that the operation for carcinoma could not be made too radical. In this instance a gland, the size of a lentil, was found in the pectoralis minor, which could not be felt before the operation, and which would have been left to bring on recurrence, had the ordinary operation been performed. The patient was able to move her arm in every direction, but there was some stiffness in the deltoid, which was gradually disappearing with use.

The Chairman thought this more radical operation for carcinoma of the breast ought to be encouraged. It did not destroy the utility of the arm.

Recent Advances in the Surgical Treatment of Malignant Disease of the Larynx.—Dr. D. Bryson Delavan in this paper described the three methods of operating in malignant disease of the larynx, and gave the recent statistics of Semon, Butlin, and others. The three varieties of operations were, 1, thyrotomy; 2, laryngotomy; 3, complete laryngectomy in cases of extensive laryngeal disease with glandular involvement.

Thyrotomy had been practised chiefly by Butlin and Semon, of London, and was applied to cases in which the disease was absolutely confined to the interior of the larynx. The second variety of operations was only more extensive. Dr. Delavan was of opinion that in all the cases preliminary tracheotomy ought to be performed, at least a week in advance. Among the cases of intrinsic epithelioma which had been operated upon by Butlin and Semon, one was well after five years and a half, one after three years, and one after two years. Recent statistics showed a percentage of cures by operation of from twenty-eight to forty per cent., as contrasted with ten to thirteen per cent. given formerly.

The method of Solis-Cohen, of Philadelphia, whereby the mouth was shut off from the trachea, removing danger to life, yet permitting of swallowing with ease, had been followed in at least three cases so operated upon by acquiring power of phonation. The comfort of the patient was greatly increased, and the disfiguration of the other operation was largely done away with. It was a question, however, whether these cases were not the result of a happy accident which might not repeat itself in the future. Regarding the third variety of operations, the author said that experience had shown glandular enlargements not to be so serious an obstacle as had heretofore been supposed.

The suggestion of Mr. Butlin, that every tumor of the larynx which was suspected of being malignant disease justified exploratory thyrotomy, seemed to Dr. Delavan unsafe even if acted upon by one so expert as Mr. Butlin. He thought, however, that Mr. Butlin had in mind only such cases in which all other possible means of diagnosis had been exhausted. Papilloma might be suspected to be malignant disease, at least by one not so expert as Mr. Butlin, and he had seen tumors of this sort disappear under repeated use of the alcohol spray.

Finally, it must be admitted that cases of malignant disease demanding these operations were dangerous at best, and Dr. Delavan thought that not every laryngologist or surgeon should undertake to operate, but should send cases to those who had already had some experience, until the limits of the operation could be better defined. The possibility of certain accidents must be admitted and guarded against, such as entrance of foreign substances into the air-passages, bad management of the tube, poisoning by antiseptic dressings. The reader was of opinion that poisoning by antiseptic dressings had occurred in four cases, iodoform being the chief offender. The substitution for this of compound tincture of benzoin had been attended with success.

Dr. Delavan then showed some new tracheal tubes.

SECTION ON OBSTETRICS AND GYNECOLOGY.

Stated Meeting, October 24, 1895.

Henry C. Coe, M.D., Chairman.

Unusual Entanglement of Umbilical Cord; Death of Fœtus.—Dr. L. F. Bishop related the case, illustrated by pencil drawing. A woman, about twenty-eight years of age, had been delivered previously of one living child by forceps. Pregnant again, nearly full term; fœtal movements had ceased for some days. Examination showed a justo-minor pelvis, no fœtal heart, left occipito-anterior position. The head would not engage, and Dr. Bishop was about to do craniotomy,

when suddenly, under a strong uterine contraction, the head collapsed and delivery was soon completed. The cause of the death of the fœtus then became apparent, for the cord was found entwined around the left thigh in the form of a slip knot, so that every movement of the leg caused it to draw tighter. The leg was œdematous, showing that the knot had only gradually drawn so tight as to completely obstruct circulation. He had found no record of exactly a similar case, and Dr. E. A. Tucker, of the Sloane Maternity, said he had seen none.

Multilocular Cyst of the Ovary.—Dr. Polak related a case of multilocular cyst of the ovary removed by cœliotomy. The peritoneum was torn while strapping up the vesico-uterine fold, and troublesome hemorrhage followed. The patient was doing well after the operation, when scanty urinary secretion was noticed, which was attributed to ether and digitalis. Later abdominal fluctuation was felt, the original incision was reopened and a pint of pus was evacuated. The temperature then fell, but an unusual amount of fluid escaped through the drain, which was shown, by administration of methylin blue and by Kelly's method of direct catheterization of the ureter, to be from a uretero-abdominal fistula. The ureteral fistula closed of its own accord ; the abdominal fistula was still open, but the patient was doing well.

Rupture of the Uterus.—Dr. S. Marx related two cases of rupture of the uterus during labor to which he had been called in consultation after the accident. They pointedly illustrated the necessity for great care when one thought it necessary to use forceps. The first case was in a woman who had previously given birth to four children. The attending physician made a diagnosis of knee presentation, and without attempting to rectify the position the forceps were applied under deep chloroform anæsthesia. As soon as traction was begun symptoms of intense collapse developed. The baby was extracted and the diagnosis was made of chloroform heart failure. The second day acute symptoms of peritonitis developed, and Dr. Marx saw her within six hours after the initial chill, and made the diagnosis of rupture of the uterus at once, which was then confirmed by introduction of the hand. The only thing to do was to wash out the entire peritoneal cavity through the ruptured uterus and drain. The patient died a few hours afterward.

The second case occurred in a very stout woman, in her fifth labor, all previous labors having been normal. She had not felt life for several days. The os dilated slowly, and the physicians in charge applied forceps to the head through the undilated os. The fœtus was macerated and the head was torn off. Then, instead of doing version immediately, the doctor drew down an arm and pulled it off, then the other arm was pulled off. He then introduced a sharp hook, intending to perforate the body ; but, instead he penetrated through the uterus into the peritoneal cavity. When Dr. Marx saw the patient she was in collapse. On careful examination he found that the uterine wall was between his hand and the remainder of the fœtus, this having escaped into the abdominal cavity. He was able to express it between his hands, as in expressing the placenta. The rent had been enormous. Here again the only thing to do seemed to be to wash out the cavity and pass up a large amount of gauze. The patient died. Still, the question always arose, in ruptures of the uterus into the peritoneal cavity, whether to do laparotomy and sew up the tear or to remove the uterus. In the two cases related the patients were already moribund, and any operation attended by shock would have caused immediate death. Saline solution was injected into the bowel. It was not injected into the veins, as these under the circumstances were collapsed and difficult to find ; it was not made under the skin, since with the fountain syringe and a large needle —the only instruments at hand—it would have been a slow, painful process, requiring twenty to twenty-five minutes to inject a pint of the solution, which by that time would have become cool.

Dr. Marx said that in these cases of rupture of the uterus, and in some others which he had seen, there had been emphysema of the external genitals, a fact of diagnostic value, the cause of which was to him unknown.

The Chairman, Dr. Coe, thought that not infrequently rupture of the uterus passed unrecognized, the patient's condition being attributed to collapse, without careful examination being made. As to treatment, he remembered seeing cases in Vienna which made a good recovery without operative interference, only drainage being established. Of four cases in which Dr. Coe had sewed up the ruptured uterus only one, operated upon within an hour, recovered. The operation was always a formidable one, and done usually under very unfavorable conditions, and the mortality must always be high. He had about made up his mind not to do laparotomy again unless the case were quite recent and there were a fair chance that the patient would not die of shock.

Dr. P. A. Harris said the uppermost idea with practitioners usually was, when they had a case of labor which they did not understand, to get the baby into the world. It did not seem to make much difference to them how, if only the child were born. It was only those who did a good deal of consulting work in obstetrics who knew of the frequency with which difficult and bad cases were made much worse by undertaking to deliver under disadvantageous circumstances or without sufficient experience. As Dr. Marx had stated, it was the duty of the attending physician to seek experienced help before he had made the case a hopeless one.

Turning versus Forceps.—Dr. Malcolm McLean said that practitioners too often applied high forceps where the head refused to engage, theoretically claiming that they were placed in relation to the longer axis of the superior strait, but in reality across it, thus making a bad case worse. Having, perhaps, torn the uterus, they resorted to version, and afterward the case was reported as one showing the great danger of rupture or other accidents attending version.

The Chairman remarked that high forceps should be considered a capital operation, one not to be undertaken without the best counsel and assistance.

Dr. Marx said he had only recently had to take a teacher in one of our medical schools to task for advocating forceps instead of version. Dr. McLean had done a service in pointing out the greater danger of forceps.

Morphinism in Women.—Dr. J. B. Mattison, of Brooklyn, read the paper. Morphinism in women was not rare. He had not found it less frequent than in men. Physical necessity, relief of pain, and not a tendency to do wrong, was the chief cause among the better class. Usually the diagnosis was not difficult, but some morphinists were able to hold out for years with little departure from mental or physical health. In refusing a second trial of Carlyle Harris, Recorder Smyth had said that if a wife were a morphinist the husband would surely know it. This was a grave judicial error, for the writer had known again and again of morphinism on the part of the wife, of years' duration, without the knowledge of the husband.

There were two tests of morphinism, one by urine analysis, the other by enforced abstinence. The urine test consisted in rendering the specimen alkaline by addition of bicarbonate of sodium, to this add a certain proportion of chloroform or amylic alcohol, shake thoroughly, let settle, draw off, add a small proportion of hydriodic acid. If morphine were present there would be a violent tinge to the urine. Regarding enforced abstinence from morphine, no morphinist could stand it for forty-eight hours without showing reflex symptoms.

Morphinism in women, like in men, was disastrous. Regarding its effects upon the functions peculiar to the sex, he said menstruation was almost always disturbed, often long absent, sooner or later there was sterility, although to this rule there had been some marked exceptions. The case reported by the late Dr. Earl, of Chicago, was referred to, in which the newly born children had the disease and died.

The prognosis of morphinism in women eligible for treatment was good, and based on his personal experience it was better than in men. Recovery took place sometimes in apparently hopeless cases. In fact the most hopeless case which he had ever seen was cured completely, and was well to-day, eleven years after the treatment. It was the only case in which he had ever seen hullucination of touch. Hallucination of sight and hearing was common.

The treatment depended upon the individual case, for the patient, as well as her disease, must be treated. Speaking generally, a more prolonged treatment was required than for men. The extremes of recovery under his management had been five weeks and six months. Abruptly taking away all opium was brutal, entailed needless suffering and sometimes fatal collapse. The withdrawal should be more or less gradual.

Prevention of morphinism was more important than cure, and physicians should be careful in prescribing the drug for menstrual and other pains.

Morphinism and Melancholia.—Dr. Bishop had had occasion to treat melancholia two or three times with opium, and he had felt that in doing so he was running the risk of establishing the morphine habit, notwithstanding the fact that very good authorities had claimed that no danger attended the use of the drug in these cases. He would like Dr. Mattison to express his opinion upon that point.

Opium in Dysmenorrhœa.—Dr. H. N. Vineberg said he knew of some women who used preparations containing opium for dysmenorrhœa, but personally he never prescribed it, finding that he could give relief by a compound containing bromide of potash, antipyrin, and phenacetin. In the few cases of morphinism which had come under his observation the drug had been given less frequently for acute pain than for mental depression.

Dr. Collyer remarked that there were many conditions giving rise to pain, and that patients obtained opium not alone from doctors, but even more frequently from druggists or in patent medicines. The physician who put a hypodermic syringe and morphine into the hands of a patient did a great wrong. Morphine patients should be treated in the most humane manner; the brutal handling to which they were sometimes submitted was inexcusable.

Susceptibility to Morphinism.—Dr. Malcolm McLean had observed that some patients would contract the morphine habit after use of the drug two or three times, others could take it safely for several weeks. Morphinism should never be regarded as hopeless. He related one instance in which he cured the patient at her home, in ten weeks' time, by gradually diminishing the amount of opium in the solution, both at the drug store and at the patient's room, until it consisted essentially of water.

Dr. Mattison, in some closing remarks, expressed his belief that this was not a habit, but a disease. While it was a generally accepted fact among neurologists that patients suffering from melancholia or insanity were less likely than the sane to contract the disease, yet it was true that morphinism was possible under all conditions provided the drug were taken sufficiently long. He did not believe the man or woman lived who could resist the snare of opium, should they take it for some time.

Codeine was much less dangerous than opium or morphine, and should be given in its stead if necessary for the relief of pain. It had to be used in about three times the quantity. It had not that exhilarating effect on the mind, which was the basis of the morphine disease when opium was given. Dr. Mattison recognized, however, some risk even in the careless use of codeine.

Notes on Ectopic Gestation.—Dr. Egbert H. Grandin gave as a reason for presenting this paper the fact that in the practice of individuals there occurred cases or groups of cases of sufficient interest to make them worthy of report before a scientific body, even though the subject to which they related had been gone over frequently before.

Electricity Abandoned.—The author had repeatedly stated his conversion from the erroneous doctrine which for years he, in common with many others, had promulgated—the doctrine that ectopic gestation might very properly, from the eighth to the tenth week, be treated by non-surgical means, particularly electricity. His conversion from this doctrine had been due to the fact that experience had taught him that even before the eighth week there might be hemorrhage of a slowly progressive character. Thus, in a number of cases where the symptoms had not been very urgent, abdominal section had shown free hemorrhage and old clots. Further, his wider experience had taught him to accept the view enunciated by Dr. Janvrin, that so called colicky pains in these patients were, in fact, signals of hemorrhage. Further, his experience had taught him that women might bleed internally even though there had been absence of colicky pains. Hence he had ranged himself in line with those who claimed that in the presence of diagnosis of ectopic gestation immediate section should be the rule. Indeed, his personal experience had led him to think that even if the diagnosis were only presumptive, a clean exploratary punctture was safer than expectancy. It was only a question of very early diagnosis, and this was not impossible. In his experience strong presumption prior to operation was the rule, and absolute diagnosis the exception. Yet if due weight were given the earlier symptoms, he was satisfied that, as specialists, we would be less frequently called upon to operate on women practically in collapse.

It was stated that the symptoms of ectopic gestation were the following: Relative sterility, with recent disease of the pelvic organs; amenorrhœa; enlargement of the uterus; sympathetic disturbance; change in the breasts; irregular hemorrhage; colicky pain; presence of tumor at one side of, or behind, the uterus. With such a history, ectopic gestation could be predicted. Unfortunately, however, the woman seldom consulted a physician before the colicky pains had become severe and rupture had already occurred. An early operation would in all likelihood rescue the patient from her peril, and in order to carry it out women, as well as physicians, should be educated to recognize the first signs, stress being laid upon hemorrhage even before the occurrence of colicky pains. Hemorrhage was inconsistent with normal pregnancy, and it was the symptom which should call for pelvic exploration, not colicky pains. Hemorrhage after a period had been passed meant that, even though uterine pregnancy existed, there might be a complication. The woman should be put to bed, and if daily examination should reveal progressive increase in the local findings, we would often have strong enough presumptive diagnosis to warrant exploratory section before the woman was *in extremis* or had lost so much blood internally as to greatly retard convalescence. Two cases illustrative of this point were cited.

The first case was that of an unmarried woman, aged twenty-four, regular in menstruation; had suffered only occasionally from pelvic pains. After exposure to pregnancy, she missed a period and consulted a professional abortionist, who passed a sound into the uterus. Two days afterward, or five weeks after exposure to pregnancy, she passed a clot. Having some pain, she consulted Dr. Grandin, but he was not prepared to

give an opinion until at the end of the sixth week after the exposure, pain continuing, a hemorrhage having occurred, and a somewhat greater swelling existing at the site of the tube, he expressed the presumptive belief in ectopic gestation and advised that she enter an institution to undergo exploratory laparotomy. He found not only free hemorrhage, but old clots as well. The tube was removed, the belly washed out, and the patient made an uneventful recovery.

The second case was similar, except that there had been atypical hemorrhage for three weeks, and the colicky pains were not at all marked. He removed the unruptured tube, which lay between the uterus and bladder, there being ample evidence of ectopic gestation in chorionic villi. The patient made a good recovery.

After relating two other cases of more advanced ectopic pregnancy, Dr. Grandin concluded his paper by impressing the value of atypical flow as a diagnostic sign of ectopic gestation, and the fallacy of placing too much dependence upon the symptom of colicky pain.

The paper was discussed by the Chairman and by Drs. McLean, Leroy Broun, E. A. Ayers, Tull, Collyer, Jarman, R. A. Murray, and the discussion was closed by the author.

Dr. Malcolm McLean had not discarded electricity altogether in ectopic gestation.

Dr. H. J. Garrigues exhibited several instruments, principally those used by Jacobs in operations by the vaginal route, and also showed two uteri which he had removed by the latter method, and stated that clamps had interfered with easy control of hemorrhage which had taken place in one of the cases. He said the vaginal route, of which we heard so much at present, was only a revival.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, October 21, 1895.

Samuel B. W. McLeod, M.D., President, in the Chair.

Autoscope. — Dr. J. W. Gleitsmann demonstrated Kirstein's perfected autoscope, an instrument for examination of the interior of the larynx. It had a handle, an electric light calling for twelve volts and thirty ampères, a spatula covered by a horizontal plate. Its chief advantage over the laryngoscopic mirror was the fact that it enabled one to see not only as much as was shown by the mirror, but also the posterior wall of the larynx. Usually patients were tolerant of examination but about a minute at a time, but the young man shown permitted a demonstration of ten minutes' duration. Kirstein, of Berlin, had also devised instruments for operating.

Lymphoid Hypertrophies at the Vault of the Pharynx — So-called Adenoids: their Relation to Rhino-pharyngeal Catarrh.—Dr. J. Solis Cohen, of Philadelphia, read this paper. The first part was a brief historical review. Only recently had the attention of the general profession been directed to disease of the glands at the vault of the pharynx, although the anatomy of the parts had received attention from Winslow and William Hunter. The paper of the late Wilhelm Meyer, of Vienna, had been so complete as to leave little for future elucidation. Its only defect lay in grouping hypertrophies with vegetations. Having described the gross appearance and stated that the structure of the follicles was identical with that of the solitary follicles of the intestine, Dr. Cohen took up the diseases to which they were liable. The adenoid structure at the vault of the pharynx might take on inflammation, hypersecretion, and even ulceration; it was liable to take on simple hypertrophy or vegetative hyperplasia, and also, as had been claimed, certain varieties of rhino-neoplasm.

Hypertrophy of the lymphoid nodules showed itself either *en masse* or as an enlargement of individual or groups of the nodules, irregularly distributed upon the vault and lateral walls of the pharynx. Both forms might occur independently of other disease, or in connection with changes in the mucous membrane of the naso-pharynx, etc.

The clinical history of these affections related to obstruction of respiration, mouth-breathing, the so-called nasal voice, irritation of dropping and dried secretions, leading to snorting inspiratory acts, headache, inability to concentrate the attention upon school or other work; when of long standing in children, in whom it occurred most frequently, it caused the lower jaw to drop, the nose became pinched, the chest sunken, the shoulders round. Deafness might accompany the condition. The subjects looked stupid and were stupid. This was not surprising when one remembered that only the occipital protuberance intervened between the lymphoid bodies and the brain, and that the lymphatic system within the cranial cavity was connected with that in the pharynx.

The treatment was by astringents, caustics, electrolysis, cauterization, extirpation by the gouge, the forceps, the snare, the finger. Dr. Cohen preferred in general to use forceps. They brought away the hypertrophied tissue, and thus avoided the possibility of suffocation by the pieces dropping into the larynx, as had happened in a few cases. If the mass refused to be withdrawn, twist the handle of the forceps round and round. Hemorrhage was rarely excessive. Topical after-treatment was superfluous, but astringent and caustic applications were sometimes made. If repeated operations were required, an interval should elapse for inflammation to subside, otherwise otitis media might result.

This treatment, which also relieved the rhino-pharyngeal catarrh, was followed by disappearance of the symptoms already named, and also in some patients by disappearance of pain in the sternum, beneath the mammæ or scapula, of nightmare, asthma, etc. Catarrh of the vault of the pharynx was by no means infrequent in tuberculosis. Constitutional treatment should be carried out according to the indications. Various instruments were shown for operating. Dr. Cohen was not in the habit of using an anæsthetic except in very nervous patients. It was not so important to get all the tissue away, but enough so that the hyperplasia would subside. The lymphoid structure here, like all other tissues, had some necessary function which should not be destroyed by removing it entirely.

Dr. Gleitsmann thought that every rhinologist found less difficulty in diagnosticating these conditions than in treating them, for the appearance of the child suggested the nature of the trouble. All were agreed that the hypertrophies should be removed, but there were many procedures for accomplishing this. His own plan was to make removal thorough, so as to prevent recurrence; he therefore gave an anæsthetic. But it was not always incomplete removal which caused return; the disease seemed then to invade the mucous membrane to its full depth. Hemorrhage was sometimes severe, but it usually stopped, although there were about six cases on record of fatal hemorrhage. Disease of the lymphoid structure in the vault of the pharynx was not infrequently accompanied by disease of the accessory sinuses.

Advocates Thorough Removal.—Dr. D. B. Delavan practised the method described by Dr. Gleitsmann, which was known as the English method, for in England it had been adopted by every man of note. Anæsthesia was one of the greatest aids in thorough removal of the growths. The proportion of recurrences had been increasing, and he thought it was due to lack of thorough removal. A fact which he thought had not been sufficiently appreciated was the frequency of

these troubles in tubercular patients, and it was extremely important to treat the local difficulty without delay.

Dr. Delavan called attention to the fact that money was being raised to erect a modest monument to the memory of Dr. Meyer, of Vienna, who had done so much to advance our knowledge of throat troubles.

Dr. Francis J. Quinlan believed that nearly seven out of every twelve children showed the facial manifestations of the pathological conditions at the vault of the pharynx under discussion. These conditions were like an open wound through which the system was being constantly infected. They were very commonly present in children contracting diphtheria and scarlet fever. It was almost impossible to cleanse the parts thoroughly. The patients were often sleepless, suffered from pains, had trouble with the ear, became dull, had chorea, etc. These symptoms had repeatedly disappeared under treatment directed to the pharynx. He presented some patients in illustration of Dr. Cohen's paper.

Diet and Muscular Exercise in the Treatment of Tuberculosis.—Dr. T. J. McGillicuddy read the paper (see p. 654).

Dr. J. Blake White did not doubt but what diet and exercise were the most important factors in the treatment of tuberculosis. When one recalled the fact that all flesh was but solid blood, he could readily see the necessity for a plentiful supply of the normal circulatory fluid whereby the system was built up and effete material was carried away. The author had properly laid stress on the importance of attention to details in exercise. He thought, however, that it was best to take exercise in the open, pure air, and he recommended bicycle riding, which permitted the body to remain passive while the respiration and circulation were active. With regard to the diagnostic value of the bacillus tuberculosis in the sputum, he believed the physical signs were often present first.

Butter for Phthisical Patients.—Dr. Max Einhorn said tuberculous patients should take plenty of food in almost any variety so long as they had not much distress from it. Butter was one of the fats most easily assimilated, and should be given freely. A quarter of a pound of it contained about as much heat as a quart of milk, and could easily be taken if it were accompanied by some meat, bread, and milk. He usually told phthisical patients to take some milk at each meal, and to take five meals a day. To the milk might be added some meat broth. He would certainly advise exercise, but it was best to take it out of doors. The patient should not overdo.

Hot Water and Ulcer of the Stomach.—Dr. Achilles Rose said he was aware that drinking hot water had become very popular, and it had become necessary to sound a warning. It had been shown by collective investigation that a great many cases of ulcer of the stomach occurred in cooks. This had led to the supposition that it might be due to tasting hot soups, etc., consequently laboratory experiments were instituted on dogs by pouring water, about of the temperature usually prescribed for patients, through a tube into the stomach. These dogs were killed from day to day and week to week, and it was found that the hot water first caused a hyperæmic spot, and, in the course of time, ulcer of the stomach. Dr. Rose was once visited by a cook whose master's physician had prescribed for her drinking very hot water. Dr. Rose found that she was suffering from ulcer of the stomach, a condition contraindicating hot-water treatment.

Exercise and Expansion of the Chest.—Dr. Jacob Teschner showed tables and photographs, illustrating chest expansion and lung capacity as increased by systematic gymnastic exercise which had been carried out under his supervision in eight cases of spinal deformities. In one case the capacity of the lung was increased forty cubic inches in two months.

Dr. McGillicuddy believed that many phthisical patients had been killed by milk punches. Milk did not contain enough proteids, and was too liable to ferment. Yet it was an excellent food for those with whom it agreed.

An Improved Uterine Nozzle.—Dr. Samuel Brothers demonstrated a method of making a uterine nozzle by holding the hollow glass rod across the alcohol flame until it became hot enough to bend. By passing the rod along and heating it and bending it at several points successively, it could be made to assume any desired shape. The canal could be cleansed by introducing a fine wire and pulling a brush through.

Therapeutic Hints.

Paludic Pathology.—There is very little doubt that the periodicity of ague depends in part on the sudden production, and subsequent liberation in the blood, of the toxins of this specific sporozoön. In certain forms of paludism, segmentation proceeds rapidly; the subjects of these forms suffer from the tertian and the double tertian forms of ague: while the long evolutions lead to a quartan, and the irregular forms are accounted for by different generations of germs, running independent courses, at times parallel but not coincident. The stirring events which underlie the phenomenon of periodicity in ague are intensely interesting. Let us take, as an example, the phases in the evolution cycle of the parasite of quartan fever.

First Day of Apyrexia.—There is a progressive growth of the parasite, with progressive transformation of hæmoglobin into a kind of melanin.

Second Day of Apyrexia.—The parasite has invaded the greater part of the blood-corpuscle.

Third Day.—This is the day of the paroxysm. It is understood that the paroxysm begins about midday; at this time the blood-pigment collects in the centre of the protozoön, the parasite breaks up, segmentation being complete, and the toxins of the organism are suddenly liberated in the circulation. They soon reach the nervous system, for which they appear to possess an elective affinity. These toxins may arrest the downward metabolism of the tissues, leading to a fall of temperature, or they may stimulate the thermogenic centres, which would lead to an increase of body heat.—Edward Blake.

Anti-Fat.—

In order to reduce his weight
He purchased him a wheel;
Before he'd ridden it a week
He fell off a good deal.

Fetid Diarrhœa.—

℞. Calomel..... 10 ctgr.
Sulpho-carbonate of zinc..... 15 ctgs.
Subnitrate of bismuth..... 8 gm.
Pepsin..... 2 gm.

M. Sig.: Sufficient for twelve powders. Three per diem in a child of one year.

—Tompkins.

Morphine Habit.—M. J. Luys reports the case of a physician who had been accustomed to take about seven grains of morphine daily. Small doses of sodium phosphate were given subcutaneously with glycerine and water, and as they were gradually increased the morphine was progressively diminished. In two months the morphine was discontinued entirely, and then the doses of sodium phosphate were progressively diminished and finally stopped altogether in two weeks more. There remained no desire for the morphine.—*New York Medical Times.*

Lupus Verrucosus.—A woman, aged forty, had slightly wounded the back of her hand while making the bed for a phthisical patient. The wound did not heal, and eighteen months later a patch of lupus ver-

rucosus appeared in the scar, and reached the size of a two-franc piece. It is specially to be noted that the warty form of lupus is that usually observed after professional inoculation.—THIBAUDET.

Ardor Urinæ of Gonorrhœa.—Cubebs is useful in gonorrhœa, not because it possesses any specific action against this disease, but because it has a beneficial effect in modifying the ardor urinæ, which is generally the most distressing symptom in gonorrhœa.—HARE.

For Seminal Emissions.—Hyoscine has not proved successful in my hands, but I have attained perfect results by the administration of Thuja occidentalis (fluid extract) in six- to eight-drop doses, thrice daily, half an hour before each meal.—DE WITT.

Diarrhœa in Infants.—

℞. Benzonaphthol,
Bismuth subnitr.,
Resorcin.....āā gr. jss.
M. Sig.: For a child one or two years of age one such powder every two hours until six have been taken.

—EWALD.

Diphtheria.—

℞. Alcohol..... 60 parts.
Toluol..... 36 parts.
Liq. ferri perchloridi..... 4 parts.
For the relief of pain menthol may be added. The infected patches are to be swabbed with this every two to four hours.

—LOEFFLER.

Reflex Causes of Nervous Disease.—1. The essential feature in the production of many neuroses is the neuropathic state—the degeneracy of the subject. 2. In hysterical subjects suggestion plays an important part both in the development and in the cure of the symptoms. 3. Disease of any organ may give rise to referred pain in some definite area, but not to other nervous disturbances, except as a secondary result of local disease of the organ. This local disease manifests itself by the ordinary local symptoms, and the nervous phenomena are due to exhaustion, anæmia, intoxications, etc. 4. In a few rare cases injury of a sensory nerve may give rise to epileptiform seizures. 5. Surgical operations for the relief of nervous symptoms should never be performed unless there are clear indications, apart from such symptoms, for an operation.—KNAPP.

Croup.—Use pilocarpine as a specific in all cases in which the mucous membrane becomes covered with a transudate apt to coagulate. The abundant secretion of mucus produced by the pilocarpine tends to loosen the fibrinous exudate adherent to the membrane, and it is readily expelled from the larynx. The pilocarpine not only assists in dissolving and removing the membrane present, but also tends to prevent its reforming. It can be administered to children from one to three years of age in doses of 0.01 to 0.03 gm.; three to six years of age, 0.03 to 0.04 gm.; six to ten years of age, 0.05 gm.; ten to fifteen years of age, 0.06 to 0.07 gm.; adults, 0.07 to 0.1 gm.—SZIKLAI.

Chorea.—The disease to which the term chorea has come to be almost entirely confined, viz., chorea minor, or Sydenham's chorea, is essentially a disease of childhood, the vast majority of cases occurring between the ages of five and fifteen; but common though it be in childhood, it is very rare indeed in early infancy, very few cases having been recorded under four years of age. One or two have been met with in children at the breast, and from time to time accounts appear in the medical journals of instances of "congenital chorea." In systematic treatises on medicine these cases, as a rule, are not even referred to.—JOHNSTON.

Insomnia.—

℞. Antimonii et potass. tartrate..... gr. i.-ij.
Morphia sulphat..... gr. jss.
Aq. laurocerasi..... f ℥ j.
M. Sig.: Teaspoonful every two, three, or four hours as required (in wakefulness of fevers).

—BARTHOLOW.

Nasal Catarrh.—In cases of chronic nasal catarrh where the mucous membrane is congested and irritable, a solution of equal parts of distilled extract of hamamelis and water sprayed in the nose often does very well, but first the nasal cavities must be well cleaned.—HARE.

Chronic Constipation.—

℞. Aloës..... gr. iv.
Strychniæ sulphat..... gr. ¼
Extract. belladonnæ..... gr. j½
Ipecac. pulv..... gr. vss.
Divide in pil. xij.
M. Sig.: One every evening.

Chronic Pharyngitis.—

℞. Iodi..... gr. vj.
Potassii iodidi..... gr. xij.
Mentholis,
Glycerini, q.s. ad.....āā ℥ j.
M. Apply with a camel's-hair brush twice or thrice daily.

The Argyll-Robertson pupil has, in its typical form, three symptoms, viz., loss of light reflex, retention of accommodative movements, though they may be sluggish, and myosis, as minute, perhaps, as the pin-point pupils of opium narcosis.—GORDINIER.

Bronchitic Asthma.—

℞. Potassii iodidi..... ℥ ij.
Ammon. carb..... ℥ j.
Tinct. lobeliæ..... f ℥ ij.
Sp. chloroformi..... f ℥ iv.
Vin. ipecac..... f ℥ j.
Infus. senegæ, q.s. ad..... f ℥ vj.
M. A tablespoonful in a wineglassful of water every four hours.

Blisters of Feet from Long Walks.—

℞. Saponis nigri..... 52 parts.
Aquæ..... 27 parts.
Vaselin..... 15 parts.
Zinci oxidi..... 6 parts.
Essentiæ lavandulæ, q.s.
M.

Incontinence of Urine.—

℞. Tincturæ belladonnæ,
Tincturæ cubebæ.....āā f ℥ ij.
Tincturæ nucis vomicæ,
Tincturæ rhei aromaticæ.....āā f ℥ j.
Tincturæ cascarillæ..... f ℥ ij.
Twelve drops at bedtime for a child from seven to ten years.

Conjunctivitis.—

℞. Acidi borici..... gr. xx.
Sodii chloridi..... gr. viij.
Aquæ destillat..... f ℥ ij.
M. Sig.: Use freely as a lotion every four hours, first warming.

Membranous Dysmenorrhœa.—The os externum is scarified at intervals of three or four days between the periods; just before the flow is expected the cervix is dilated, the interior of the uterus is thoroughly curetted, and a spiral wire stem is introduced, which is worn continuously during at least three subsequent periods, the patient being directed to take hot vaginal douches even when menstruating. No harm has resulted from the use of the stem, and the patient is able to attend to her ordinary duties.—DUKE.

Herpes Zoster.—

℞. Boric acid..... gr. i.
Glycerine, q.s., vaseline..... grs. 30.
Cocaine hydrochlorate,
Extract of opium.....āā ctgr. 30.
M. The neuralgia following the eruption is best treated by Fowler's solution.

—KAPOSI.

"**New Drugs** are added every day for the benefit chiefly of those who do not know how to employ the old ones."—BROADBENT.

Gonorrhœal Rheumatism.—In an equal number of males and females attacked with gonorrhœa the males will be found to suffer more frequently from gonorrhœal rheumatism than the females.—LONGSTRETH.

Heart Disease Treatment.—The system comprises bathing in a mineral water, associated with slowly con-

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

OPENING SOCIETIES — INEBRIETY — HOSPITAL SATURDAY FUND—CHARING CROSS HOSPITAL—AGED PROFESSORS—PUBLISHING SEASON—DEATHS OF SIR T. LONGMORE AND SURGEON-GENERAL MASSY—SCARLET FEVER—TYPHOID—MEDICAL PAPERS AT A TEMPERANCE CONGRESS — THE SOCIETIES, CLINICAL, MEDICAL, OBSTETRICAL, PATHOLOGICAL — LORD WOLSELEY AND ARMY SURGEONS—DEATHS OF SIR T. CRAWFORD AND DR. THOMAS KEITH.

LONDON, October 12, 1895.

Now that the schools are in full work, the societies are waking up, and we shall soon be flooded with papers and discussions. Some societies, indeed, have already met, and one or two took very brief vacations. There is some sort of a fixture for every day in the coming week, and those who have hardly digested the papers of the several Congresses which have been held here or on the Continent, may well sigh at the copious pabulum provided. As an oppressed one lately observed, there are too many courses at our dinners, and our intellectual diet is just as heavy.

The Society for the Study of Inebriety puts in an appearance early in the session. On the 3d, Dr. Norman Kerr, president, opened a discussion on Probationary Curative Detention, and pointed out the difficulties of the poor as compared with the rich. The latter can enter an asylum as voluntary boarders, without being certified as lunatics, but the poor have not this opportunity. He advocated hospitals for the treatment of mental disease, in which patients could remain six or eight weeks, and if then not improved could be sent to an asylum. He predicted that twenty years hence we shall have, 1, probationary curative mental hospitals; 2, asylums in separate blocks as in some American buildings; 3, convalescent homes to render the re-entrance of patients into ordinary life less abrupt and less trying to them. The proposals were well received and supported by several speakers.

The Hospital Saturday Fund is appealing for further support. It has been established twenty one years and has disbursed about £200,000, but the need of the hospitals is always increasing. For some time now this society seems to have been well managed. It is free from the absurd prejudices of the Sunday Fund, which is gathering up against it all the supporters of special hospitals. The Saturday Fund treats all applicants fairly, and assists ambulance service and the societies which provide surgical appliances.

Charing Cross Hospital appears to be the owner of Toole's Theatre, and the lease having lately terminated the County Council insists on some alterations. These will cost money, and the hospital is in low water. Of course, the Council is bound to see that its requirements are carried out for the protection of the public. If the hospital managers are in such straits for money, they might have been wiser to fall in with the recent proposal to remove to South London, and sell their very valuable site. We could well spare it, as there is ample hospital accommodation within a short distance.

Worn-out professors are threatened. A treasury committee has presented a report recommending fixed rules to be applied as to the retirement of professors. It is proposed that at the age of sixty-five years the president of his college shall make a report as to the working of the incumbent's chair. If satisfactory, he may occupy it up to seventy years, but not longer. Presidents themselves are to retire at seventy years—in special cases, seventy-five years. What will be the good of such rules? A president of sixty-six years say, reporting on a professor of sixty-five! Should not each case be considered on its merits by competent persons, outside the probability of prejudice for or against?

The medical publishing season is likely to be a busy one. A number of new books and new editions are already out, and fresh announcements are following fast. The three first volumes of the "Twentieth Century Practice" have reached subscribers, and the scheme excites some interest among the more literary members of the profession. The undertaking is considered a great one, and the publishers are commended for their enterprise and the editor for his industry and care.

The first volume of a report of a committee of the Medico-Chirurgical Society, on "The Climates and Baths of Great Britain," forms a notable publication. The committee is continuing its labors. It consists, of course, of Fellows of the Society, so that some of our chief climatic authorities are conspicuous by their absence, and one or two names almost excite a smile—though it is quite possible they know more about climatology than their devotion to other subjects would lead us to suppose. This volume is devoted to our southern climates and our chief springs; it includes a mass of facts more or less interesting, collected with no little trouble, and it will prove a good storehouse for those who are capable of critically examining the subject; for a critical digest is not attempted in this report, and would hardly be expected from a committee constituted in this manner, and which has spent much of its energy in collecting facts from local doctors, and deputing one or other of its members to visit some of the resorts.

Of other works ready or announced, I may mention "Munk's Life of Sir H. Halford," who was physician to four of our sovereigns; "Translations of Kaposi's Skin Diseases," "Herab's Ophthalmoscopy," "Knie's Eye Diseases in Relation to Other Diseases," a new edition of "Barr's Ear Diseases," and a book on "Deaf-mutism," by Drs. Love and Addison. Professor Macalister has ready a "Text-book of Physical Anthropology," and a second edition of Darwin and Acton's "Physiology of Plants" is announced. Then the first volume of "Transactions of the Recent Congress of Hygiene and Demography" is being delivered to members, and the others will follow in due course.

Sir Thomas Longmore, formerly Professor of Military Surgery at Netley, died suddenly on the 30th. He went to see his son start by an early train, and died within an hour and a half. He served through the Crimea and the Indian Mutiny, and was a Surgeon-General, Knight Commander of the Bath and of the Legion of Honor, Honorary Surgeon to the Queen, etc. His "Optical Manual" is a standard on the eyesight of soldiers, and besides contributions to journals he wrote "Gunshot Injuries," of which a new edition is just out, "Transport of Sick and Wounded Troops," and other works, including a "Life of Wiseman," the surgeon of Charles II.

Surgeon-General Massy, C.B., died on September 27th, aged seventy-five. He had a distinguished career, served through the Crimea and the Indian Mutiny. He received the Crimean medal with four clasps, the Turkish medal, the Medjidie, and the Indian medal with clasp. He retired in 1880, with a "good service pension," after thirty-six years' army service.

Scarlet fever is prevalent at the West End. In Marylebone, Dr. Blyth, medical officer of health, reported last week that day after day cases were occurring for which the asylums board failed to find room in their fever hospitals. The chairman of the sanitary committee proposed to provide for such cases, but his vestry rejected the motion in order to compel the asylums board to do their duty. But this board's hospitals are crowded, and the difficulty of obtaining sites for new ones is notorious. Still a dead-lock must not be permitted in presence of a threatened epidemic.

At the East End typhoid fever is prevalent. Diphtheria, if not spreading, seems to be taking a fatal type.

LONDON, October 18, 1895.

AMONG the recent congresses that have demanded attention from the public and profession, that held at Chester by temperance reformers claims notice, inasmuch as it devoted a section to the scientific aspect of the questions involved. The congress was called by the National Temperance League, an organization which attempts to promote its views exclusively by moral suasion, and not by any form of compulsion or legislation. It was a bold stroke to assemble at Chester —the bishop of which diocese is the author of the programme for improving public-houses. The congress was a remarkable success, largely due to the energy, zeal, and organizing capacity of the Secretary of the League, Mr. Robert Rae. But it is to the scientific section I must confine my notes, and in this the doctors had it almost to themselves. Sir B. Richardson presided in his usual genial and confident manner. He was President, too, of the whole congress, and gave a capital address. If any fault can be found with his appearance in such a capacity, it is on account of the self-consciousness which he wears so obviously. He has done very good work, none better than his temperance advocacy; but he is not the only scientific student, and may excuse an American journal for reminding him of this fact, so patent to others.

Dr. W. Carter, Professor of Materia Medica in the Liverpool College, and Physician to the Infirmary, laid down in his paper that: 1, Abstainers from alcohol live longer than those who use it moderately; 2, they work harder and longer; and, 3, their intellectual energy is as great and as well sustained. Allman showed, in 1879, that as little as 1 of alcohol in 800 was injurious to protoplasm, and yet, said Dr. Carter, moderate drinkers send to their several organs more than 1 in 800 at least once, often several times daily.

The next paper was by Dr. Cosgrove, Professor of Biology at the Royal College of Surgeons in Ireland, who said various observers in the last few years had tested the effect of alcohol on the special senses, and all agreed that it was a narcotic *ab initio*, and not, as formerly supposed, a stimulant first. "Short Life, Less Work, Worse Work, that is the Output of Alcohol," was the burden of this paper. In exchange it "narcotizes the mind as well as the body, hides from us the truth about ourselves, and makes us satisfied when we ought to be ashamed."

Mr. Vacher, Medical Officer of Health for the County of Cheshire, read a paper entitled "Alcohol, the Antagonist of Hygiene." He maintained that partaking of alcohol was opposed to personal hygiene and stood in the way of sanitary improvements, thwarting the efforts of the authorities by rendering the people less capable of distinguishing between the good and evil of their surroundings as they drink of the river of Lethe.

Dr. Walmsley, Superintendent of the Metropolitan Idiot Asylum, took as his subject, "Drink as a Factor in the Production of Insanity." He pointed to the well known fact that alcohol is responsible for more mental and physical suffering and incapacity than any other single cause. We do not cure insanity, he said, but of 11 persons who became insane, 9 ultimately died insane, and of the other 2 only 1 recovered. A single law forbidding the marriage of tainted persons, and one preventing people driving themselves mad with drink would, he declared, be worth more than all our lunacy laws. The discussion was joined in by one or two laymen, and several suggestions made respecting the manner of prescribing alcohol when physicians thought it proper to do so. After which Dr. Williams, of Flint, remarked on the difficulty arising from the public faith in alcohol, for they were continually asked if a little wine or spirits would do good, and when the doctor said no, other advice was sought and he lost the patient. He thought the battle could only be fought by the doctors becoming abstainers themselves.

The Clinical Society met last Friday, when Mr. Godlee, Vice-President, took the chair in the absence of the President, whose inaugural address was therefore postponed. Mr. A. Lane read notes of four cases of bony ankylosis of the temporo-maxillary joint on which he had operated with success. Several such cases were mentioned by the speakers who discussed, and it was remarked that it would be well if the cases could be seen, as it would be interesting to notice whether any deformity resulted. One or two other speakers said they could bring cases.

"Cardiac Syphiloma" was the next subject, several cases of sudden death being mentioned, in some of which gummata were found. It was held that cardiac symptoms, which could not be due to an ordinary lesion, if they occurred in a patient who had had syphilis, might be ascribed to gumma or fibrosis of that character, and should be treated by iodide. A case of injury to the knee-joint, for which arthrotomy was performed, was then related, and some other cases mentioned.

The Medical Society of London held its first meeting on Monday, when the new President, Sir Crichton Browne, delivered an inaugural address on the "Generalization of Specialism," after which a paper on the "Radical Cure of Hydrocele by Excision of the Sac" was read by Mr. Lockwood, and discussed by several of the surgeons present.

At the Obstetrical Society there was a paper on the "Variation in Height of the Fundus above the Symphysis during the Puerperium," and another on "Certain Micro-organisms of Interest to Obstetricians and Gynecologists." It was stated that the next meeting should be special for the purpose of considering proposed alterations of rules.

The Pathological Society opened without an address and went straight to work. There was a good show of specimens. Most of the other societies are in full work.

I told you Lord Wolseley would be no improvement on the Duke of Cambridge, so far as friendliness or justice to army surgeons is concerned. I predicted the change would only be between King Stork and Log. The *Pall Mall Gazette* seems wakening to this, and alludes to rumors of drastic changes contemplated by the new commander-in-chief. He had better take warning, or he may yet be held responsible for the destruction or disorganization of the medical department. At one of his last parades he said of the medical staff corps: "They are not soldiers, but civil attendants on the sick." He has on other occasions been most offensive; in fact, his conduct toward medical officers has more than once been rather that of a snob than of an officer or a gentleman.

Sir Thomas Crawford, K.C.B., died on Saturday last. He entered the army medical service in 1848, and had a distinguished career. He served in the Crimea and India, and became Surgeon-General of Her Majesty's Indian forces. Eventually he became Director-General of the Medical Department of the Army, from which he retired in 1889. As head of the department he was assiduous in his office and careful of the rights of officers serving under him. Though there may perhaps be here and there one who thinks he deserves more than he has received, he may be sure Sir Thomas carefully weighed the circumstances and did what he believed to be justice, as far as it was possible for the head of the department to do. He was a man capable of an immense amount of work, was a master of detail, and the success of the department in every expedition in which he was the chief, is a standing proof of his zeal and forethought. His wife died in the spring, this year, leaving him with eleven children. His intimate friends noticed that Sir Thomas never seemed the same man after Lady Crawford's death. Lately he

suffered from bladder trouble, and uræmia came on and closed the career of one of the most zealous and conscientious public servants. All who knew him—of which I am one—speak well of him.

Another distinguished surgeon, with whom also I was acquainted, has passed away; Dr. Keith, the successful ovariotomist, is dead. His greatest results were obtained in Edinburgh, where he passed most of his life, but for the last few years he has lived in London. He was one of the pioneers in ovariotomy, having performed his first operation in 1862, from which time he continued to have remarkable success; his mortality-rate on the average not exceeding five per cent. Before the antiseptic period his extreme care to insure perfect cleanliness was noteworthy. Nevertheless he embraced the Listerian views, and his successes increased, and once he had, I believe, eighty consecutive successful operations. Dr. Keith was more or less of an invalid throughout his career, yet he bore his troubles so bravely that many may be surprised that he endured them. Those who knew him wondered rather at the spirit he displayed, and that, handicapped by ill-health, he should have achieved so much. It is needless to dwell on what he did, for his name is a household word with your readers. America mourns with England his loss.

THE ETIOLOGY OF CANCER.

To the Editor of the Medical Record.

Sir: In your recent editorial in answer to the question, "Is Cancer Inoculable?" you state that "A person predisposed to any disease is always an easy victim when any definite exciting cause presents itself, while one without such tendency escapes every time." This remark is the very key that unlocks the secret cause of this terrible disease. Years ago I became satisfied that such predisposition exists in every case, and this predisposition, or remote cause, I have found to be slow mercurial poisoning. Such a condition existing, any traumatism may develop the disease. Smoking a dirty pipe may start it on the lips or tongue, irritation of the breast or uterus in female, or any other traumatism that may accidentally occur in any part of the organization. I have carefully searched out the history of many cases and have never yet failed to discover that such persons had been subjected to a process of slow poisoning from the use or abuse of this poison. Remember this, and see what the future brings to light on this subject.

Truly yours,

J. S. Prettyman, M.D.

Milford, Del., October 1, 1895.

HOSPITAL REFORM—A GROSS INJUSTICE.

To the Editor of the Medical Record.

Sir: As one who is not a "Professor," and has long since retired from active hospital work, permit me to express my indignation at the methods of the medical schools and the "combine," that has resulted in the precipitate dismissal of a number of much respected and well-equipped medical men from hospital positions they have long and honorably held. Why a small body of men should arrogate to themselves the right to keep the larger number of their fellows who have had no college position either from choice, bad fortune, or modesty, from the privilege of practising in the hospitals is a distinct infringement of individual liberty, and a showing of conceit which should promptly be met by a refusal to call any of them in consultation by the rank and file of the profession whose rights have been assailed.

I find by referring to the *Medical Register* that only about two hundred men are directly connected with the five medical schools in this city, while the entire number of regular physicians exceeds three thousand. This seems a ridiculous minority to dictate to the larger number, which includes some of the best and most distinguished physicians and surgeons, not only of New York but of the world.

It is high time that some organized movement was instituted to combat the college rings, for not only do we find through their agency abuses of medical charity, such as exist at the Vanderbilt Clinic and New York Hospital particularly, but at least one institution that has been run for the financial benefit of the faculty has made an application for, and obtained, a $60,000 appropriation from the city for next year.

An Outsider.

New York, October 29th.

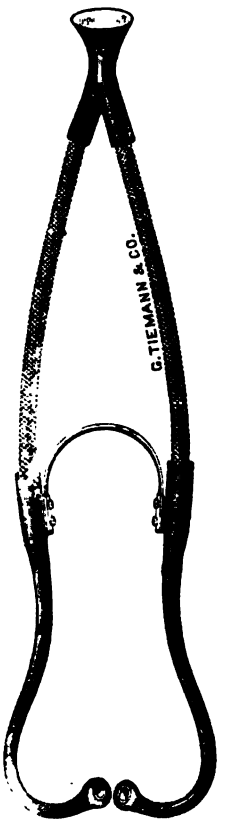
New Instruments.

A NEW AND IMPROVED STETHOSCOPE.

By MARK I. KNAPP, M.D.,

NEW YORK.

The proximal and distal parts of this instrument consist of the hardest suitable metal, German silver, covered with a layer of hard rubber. The elastic tube is made of a spiral German silver wire, the rings of which are in very close apposition, so as to practically be one solid tube. This is also covered with rubber, which is either soft vulcanized, to retain its elasticity without breaking, or remains entirely soft and is then woven around with wool or silk. This metal elastic tube is soldered on to the heart and ear parts in such a manner as to present one continuous equable calibre. For that reason the ear parts at the point of joining with the middle part bulge out so as to receive the latter. The spring is screwed into a projection of hard rubber in such a mode that the screws do not touch the metal of the ear-pieces. Besides the specific intention of such a union between the spring and the ear-pieces, it has the advantage that the spring, when rusted or otherwise injured, can easily be replaced.



Now, as to the absolute superiority of this instrument, or rather to its being the ideal stethoscope, long sought for.

When beginning to learn the value and practice of auscultation, as a student, I found what all of us know, that while striving to perceive the pure cardiac or pneumonic sounds, I heard along with them the humming, buzzing sound so familiar to us with all stethoscopes but one—Denison's. As a consolation for that misery our teachers told us that we would have to get used to it; but unfortunately, by the time we can get used to these disturbing sounds we are able to do away with the stethoscope altogether.

Meditating over the possible causes, so plentifully inquired after, it occurred to me that the buzzing came not from within, the stand taken by all my predecessors, but from without. It seemed to me that the humming came from the sound-waves always and ever

present in the atmosphere—not heard by the naked ear, although appreciated by some animals—and which are noted through the medium of the metallic ear-pieces, which are good conductors of sound. Sound-waves are always present, due if to nothing else than to the motion of the several layers of the atmosphere which are of different density. The remedy suggested itself at once. Retain the good sound conductor—metal—to convey the sounds which we want, and stop the sounds we do not want by a bad sound conductor. I therefore covered my metal stethoscope with a piece of soft-rubber tube, and my reasoning proved to be successful.

The instrument I now present to the profession, made by the best firm in surgical instruments, Messrs. Tiemann & Co., is of unexcelled quality as a stethoscope, based upon a true scientific, physical, acoustic law. It is all metal within, to best convey the sounds we search for, and all rubber without, to cut off all external sounds, thus giving us not only a very clear and distinct, but a very much intensified, sound. If I should be permitted to use microscopic terms, I would say that this new instrument is the high-power stethoscope. True enough, we hear no buzzing with the Denison stethoscope, it being made of rubber, but unfortunately we hear with it yet less than with the ordinary instruments.

Therefore I recommend this new stethoscope, tested by prominent gentlemen, for its unexcelled, ideal qualities, and its very neat and pleasing appearance.

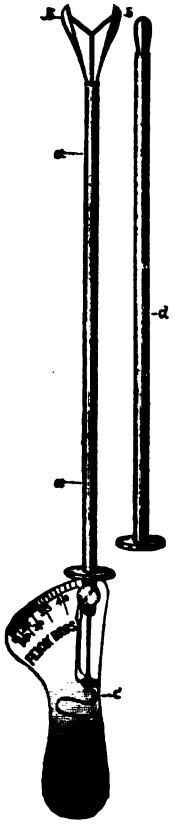
141 SUFFOLK STREET.

A NEW URETHROMETER.

BY R. W. STEWART, M.D.,

SURGEON TO MERCY HOSPITAL, PITTSBURG, PA.

A GOOD urethrometer should have the following requisites: 1. It should be simple in construction and easily taken apart for the purpose of cleansing. 2. It should be small in calibre in order to permit of its passage through a narrow urethral canal. 3. It should be so constructed that it will automatically exert a uniform degree of pressure against the urethra, regardless of the variability in the size of the different portions of the latter.



After considerable experimentation, with the view of constructing an instrument that would conform to the above requirements, the writer begs to submit to the profession the following instrument.

The cut given of the instrument illustrates it so well that a detailed description would be superfluous. Suffice it to say that it consists essentially of a cannula *aa*, terminating in two measuring arms *bb*, which open by virtue of their spring-like action aided by the spring *c* on the handle of the instrument. The measuring arms are closed and liberated by moving the tube *d* up or down on the cannula *aa*.

To use this instrument it is inserted as far as the bulbous portion of the urethra, and the measuring arms liberated by the withdrawal of the tube *d*. It only remains to withdraw the instrument from the urethra and at the same time observe the reading of the index. This instrument has proven to be not only accurate and easily manipulated, but also to be less painful than any urethrometer I have heretofore used.

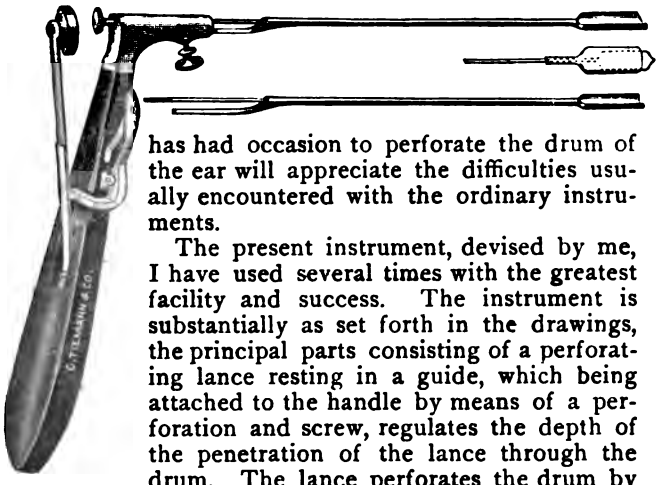
It has been made for me by Feick Brothers, of Pittsburg, Pa.

A TYMPANOTOME.

BY W. F. COLE, M.D.,

WACO, TEX.

I HEREWITH present to the MEDICAL RECORD a cut of a new instrument which I have designated "tympanotome." The instrument, as its name implies, is designed to perforate the drum of the ear. Anyone who



has had occasion to perforate the drum of the ear will appreciate the difficulties usually encountered with the ordinary instruments.

The present instrument, devised by me, I have used several times with the greatest facility and success. The instrument is substantially as set forth in the drawings, the principal parts consisting of a perforating lance resting in a guide, which being attached to the handle by means of a perforation and screw, regulates the depth of the penetration of the lance through the drum. The lance perforates the drum by an instantaneous impulse given by a spring hammer attached to the handle, which hammer is fired by means of a catch trigger, as shown in the cut. This instrument makes an arc-shaped perforation near the periphery of the drum. The perforation is made instantaneously and with absolute safety, as the depth of the perforation is regulated, and the lance is withdrawn automatically into the guide after being fired.

This instrument is manufactured by G. Tiemann & Co., to whom I am indebted for useful modifications and for the excellent finish of the instrument.

Treatment of Habitual Drunkards in Austria.—Austria proposes to deal with persistent drunkards by treating them as mentally incapable and detaining them in special retreats for a term of two years. They may go in of their own accord or on compulsion, but cannot leave at will until their term has expired, except in certain cases on probation. Persons may be sent to the retreat either by the order of a magistrate, or on the petition of the parents or children, or of the husband or wife or trustee, or of the chief of a lunatic asylum in which the drunkard may be detained. Inebriates may further be assigned to retreats by the action of the public prosecutor, or by the mayor of the town or village in which the habitual drunkard resides. In all cases the inebriate must be legally tried and convicted, the court being bound to hear witnesses, including the drunkard himself, as well as the doctors, more especially experts on mental diseases. The term of detention will be generally for two years, but the patient may be released on leave after one year, but will be confined again in case he relapses into his former bad habits. After the two years' term he must be released, but if his drink impulse persists, he may be sentenced again for a fresh term of two years, and eventually may be confined in a lunatic asylum, if he is shown to be incurable.

Trouble Ahead for the Baby.—A Canadian newspaper calls attention to a nursing-bottle advertisement, which concludes with the words: "When the baby is done drinking it must be unscrewed and laid in a cool place under a tap. If the baby does not thrive on fresh milk, it should be boiled."

Queen Amélie of Portugal, so it is reported, is devoting all her spare time to the study of medicine.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending November 2, 1895.

	Cases.	Deaths.
Tuberculosis	121	135
Typhoid fever	43	10
Scarlet fever	59	3
Cerebro-spinal meningitis	3	2
Measles	64	4
Diphtheria	174	22

A Silly and Untruthful Canon.—One of the canons of Westminster Abbey, Wilberforce by name, has succeeded in making himself ridiculous several times by intemperate invective against the practice of vivisection. In one of his latest utterances he said that he would rather die than owe his recovery from disease to discoveries made by vivisection. Anent this absurd speech the *British Medical Journal* remarks that the clergyman cannot in any way be complimented on his consistency, inasmuch as the physician whom he has publicly and widely eulogized, in whom he placed his personal confidence, and to whom he professes his deepest obligation—Sir Andrew Clark—was himself a vivisector.

Indigestion and Baldness.—Dyspepsia is not only one of the most common diseases, but it is also one of the most common causes for the loss of hair. Nature is very careful to guard and protect and supply the vital organs with the proper amount of nutriment, but when she cannot command a sufficient quantity of blood-supply for all the organs, she very naturally cuts off the supply of parts the least vital, like the hair and nails, so that the most important organs, like the heart, lungs, etc., may be better nourished and perform their work more satisfactorily. In cases of severe fevers one can readily see how nature economizes. If one will examine a hair very closely from the beard or head, it will be seen that it gives somewhat of a history of an individual during the time it was growing. It will be observed that it shows attenuated places, showing that at some period of its growth the blood-supply was deficient from overwork, anxiety, or under-feeding. Speaking of dyspepsia being one of the most common causes of alopecia, I will add that a very common cause of indigestion is irregularity of meal-hours. The human system seems to form habits, and it performs its functions in a great measure in accordance with the habits formed. This seems to be particularly so in regard to eating, and you might say drinking, too. Your stomach gets into the habit of accepting your meals at a certain hour every day, and at that hour it is ready for it. If you, however, take meals at irregular hours you take your stomach by surprise, and it does not know when to expect a meal, and it is not in that state of readiness for prompt and perfect performance of its work. Be more careful about what you eat, when you eat it, and you will have less dyspepsia and fewer bald heads.—*Charlotte Medical Journal.*

Advice to Intending Wheelmen.—The following judicious remarks concerning moderation in cycling are from *The Lancet:* No one should become an habitual cyclist without medical authorization. Before committing himself to an opinion, the medical man consulted will do well to examine the beginner on dismounting from the machine as well as beforehand; there are certain cardiac defects which only become recognizable when the subject is under the influence of excitement or fatigue. A cyclist should at first be content with a moderate pace, not exceeding twelve kilometres per hour (about seven miles and a half). A higher rate of speed should only be indulged in after the rider has gone through a regular course of training If a break in the practice occurs, lasting even a few days, the cyclist should recommence at the slower rate. The temptation to go quickly must be controlled as far as possible. A bicycle travels well-nigh of its own accord, and it is very hard to resist the "delirium of speed." With a light machine on a good road, and helped ever so little by the breeze, an amateur, even when only half-trained, can easily achieve his twenty-five kilometres within the hour (fifteen miles and a half). This is too much, seeing that when doing from fourteen to sixteen kilometres the rider's pulse rises to 150.

Foreign Bodies in the Throat.—The difficulty of removing fish bones and similar obstructions, impacted at the lower end of the œsophagus, is well known, and various mechanical measures and appliances have been invented to deal with the difficulty. One of the most simple, however, and as reported one of the most effectual, remedies in the case of impaction of such foreign bodies is to administer to the patient a pint of milk, and forty minutes afterward an emetic of sulphate of zinc. The fluid easily passes the obstruction, and is, of course, rapidly coagulated in the stomach into a more or less solid mass, which, on being ejected, forces the obstruction before it, and so effects its removal.—*Medical Times.*

Medico-Legal Points in Regard to Malpractice.—1. A physician is guilty of criminal malpractice when serious injury results on account of his gross ignorance or gross neglect. 2. A physician is guilty of criminal malpractice when he administers drugs or employs any surgical procedure in the attempt to commit any crime forbidden by statute. 3. A physician is guilty of criminal malpractice when he wilfully or intentionally employs any medical or surgical procedure calculated to endanger the life or health of his patient, or when he wilfully or intentionally neglects to adopt such medical or surgical means as may be necessary to insure the safety of his patient. 4. A physician is civilly responsible for any injury that may result to a patient under his care, directly traceable to his ignorance or negligence. 5. A physician is expected by the law to exhibit in the treatment of all his cases an average amount of skill and care for the locality in which he resides and practises. Further than this he is not responsible for results, in the absence of an express contract to cure. 6. A physician is not relieved of his responsibility to render skilful and proper treatment, or reasonable care and attention, by the fact that his services are gratuitous. 7. A physician is not obliged to undertake the treatment of any case against his will, but having once taken charge he cannot withdraw without sufficient notice to allow his patient to procure other medical assistance. 8. A physician having brought suit and obtained judgment for services rendered, no action for malpractice can be thereafter brought against him on account of said services. 9. A physician is relieved of all responsibility for bad results in connection with the treatment of a case when there can be proven contributory negligence on the part of the patient. 10. A physician is civilly responsible for any injury to his patient resulting from the ignorance or carelessness of his acknowledged assistants, but he is in no way responsible for their wilful criminal acts. —*The General Practitioner.*

Summer Attendance at the Swiss Universities.—There were 3,108 regular students in attendance at the seven Swiss universities last summer, 247 of them women. Of 348 Russian students 199 were women, as were 7 of the 32 from the United States. Women form one-fifth of the total number of the two largest universities—Zurich and Geneva.

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Original Articles.

SOME SUGGESTIONS CONCERNING THE EXAMINATION OF BLOOD.[1]

BY JO. H. LINSLEY, M.D.,

BURLINGTON, VT.

MANY physicians are deterred from making blood-examinations by the supposed difficulty of technique in the work and the instruments and paraphernalia necessary for its conduct. I shall endeavor to show that this conception of the matter is incorrect, and that a vast amount of exceedingly valuable information concerning the condition of the patient can be obtained by the examination of a drop of blood, with no greater outfit than a good microscope, clean cover-glass and slide, a little vaseline, a slip of paper, and a steel pen. First a cover-glass and slide are carefully cleaned; a piece of ordinary writing-paper is then folded into a triangular shape, and after taking up a small quantity of vaseline on the point of the paper, a narrow, thin film of the vaseline is placed around the edge of the cover-glass. The end of one of the index-fingers is carefully cleansed with water (it is better to employ a nail-brush in doing this), and the finger pricked by a sharp, rapid movement of the hand of the operator, the instrument used being either a sterilized needle, or a new sharp-pointed steel pen, one of the points of which has been broken off. As soon as a small drop of blood has collected, the glass-slide is brought in contact with the same, the slide placed on a level surface, and, as soon as possible, the cover-glass placed over the blood—vaseline-side down—and sufficient gentle pressure made over the cover-glass to produce a contact everywhere between the border of vaseline and the slide.

In this simple manner a most effective moist chamber is provided which is completely seated by the vaseline, and in which the blood will remain in a suitable condition for microscopical investigation for several hours.

Another method much employed, and especially useful where staining is desired, is the dry process. A clean cover-glass is brought in contact with the summit of the drop of blood, obtained in the manner I have described, quickly removed, and a second cover-glass—or the end of a glass-slide—is immediately drawn across the blood, producing a thin, flat layer which dries almost at once. The preparation is then kept for ten or fifteen minutes at a temperature of 110° to 120° C., and is then ready for whatever staining is desired.

Before proceeding, allow me to call your attention briefly to the composition of normal blood, and to suggest the absolute necessity of familiarity, on the part of the investigator, with the condition and appearance of normal blood.

For present purposes the chemistry of the liquor sanguinis and corpuscles, with the exception of hæmoglobin, need not be considered; I prefer to deal only with the corpuscular elements.

As you all know, the cells of the blood are of two great classes, the colored or red, and the colorless or white. I prefer the terms "colored" and "colorless," because none of the individual corpuscles are "red," but only a light shade of amber, or yellow, while the others are devoid of color.

The normal colored blood-corpuscle of man is a biconcave circular disk, having an average diameter of $\frac{1}{3250}$ of an inch. This diameter is liable to great variations, at least one-third in the same individual, and persons differ very much in the variance in size of their colored corpuscles. In some, the examination of thousands of cells will show no appreciable difference, while in others the most remarkable variety of sizes is seen.

I am not satisfied that this variability in size is of any pathological significance. The same cannot be said from a medico-legal standpoint. Given a suspected blood-stain, on, or about, the clothing of an accused, or implement, or utensils, supposed to have been used by him at the time of an assault, and the investigator finds but a few colored blood-corpuscles which are, apparently, of the same size as human colored blood-cells, can the physician, however expert, go on the witness-stand and conscientiously swear that they are even probably human blood-corpuscles? In the light of our present knowledge of this subject, I say he cannot. It may be said in opposition to this statement that with proper micrometres the exact size of the corpuscles can be measured. Now it is a fact that only a very expert microscopist can make such a measurement accurately, and even then there is the liability to error, as was shown by Ewell.[1] This expert ruled a glass-slide with fifteen lines, making spaces approximately of $\frac{1}{2500}$ to $\frac{1}{1250}$ of an inch, and caused the same to be measured by six well-known microscopists, who were instructed to take the mean of at least five measurements of each space. Using standard micrometres by the same maker, the result showed that the measurements of the same space by different observers varied from 0. to 1.9090. This is a greater difference than that between the average diameters of the blood-corpuscles of man and any of the common domestic animals, except the sheep and goat, according to all observers.

Again it is not always possible to restore to corpuscles which have become dried in a stain, their normal diameter, after the most approved treatment of the same.

It is to be greatly regretted, in the cause of justice, that notwithstanding the facts just given, we often see medical men, with but a moderate amount of microscopical acumen, go on the witness-stand and declare, with positiveness, as to the origin of a few colored blood-corpuscles which they had found in a suspected stain.

Nay, I can go farther and point to the spectacle of a professional man with but the most meagre knowledge of microscopical technique, posing as an expert, and giving testimony of the nature I have just indicated. The citation of a case in point may be pertinent.

"In the case of Commonwealth *vs.* Piper, tried in Boston in 1875, the defendant, a sexton, was charged with the murder of a child in the belfry of his church. Certain articles having upon them suspicious stains, were placed in the hands of several local experts for examination. Among the specimens was about a half-

[1] Part of the President's annual address before the Vermont Medical Society, at Burlington, Vt., October 10, 1895.

[1] Allan McLane Hamilton: System of Legal Medicine, p. 175.

pint of water found in the basement, in which it was thought that the prisoner had washed his bloody hands. A short time previous to the trial, the experts, four in number, made their report of the results of their examination to the prosecuting officers, and every one of the four stated that the water contained blood-corpuscles which measured on the average about $\frac{1}{3500}$ of an inch in diameter.

"This evidence was not given at the trial, because the government decided not to introduce any testimony in relation to blood, but the results stated in the report would undoubtedly have been given if it had been called for. A portion of the water was critically examined by Professor Wormley, and the bodies which had been confidently measured as corpuscles were proved to be merely the spores of a confervoid alga."

We could, therefore, find in stagnant water, in drainage, surface pools, some springs, and in many other places, these bodies which are of the same diameter as the human blood-corpuscles, and resemble them so closely as to have been mistaken for them by experts, as I have quoted.

The number of colored blood-corpuscles in man is about 5,000,000 per c. mm. (or about one drop) in the male, and 500,000 less in the female. The number is ascertained by the use of the hæmocytometer—that devised by Thoma and Zeiss being the most practical in use.

Soon after blood is shed, the colored corpuscles become adhered to each other at their broader surfaces, forming rouleaux, or rolls. The extent and rapidity with which this peculiar form of massing of the colored corpuscles takes place varies, apparently, according to the amount of fibrine present: the greater the amount of the latter the sooner and more rapidly will rouleaux be formed. The cause of this phenomenon is not accurately determined. After a short time, under ordinary conditions, the cells lose their roll-formation and become more or less separated from each other.

The adult colored blood-corpuscles of the mammalia (with the exception of the camel family) have no nuclei. This is not true in very early life, and in some forms of anæmia, when a nucleus is observed in many of the colored corpuscles.

The presence or absence of a cell-wall is still a matter of dispute, although I believe the weight of authority is now in favor of considering the colored blood-corpuscle as simply consisting of a pale, transparent, plastic, and homogeneous stroma charged with coloring matter, or hæmoglobin.

The colorless or so-called "white" blood-cells are not peculiar to the blood, as their origin is the lymphoid tissues, from which they pass into the lymphatic circulation, and then into the blood. They are also called "leucocytes," "lymph-corpuscles," "lymphoid-cells," "leucoblasts," "amœboid" or "wandering cells," and are nearly similar in structure, though differing in function from the pus-corpuscle.

Two chief varieties of the colorless blood-corpuscles are found in the normal human blood, namely, the granular, and the paler, less granular variety. Ehrlich describes five varieties of colorless blood-corpuscles, and Prudden relies upon the determination of an increase in number of one variety or another, in diagnostigating the various morbid conditions accompanied by, or dependent upon, leucocytic hyperplasia.

There is a great diversity of shape, size, and structure of these cells, much more so in fact than is the case with the colored cells. In every instance they are composed of living matter, or differentiated protoplasm, or "bioplasm" (Beale), or "bioplasson" (Heitzmann).

The active living matter of the colorless blood-corpuscle is arranged in a more or less well-defined and compact delicate network, or reticulum. The appearance of the material composing these cells is liable to great variations, and, to the experienced eye, offers a very certain index to the general condition of the person from whom it came. In the healthy, strong, and robust constitution these colorless corpuscles are comparatively small, the reticulation very slightly, if at all, perceptible, no nucleus is visible, usually, and the active living matter, or bioplasm, is very bright and highly refractive. On the other hand, in one of these corpuscles taken from a person broken down in health, or after long and wasting sickness, the cell contains a greater or less number of vacuoles, and the living matter presents a dull, lustreless appearance very little refractive, and presenting a picture vastly different from the one first drawn. Between the two there are many grades, or conditions, depending, apparently, upon the general condition of the individual from whom they were taken.

The average size of the colorless blood-corpuscle is usually given as $\frac{1}{3500}$ of an inch.

To be sure, my work in this line has not as yet been very extensive, but in the considerable number of specimens which I have thus far investigated, in every instance have I been enabled to form an intelligent opinion of the constitutional condition of the patient, and in selecting cases to examine, in order to verify this theory (which is not at all my own), I have been uniformly successful in demonstrating the apparent relation between the person's condition and the appearance of the protoplasm of the colorless blood-corpuscles.

The theory has been advanced that the activity displayed by the colorless blood-corpuscle on a properly warmed stage, and surrounded by an appropriate medium, would indicate more or less accurately the vitality of the individual, that the greater the vitality of the person, the more active the movements of the leucocyte. So many conditions, such as pressure, electricity, temperature, and probably bacterial ptomaines, etc., affect the cell, that an intelligent opinion cannot be formed from these premises.

The relative number of the colorless to the colored blood-corpuscles in healthy human blood is about 1 to 350, although this is liable to great variation in different individuals, and in the same person at different times of the twenty-four hours; the proportion of leucocytes being greater during digestion and less during periods of fasting. The number of the colorless blood-corpuscles is determined by the use of the Thoma-Zeiss apparatus already described. Instead of diluting the blood with the salt solution, as in the case of counting the colored corpuscles, Thoma dilutes the blood with water containing one-third per cent. sol. glacial acetic acid in the proportion of 1 to 10. In this way the colored corpuscles are destroyed, and the leucocytes alone remain in the field of vision.

The colorless blood-corpuscle usually contains a single nucleus, though rarely; this is multiple. The nucleus may or may not be visible. The addition of acetic acid has the same effect on this cell that it has on all other nucleated cells of the body, namely, that of making the nucleus prominent.

The action of the colorless blood-cell seems to be twofold. Aside from being a reserve of active protoplasm, to be called upon to repair the normal waste of the body, as well as the destructive processes of disease, certain of these corpuscles, *i.e.*, the phagocytes of Metschnikoff, seem to have an especially aggressive action against offending foreign substances, including, possibly, a successful combat with pathogenic microbes.

Blood-platelets.—The blood-platelets, first described by Bizozzero, are small, irregular, more or less refractive masses of protoplasm, the nature of which is still a matter of dispute. They are very unstable, tend to disintegrate, and vary in size, having about an average diameter of one-third that of the colored blood-corpuscle.

Heitzmann believes that the blood-platelets are off-

shoots from the colored corpuscle, and that their presence, to any extent, is evidence of a below-par condition of the individual. So far as I have studied this matter, I am inclined to agree with this observer.

Certain it is that one may see, in many a specimen of fresh blood, without the addition of any reagent, the separation from the colored corpuscles of little masses of protoplasm, which, when entirely divided from the parent-cell, and after parting with their color, present every peculiarity to, and are apparently identical with, Bizozzero's blood-platelets. Then, too, in those cases in which the structure of the colorless blood-corpuscle was such as to indicate a condition of the individual below the average of health, there has been observed an increase of these platelets. The identity of these bodies with the so-called "microcytes," or "small hæmoglobin-containing elements," found in many morbid states, is suggested.

The greatest difference between the latter and the platelets, aside from that of size, is the presence of hæmoglobin in the former, and yet the fragment that I have mentioned, which separates from the colored corpuscle, very soon parts with its hæmoglobin after complete isolation from the cell. In cases approaching death, the exceedingly rapid formation of these bodies can often—if not always—be seen, as I have demonstrated.

According to Halliburton, the blood-platelets, or tablets, are only found in the blood of mammals. Gibson believes that these blood-plates, which he calls "colorless microcytes," are derived from the nuclei of young red blood-cells, or, occasionally, from the nucleus of white corpuscles. The nature of these small blood elements is so little understood, that I am not aware that any considerable pathological significance has heretofore been attached to them.

Hæmoglobin.—Hæmoglobin is a crystallizable body which forms by far the greater part of the colored blood-corpuscles. It is intimately distributed throughout the stroma of the cell, and must be dissolved and extracted before it will undergo crystallization. Its most interesting properties are its power of crystallizing, and its attraction for oxygen and other gases. The hæmoglobin of human blood crystallizes with difficulty.

The determination of the amount of hæmoglobin, or blood-coloring matter, is easily and fairly satisfactorily obtained by the use of Von Fleischel's hæmometer. The application of this instrument depends upon the principle that the color of the blood, diluted with water, may be compared with that of a glass wedge tinted with Cassius's golden-purple, or some pigment.

Spectroscope.—The presence of hæmoglobin, or of one of its derivatives, can be positively detected by the use of the spectroscope only by an expert manipulator with this instrument, and I therefore will not dwell on this method for the detection of blood-coloring matter.

Guiacum Test.—In applying this test for blood-coloring matter, a drop of the blood solution (or a solution of a suspected stain) placed over a white surface, or in a porcelain dish, is first treated with a drop of fresh tincture of gum guiac, and then a drop of ozonic ether added, when, if only a trace of the coloring matter of the blood be present, a blue color will immediately, or very quickly, appear.

A drop of a 1–1000 solution of blood will thus immediately yield a decided blue coloration; and a 1–5000 solution a quite distinct reaction. If on a white fabric, the test may be applied directly to the stain, by first moistening the latter with a drop of water before the addition of the tincture of guiac. This test will react even with very old stains, provided they are first well moistened with water; and even when the stains have been washed, evidence of their nature may be obtained.

Hæmin Test.—When the blood is in solution, a drop of the liquid is evaporated on a thin glass slide, or in a watch-glass, the residue scraped together and pulverized, a trace of finely powdered salt added, and then a drop or two of glacial acetic acid. The heat of a very small flame of a spirit-lamp is now applied to the mixture, first around and slightly beyond the edges of the disposed liquid, until it has collected beyond the edges of the slide in the form of a globule. This is then heated until bubbles of gas appear, and the liquid acquires a reddish-brown color, when the heat is gradually withdrawn; until only a minute portion of liquid remains, this being allowed to evaporate by the heat of the slide. The residue thus obtained usually consists of brownish-red lines or stains, more or less curved or circular in form. Under the microscope the hæmin will appear as minute crystals, of a yellowish, reddish, or brown color, more or less transparent, and frequently arranged in the form of stellate groups. When from only a minute quantity of blood, the crystals are single, and usually range in size from $\frac{1}{1800}$ to $\frac{1}{1600}$ of an inch in length, and from $\frac{1}{6000}$ to $\frac{1}{18000}$ of an inch in width. With care, crystals may be obtained from even $\frac{1}{1000}$ of a grain of blood.

Regarding the relative merits of the two tests just described, Professor Wormley, in answer to an inquiry made some time since, writes me: "I think it possible to have an old blood-stain from which a certain maceration in water would fail to yield sufficient coloring-matter to the fluid to react with the guiacum test, and yet the same stain, under proper treatment, might yield satisfactory results under the hæmin test. If the guiacum reagents are in proper condition, this test would, I think, give a positive reaction with a more minute quantity of blood-coloring matter when in solution than, perhaps, any of the other chemical tests used for this purpose."

I would submit the following propositions in summarizing: 1. The medical expert cannot state positively that a certain stain has been made by human blood. 2. It cannot be stated that a certain blood-stain was not made by the blood of any one of the lower animals, except the sheep and goat. 3. That in measuring the blood-corpuscles, at least three or four hundred should be used in the determination. 4. It is possible to determine that a given stain is of mammalian blood (excepting that of the camel family). 5. If the witness is able to say that "stains are of mammalian blood, and that the diameters of the corpuscles are consistent with human blood," and if he expressly states that they may be of other blood, he is giving testimony which will doubtless be accorded the weight to which it is entitled, and which cannot be effectively contradicted by the defence (Hamilton).

When I first began preparing this paper, it was my intention to treat my subject more exhaustively, but almost before a good introduction is reached, I find the time usually considered requisite for the President's address consumed. The field which I have entered is a large and fertile one, and, I assure you, a rich harvest, indeed, awaits the patient laborer in its domain. To at all properly consider the subject of clinical blood examination would require two papers, and it was the cognizance of this fact that led me to select the title of the present address.

I had hoped to be able to bring to your notice many valuable facts in connection with this subject, such as the condition of the blood in malaria, in appendicitis, anæmia, chlorosis, etc., but time forbids. I might say, by way of parenthesis, that differential diagnoses between appendicitis and typhoid fever are being made in some of our hospitals entirely by blood examinations.

I am afraid it is often the case that many medical men look at the assertions and suggestions of a microscopist with more or less incredulity. That there has been some excuse for such skepticism, in the immoderate claims made by some over-zealous and unscrupulous investigators, I admit, but I also insist that I have

an abiding faith in my ability to convince the rankest unbeliever, by an hour's laboratory communication with him, of the great clinical value of an intelligent microscopical examination of the blood.

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SLEEP IN ITS RELATIONS TO DISEASES OF THE SKIN.

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To those who look upon affections of the skin as wholly or largely local affairs, dependent upon extraneous influences, whether parasitic or other, the discussion of the topic here proposed will probably seem quite unnecessary, and some of the statements unsound. But to those who take the broadest view of dermatology, and regard the aggregations of symptoms to which are given the names of different diseases as only the expression of various forms of disordered tissue-action, influenced by every element which conduces to perfect or imperfect nutrition and innervation, the subject is fraught with the greatest interest and is one of a most practical character.

Sleep is undoubtedly one of nature's sweet restorers, and yet in the literature of dermatology, both in text-books, monographs, and journal articles, I can find hardly an allusion to the subject, and I do not know of its having been referred to in any society discussions on dermatological subjects, except in the briefest and most superficial manner.

On the other hand, with me it is one of the most important elements to consider in connection with many diseases of the skin, and for twenty-five years I have made notes in regard to this element in large numbers of my patients; so important do I consider it that on my printed paper for recording cases the word "sleep" appears twice, once in connection with the "previous history of the patient," and again in recording the condition of the patient at the time of first observation; record in regard to sleep also is commonly made, in very many patients, at each subsequent visit.

It is not necessary at the present time, even if I were able, to discuss the nature of sleep or the causes that produce it in the healthy individual. Every one recognizes "that natural condition of restful unconsciousness into which the system falls normally with more or less regularity daily."[1] Every one also recognizes the difference between this restful and perfectly refreshing sleep and that which is disturbed in varying degrees; the disturbance may vary from a slight insomnia to a more or less well-marked vigil or wakefulness, and there may be also various degrees of deranged sleep, from a not unpleasant dream to the agonizing distress seen in children or others starting up with "night terrors," also the varying degrees of sleep-talking, sleep-walking, etc.

Normal, healthy sleep is certainly one of the elements of health of the body and all its tissues, whereas disturbed or deranged sleep is a contributing factor to many diseased conditions of various structures of the body. As already remarked, the relations between sleep and diseases of the skin have not hitherto received the attention of dermatologists, but is it not quite reasonable that the state or condition in which more than one-third of the human life is spent must have something to do with the nutrition and innervation of the skin as well as of other organs? We all know how readily the expression of the face and the tone of the tissues will show the results of continued loss of sleep, while the fresh, vigorous tone of the skin of the person in perfect health, with perfect sleep, is equally well recognized by everyone.

But it is largely in the direction of the symptomatic character of disturbed sleep that this feature is of practical importance in dermatology. Normal sleep depends upon the perfect functionating of all the parts of the system, so that the periodical rest occurs in a natural manner; conversely, disturbance in the performance of the function of various portions of the body may lead to an imperfect sleep.

Illustrations of this are, of course, familiar to all; such are the restlessness in sleep with vivid dreams, and unrefreshing sleep dependent upon digestive disorders; the insomnia accompanying diseases of the heart and blood-vessels; that due to excessive use or abuse of tea, coffee, and tobacco; the wakefulness following excessive brain-work, grief, emotion, etc., and that due to extraneous influences, as itching, pain, noise, etc.

For convenience of consideration we may arrange the causes of disturbance of sleep under six main classes, as follows:

1, Digestive; 2, circulatory; 3, toxic; 4, nervous (direct or reflex); 5, psychic; and 6, extraneous.

Time and space forbid my entering here fully into the subject, or elaborating in detail the features belonging to these six classes of causes, which exhibit themselves more or less frequently in disturbed sleep in many patients with diseases of the skin; some of them will appear later in our consideration of the matter in hand.

We may now study our subject somewhat more in detail and will consider: 1, Disturbances of sleep preceding or causing diseases of the skin; 2, disturbances of sleep accompanying or caused by diseases of the skin; and 3, means of removing disturbances of sleep in connection with diseases of the skin.

1. **Disturbances of Sleep Preceding or Causing Diseases of the Skin.**—In speaking of disturbances of sleep preceding or causing diseases of the skin I do not wish to be misunderstood. It is not claimed that the disturbances of sleep which shall be spoken of are often the direct causative agents which induce diseases in the skin, nor that their removal will necessarily be followed by recovery of the skin trouble. I only assert that for many years I have so constantly observed the concurrence of, and relations between the two, in very many patients, that, to my mind, the former should be observed, regarded, studied, and more or less treated from its basic stand-point, to obtain the very best results in the treatment of the latter.

In endeavoring to learn the exact character of the sleep of patients some considerable care will often be necessary. In questioning in regard to sleep the common and hasty answer will usually be that the sleep is "all right," or "very good," or even "too good," when a careful cross-questioning will very frequently elicit the fact that this is far from being the case. Many are forgetful; many become so accustomed to the character of sleep which they have had, that they do not appreciate that it can be otherwise; and I have found large numbers of persons who, for many years at least, have not had at the right times and under the right conditions that "natural condition of restful unconsciousness" which constitutes perfectly normal, healthy sleep. Many will have drowsiness during the day or evening, and insomnia or unrefreshing

[1] Foster: Encyclopedic Medical Dictionary.

sleep at night. Many will have long periods of vigil or wakefulness on retiring, or will waken frequently, or very early in the morning, with inability to further sleep. In some the sleep will be heavy, "like a log," and troubled or not with vivid and annoying dreams; in others the sleep may seem fairly good, but is wholly unrefreshing in character, and the patient will be as tired in the morning as on retiring, or even more so; and patient inquiry will often discover many other aberrations from healthy, restful sleep. These may depend upon any one or more of the six principal causes already mentioned, or perhaps others.

Now, while these conditions exist, and they could be amplified very much more, perfect nutrition and innervation do not and cannot exist, and the skin-tissue, even if restored to a comparatively normal state, by either external or internal measures, will readily yield again and become diseased. It is the failure to properly recognize and treat these and other derangements of the system which has led in some measure to the recognized obstinacy of skin diseases; and the dermatologist can never practise his branch in the highest and best manner unless he is thoroughly competent in general medicine, and skilled to recognize and treat the functional and other disturbances of the system which have so much to do with the vigor and health of the individual and all his tissues.

In a not inconsiderable number of cases of eczema I have known the eruption to first appear after a period of sleeplessness, which, in different cases, had occurred from quite different causes; and time and again I have known fresh attacks of eruption to come on, apparently from the same cause. How far this element of imperfect sleep has to do with the causation of other skin diseases I cannot tell at the present time. It is hoped that others will observe the matter closely and report their experience in the matter.

2. Disturbances of Sleep Accompanying or Caused by Diseases of the Skin.—The first disturbance, which will occur to everyone, is that arising from itching. As all know this is often a most distressing feature in many cases. From earliest infant life to extreme old age one afflicted with eczema may have sleep largely interrupted by itching; indeed the nocturnal sufferings of these patients will often far exceed those of the day, and after a night of real agony, with only snatches of broken sleep, the patient enters on the day wholly unrefreshed.

The reasons for the greater distress from itching during the night, in many skin disorders, seem to be numerous: 1. The exhaustion of the nervous system by the activity of the day renders it more liable to disturbances, until the loss of nervous energy has been restored by sleep. 2. During sleep there is a certain withdrawal of the general nervous control of the system, which allows special irritations to assert themselves; this is observed also in relation to other disorders of the system, as in asthma, in certain neuralgias, in urinary and bladder affections, etc. 3. During the condition of somnolence there is also an absence of self-control, which leads the patient, perhaps unconsciously at first, to scratch and rub, even for a slight pruritus, and so to excite an already irritated skin to an increased erethism and to the development of new lesions, requiring fresh scratching. 4. In the same manner that the brain is especially excited at night by the product of faulty metabolism, from digestive disorders, and the nerve-elements of the healthy skin suffer a like irritation during the period of sleep (manifested by restlessness and even burning and moderate itching), so patches of diseased skin are especially irritated at night by the circulation of imperfectly elaborated blood. 5. Finally, the warmth of the bed favors a congestion of the skin, which congestion, pressing upon nerve-elements already in a state of irritation, excites them to renewed activity.

I have known cases where complete nervous exhaustion has thus occurred, and remember vividly a lady who, having tried an infinity of remedies to get relief, had finally been given chloroform repeatedly by her husband for this purpose, with disastrously prostrating effects.

Other diseases—urticaria, pruritus, dermititis herpetiformis, etc.—will often act in the same manner, and the resources of the physician will frequently be taxed to the uttermost in meeting this element of the case. In some instances, as in zoster, dermatalgia, and syphilis, the sleep will be broken by pain, which, indeed, may be also a formidable obstacle to overcome; various ulcerative affections, and also bullous eruptions, as pemphigus, may in like manner interfere with sleep.

But, as mentioned in the preceding section, it is necessary to recognize certain other less marked disturbances of sleep, which will not infrequently be found accompanying some diseases of the skin, if indeed they are not caused by the conditions which lead up to the latter: for, as already mentioned, we should not in a study like the present consider these diseases of the skin as entities, but only as expressions of a disordered physical state, the changes in the skin taking various forms, which we for convenience designate by different names of diseases.

In a not inconsiderable proportion of my cases of ache, in private practice, I find, on close questioning, that disorders of the sleep are very common; and continually, as the case progresses to a cure, I find the character of the sleep change for the better. Many a patient has told me, during treatment, that for the first time in years the sleep had been of the natural refreshing character of health. The same is true, though to a somewhat lesser extent, in psoriasis and in other diseases, and also in eczema, even where the disturbance had not been from the itching, but only from the general systemic derangement.

The form of the sleep disorder in these cases has varied greatly. At times it has been vigil on retiring, in others an early wakefulness, perhaps even toward morning, say after three o'clock; in many patients it has been only a disturbed character of sleep, with frequent dreams, of a pleasant or terrifying nature; or again, simply a restlessness at night, with a total want of refreshment in the morning, etc.

As I said before, I do not claim that all these sleep derangements are directly caused by the particular skin disorder present, but do believe that they are elements which go to make up the complex state finally exhibited by an eruption on the surface, and that unless they are more or less rectified, permanent good cannot be done.

In closing this section of our discussion mention should be made of the restlessness in sleep belonging to the eruptive fevers, and also of that accompanying some other conditions, as jaundice, glycosuria, and chronic kidney disease, where a dry and itchy skin prevents sleep.

3. Means of Removing Disturbances of Sleep in Connection with Diseases of the Skin.—To rightly understand and apply the correct principles and measures of treatment with success, that is, in the generality of cases, it is necessary, first, to keep well in mind the nature of physiological sleep, and the causes which disturb it, as already alluded to; and second, to study the individual case, in reference to the existing conditions antagonistic to sleep. Routine prescribing may occasionally give relief, but far oftener does harm. A vast weight of responsibility rests on those who in times past and present have vaunted this or that new soporific, which has too often been employed with but little thought, except to heed the enticing claims put forth by those who manufacture and push it for commercial purposes.

Sleep is, always has been, and probably always will be, a great mystery. While we undoubtedly know considerable in regard to the conditions of the brain during sleep, and the experiments and observations of

many prove very conclusively that the brain is in a condition of anæmia during sleep, it is not known whether that anæmia is a primary condition, or whether it is secondary to changes in the brain-cells, induced by a "periodic exhaustion of intra-ganglionic energy."

Fortunately, however, it is not necessary practically to fully understand the exact order of precedence of the causative elements of sleep; for we do know positively that agencies can cause insomnia which operate in either of two directions, namely, by furnishing stimulus to the nerve-cells, reflex or otherwise, or by causing excitement to the cerebral circulation.

A most interesting experiment by Chapin, cited by Long Fox,[1] demonstrates the latter perfectly. He applied amyl nitrite, which promotes the circulation of the brain, very carefully to the nostrils of a number of patients who were sound asleep, and in every case they awoke promptly; this was repeated on several evenings on different patients with a uniform result. As a counter-experiment he applied bisulphide of carbon and oil of peppermint to other patients, not a third of whom were roused; showing that the results were from the action of the amyl nitrite on the circulation, and not simply from the odor, or from his presence near the bed, etc. All recognize, of course, that stimulus to the brain-cells, as by light, sound, severe pain, or itching, brings consciousness, and also that intense mental activity prevents sleep.

The disturbance of sleep by reflex action from other parts of the system, and by the irritating effects of the product of imperfect assimilation and disassimilation, are more or less commonly recognized, even by the laity. The child who tosses in sleep will often be rightly thought to have intestinal worms, or will be suffering from indigested substances, and all degrees of restlessness and deranged sleep will be noticed from the latter, up to violent manifestations of "nightmare" and "night horrors."

All recognize the perturbed sleep after partaking of heavy or indigestible substances, especially late at night, and also that associated with many forms of chronic indigestion. Now, it is just these conditions which so frequently exist in those suffering from many diseases of the skin, and which often play an important part in the ill health which leads up to them, which it is often of the greatest importance to consider and treat, if the best results would be obtained in the skin lesions.

I am convinced that often when itching exists, and seems to be the cause which prevents or disturbs sleep, the real cause, in part at least, will be found elsewhere, and that the patient will sleep well if that is removed, even in spite of some itching. I will therefore consider this last section of our subject under the six main classes of the causes of disturbance of sleep already mentioned, namely, 1, Digestive; 2, Circulatory; 3, Toxic; 4, Nervous (direct or reflex); 5, Psychic; and 6, Extraneous.

1. Digestive.—The subject of the disturbances of sleep by digestive derangements is so great that it can be hardly more than touched upon at the present time. But, on the other hand, it is one of the most important points to consider in connection with many diseases of the skin, and must not be passed by with a single question or two. Not only should remedies be given to correct the digestive disorders, but accurate directions should be given as to diet; for, with modern life, the temptation to errors in eating and drinking are so great that few escape some digestive disorder, and with many this affects sleep; indeed, sometimes sleep disturbance will be about its only marked symptom. Late eating at night, and that generally of indigestible substances, is a fertile cause of sleep disorder; on the other hand, long abstinence from food will also frequently interfere with sleep. In this latter case, if patients are awake four or five hours after finishing supper, say until midnight, a warm drink, such as pure milk alone, or a very weak broth of meat extract, or a thin gruel, will commonly secure perfect sleep.

It will often, however, be quite difficult to determine exactly the dietary error at the bottom of the sleeplessness, but it can be accomplished by patient investigation. Sometimes constipation will be the sole cause of deranged sleep, and all must have noticed how much better and more refreshing sleep is apt to be after a free purgation, when this has been needed.

2. Circulatory Disorders.—Not only in marked disease of the heart, in aneurism, and in atheroma may there be derangement of sleep, but this is apt to happen frequently where no gross lesions of the heart or blood-vessels exist, but where there is only heart weakness and functional disturbance of the circulation. This may manifest itself in many ways. With an excited circulation, often evidenced by throbbing in the head, the warm bath, or even a foot-bath on retiring, will so withdraw the blood current from the brain that the symptom will no longer cause annoyance. Recently a patient of mine with lichen planus, who was very actively engaged as a lawyer, under great and prolonged excitement connected with some recent public trials, obtained sweet and refreshing sleep in this way for many nights in succession. In some cases one of the bromides, with a trace of aconite, will give entire relief. In some cases, on the other hand, where there is heart weakness and a general weak tonicity of the blood-vessels, digitalin, given before meals, and at bedtime, will act better than anything else, as I have repeatedly witnessed.

Another form of deranged circulation will be manifested in cold and clammy hands and feet, which are continually observed in skin patients, and which often prevent sleep long after retiring. Digitalin will often remove this, as will also the appropriate treatment for the anæmia causing it; relief is obtained, likewise, by plunging the members alternately into basins of hot and cold water, and other measures which readily suggest themselves.

3. Toxic.—Toxic disturbances of the sleep are much more common than is supposed. These include not only the effects of excessive use of coffee, tea, and tobacco, but also other disturbing elements, such as quinine and some other drugs. The toxic character of many of the products of gout will also prevent or derange sleep, and should always be taken into consideration. This is, of course, closely connected with the preceding section, and much care should be given in these cases to securing the most perfect metabolism possible, which is to be accomplished by various means, including diet, hygiene, exercise, and remedies affecting the chylo-poietic viscera. Hypnotics should be rarely resorted to.

4. Nervous.—Nervous (direct or reflex) causes of the derangement of sleep in patients with diseases of the skin are numerous, and will often require some care in their discovery and removal. In many a case the skin lesion will be but one of the signs of a general breakdown which has come from excessive or injudicious use of the brain, and the insomnia which has resulted has in turn contributed much to the further debility of tissue; in some instances it has come from overwork, or from social or other dissipation, with restricted hours of sleep. These cases often require very delicate handling, by all means tending to restore exhausted brain-cells; it is worse than useless to give the so-called sedative remedies, and even bromide of potassium will sooner or later increase instead of diminish the trouble we seek to remove. Good and proper feeding, with nerve tonics, and friction of the surface, such as a thorough rubbing of the body and limbs with a Turkish towel at night, after a brisk sponge with tepid water, or even a cold pack, etc., will often restore the nervous vitality and permit of sleep. In some cases digitalis

[1] Long Fox: The Influence of the Sympathetic on Disease, p. 217. London, 1885.

by restoring tone to the overstrained and relaxed capillaries of the brain, will be of much service, as may also ergot.

If the sleep disturbance is caused by reflex nervous irritation, whether it be by intestinal worms, uterine, bladder, or other disease, these will require attention before the sleep can be of the refreshing character which leads to a perfect restoration to health.

5. Psychic Disturbances of Sleep are not at all uncommon, and will often have to be met in treating diseases of the skin. Mental cares, whether of business, domestic, or social character, may all at times act as powerful depressants, and by interfering with perfect sleep hinder the cure of skin lesions. In addition to general rules, and the endeavor to free the mind from the disturbing load, these cases will often receive the greatest benefit from the judicious use of proper hypnotic remedies for a short period. I well remember the case of a young lady, much afflicted with acne, who had been utterly sleepless for some little time, owing to an unfortunate love affair. A few full doses of urethan insured prolonged and refreshing sleep, after which the preceding troubles vanished under the appropriate treatment.

6. Extraneous.—Extraneous causes disturbing sleep, accompanying or caused by diseases of the skin. Before speaking of the relief of sleep disturbed by pain and itching, I wish to make a single cautionary remark, namely: It is an error to suppose in every instance where the patient complains that the sleep is disturbed by these causes that this is wholly the case. In very many instances some of the other elements which we have considered are really at the bottom of the sleep disturbance, and when the patient is thus deprived of sleep the pain or itching asserts itself, and then forms an additional cause of wakefulness. A single illustration will suffice to recall others. How often do we find that those who are called upon to empty the bladder at night are, when thus aroused, distressed and then kept awake by the itching which is induced by the exposure of the surface to the air after warmth in bed. The same occurs when some are awakened by troublesome dreams, by palpitation, by indigestion, or perhaps by a laryngeal cough, of gouty origin, it may be. Now, the careful and proper attention given to these, and their removal by appropriate measures, will often be of the very greatest importance in securing rest in sleep for those afflicted with diseases of the skin. And if this refreshing sleep is obtained, then, with the resulting gain to the nervous system the very pain or itching will be less annoying, and so will be more easily controlled.

We may dismiss very briefly the subject of pain as a disturber of sleep in connection with diseases of the skin. This should always be attended to, and special methods will suggest themselves to all. The pain from syphilitic lesions will generally yield more or less promptly to very actively pushed specific medication suitable to the special stage of the disease or character of the lesion present; but opium or morphia may occasionally be needed. I have also repeatedly found the very greatest, indeed perfect relief to osteocopic and neuralgic pains in syphilis, from antifebrin, in about five-grain doses, given every hour or two, with hot water, and a little whiskey if there seems to be any depression.

In the distressing pain often accompanying or following herpes zoster, especially in elderly persons, galvanism will prove very valuable, and I recall a patient who, having previously had distressing nights from ophthalmic zoster, would drop off to sleep while galvanism was being applied. Antifebrin is also extremely serviceable, and will secure sleep even when the pain has previously produced great wakefulness; it must be used freely, however, to be of great service, and needs to be watched.

Itching as a cause of sleep disturbance is unfortunately too well known to everyone, and all are familiar with the difficulties often attending its relief. Proper local treatment, of course, plays the most important part in securing sleep under these conditions; but I will not attempt to develop this subject, which could alone occupy our entire time. A few words, however, may not be out of place in regard to some of the details connected with it, which are sometimes overlooked.

Patients generally understand very little in regard to modes of making applications to the skin, and very explicit directions are often necessary to secure the desired result. The same application used in a right and a wrong way may produce very different results. This is strikingly illustrated in connection with eczema of the scrotum. With the exactly proper application of hot water, followed immediately by the perfect adjustment of an ointment of tar and zinc, spread on lint, closely applied and kept firmly in position, we may often get perfect rest at night, when a previous application, wrongly made, has been followed by great insomnia. I have frequently seen sound sleep secured in infants, with the most severe and general eczema, by a proper dressing, firmly bound on only to the parts which were most liable to be scratched, when a former dressing, quite proper in itself, but loosely and wrongly applied, had given no results.

In some instances the exposure of the body to the cool air, on undressing at night, will excite so much pruritus that sleep is prevented; much of this can be prevented by avoiding this exposure, the patient going to bed with the underclothing on, making an application beneath the clothing; in the morning a general dressing of the affected parts can be made, if desired, and fresh underclothing put on. Also in regard to taking baths, whether medicated or not, errors may occur which will result in the sleep being disturbed or altogether prevented. Sometimes baths will be taken so hot as to excite the circulation and prevent sleep; in the process of drying the skin after them, patients may also so stimulate the surface with towels that subsequent applications do not suffice to allay the irritation, which then prevents sleep. In a word, regard must always be had for sleep in giving directions for treatment to skin patients, for, as stated before, a restless or sleepless night will often operate so disadvantageously to the patient that much of the good effect of treatment may be lost.

In the matter of the administration of internal remedies to secure sleep in patients disturbed by itching, there is need of the exercise of much discretion; they are often needlessly given, they not infrequently prove useless, and are sometimes harmful. From what has preceded the restlessness of hypnotics in many cases has been abundantly shown. Their uselessness is seen where the irritation from the skin is very great; for they rarely serve to secure sleep until the irritating element is in a large measure removed. Their harmfulness frequently appears in the attempt to substitute them for the proper measures of relief, general or local, or to press stronger and stronger remedies, even to the great depression of the nervous system.

But, on the other hand, in the judicious use of these we can occasionally accomplish very much both for the comfort of the patient and for the cure of the disease.

The first point to remember, which is often forgotten by the profession, is the utter futility of prescribing preparations of opium to secure sleep, when it is disturbed by itching; the skin irritation is commonly so aggravated thereby that the narcotic effect of the drug is largely nullified, and if sleep or stupor is secured by a large dosage, it is of the most unrefreshing nature, and the scratching during sleep, which commonly occurs, will often greatly aggravate the disease. But there are remedies which often aid in quieting the pruritus, and which may be given with advantage. When not otherwise contraindicated, bromide

of soda in good dose, with a fair amount of tincture of aconite, will often produce a quiescent effect which is most happy. Tincture of gelsemium, in increasing doses, given every half hour, for three doses, has acted excellently in my hands; cannabis indica, employed in the same way, is also often very efficient.

I may remark that the method of preparing three increasing doses of a remedy, and placing them under the patient's control, by the bed, before retiring, will also aid in the action desired; the expectancy of the result augments its efficiency. I direct that one dose shall be taken on getting into bed, the second half an hour later, if needed, and the third, still half an hour or an hour later. Repeatedly I have found that the third dose was left untouched, and rarely do the three doses fail of action. The patient should be instructed to have the doses ready, properly diluted, in separate glasses, so that they can be drank in bed, with as little rousing as possible, and certainly without rising to prepare or take them.

Phenacetin often proves a most valuable hypnotic in pruritic cases; three doses may be arranged in the manner above described. Antifebrin is also serviceable, but requires greater caution in its use. Sulphonal is frequently given to secure sleep under the circumstances, but in my experience it is not a very satisfactory remedy. When used thus there seems to be a later depression of the nervous system, which in the end aggravates the skin complaint. I have used trional to some extent, but have not yet been very well satisfied with the results. Chloral has also a secondary nervous reaction which is often harmful, although in certain cases its use for a night or two will seem to so induce the sleep habit that patients can afterward do without any aid; it can often be combined with bromide of soda with advantage. Paraldehyde will also occasionally act very favorably, and is a relatively safe remedy. Chloralamide I have seldom used. Urethrane has sometimes proved of very great service where the itching was not severe, but when the latter is excessive it has little if any effect on the sleep.

In many cases, even where there has been considerable sleeplessness from itching, which local or general treatment fails to relieve sufficiently to allow of sleep, an excellent effect may be produced by a large warm drink on retiring, without the aid of any hypnotic drug. For this purpose I have made use of warm milk (not boiled), if sufficient time (at least four hours) has elapsed after eating, to allow of the stomach being perfectly empty; the milk, even to the amount of a pint, being drank pure and alone, without other food or medicament. Gruels made of wheat preparations also serve admirably well, and in many cases one of the meat extracts, such as bovox, a tablespoonful in a large tumbler of hot water, acts as a perfect hypnotic. In some instances the best addition to the hot water is a half teaspoonful of Horsford's acid phosphate.

In all these instances the action is much the same, namely, diverting blood to the stomach, and so aiding in producing the brain ischæmia necessary to sleep.

In bringing this memoir to a close I must again emphasize some of the points already mentioned:

1. Sleep is an exceedingly important factor to consider in connection with many diseases of the skin, disorders in sleep occurring both as a contributing cause and as an effect of the same.

2. The disorders of sleep occurring in patients with diseases of the skin may arise from many different conditions; the six principal causes may be classed as, *a*, digestive; *b*, circulatory; *c*, toxic; *d*, nervous (direct or reflex); *e*, psychic; and *f*, extraneous.

3. These causes of disturbances of sleep should be searched for and relieved, because of the injury resulting from imperfect sleep in producing or aggravating many diseases of the skin.

4. In cases where the sleep disturbance is caused by the disease of the skin, the effort should be made to get relief to the insomnia by the proper internal and external treatment of the skin affection, before resorting to hypnotics; attention to details is often very necessary to secure this end.

5. Preparations of opium may be resorted to when the disturbance of sleep is caused by pain connected with the skin disease, but these are useless or harmful when the wakefulness results from itching. Chloroform or ether are also not to be advised for this purpose.

6. Some of the newer so-called anti-neuralgic and hypnotic remedies are often of great service in quieting the general irritation and inducing sleep, and gelsemium and cannabis indica are also valuable. It is often desirable to give repeated doses, at half hour intervals, until the desired effect is produced.

4 East Thirty-seventh Street.

SOME REMARKS ON THE MORPHINE HABIT.[1]

By HENRY FREEMAN WALKER, M.D.,

NEW YORK.

No one denies the evil effect of the habitual use of morphia, and all admit, I think, that its employment hypodermically is peculiarly seductive. I have seen the craving established, so that it was clearly manifest, after the third daily repetition of the dose. Opium in no other form, and by no other method of administration, will so speedily produce this untoward result. In a measure this would seem due to the fact that the relationship of cause to effect is so clearly established. In a moment one passes from intense suffering to complete relief; and at the same time experiences such sensations that he realizes the process; which, in other methods of exhibiting the drug, is obscure or wholly occult.

Opium itself, its tinctures, extracts, or elixirs, may be given for weeks in oft-repeated dose, and their withholding may be followed by only slight depression and little craving for the definite thing. But this cannot be affirmed of the surest and speediest method of relieving suffering. The depression is greater and the consequent craving is stronger.

I feel the more strongly with reference to the use of morphia by the hypodermic needle, because it is a vice for which the physician is peculiarly responsible. Opium smoking or eating may be first begun in curiosity, and the habit continued for the pleasure induced. But the first in the long series of hypodermic injections is always given by the physician. Unpleasant consequences, in the way of nausea or active sickness are no safeguard to the patient, though these may deceive him. Often I have heard patients say, "There is no fear that I shall take morphine, for its effects are so unpleasant." Their very self-confidence betrays them. They soon discover that the repetition of the dose affords relief to the unpleasant feeling, and that in one respect the bane is its own antidote.

Opium taken by the mouth habitually hardly seems to shorten life, except through the accident of an overdose, sleepily taken. But the hypodermic needle surely undermines the health, as care in asepsis is always after a time neglected. But I do not think we compass the evil of the habit when we view it alone or chiefly in its physical effects.

To me the greatest evil of the morphine habit is the perversion of the moral sense. It obliterates in the victim's mind the distinction between truth and falsehood, right and wrong. And here the evil may not be limited to the patient himself, but this may entail hardship and suffering on all those about him.

The first effect of opium, in all its forms, is stimu-

[1] Read before the Practitioners' Society of New York, November 1, 1895.

lant; and opium, of all the narcotics, except, perhaps, cannabis indica, particularly stimulates mental activity. Imagination replaces observation, and the judgment is in abeyance. We see this often in cases of illness where the drug has been exhibited, in which there is no delirium except that induced by the drug. The patient will describe confidently his hallucinations as facts, which are as definite as the images of alcoholic delirium. I have often been told by patients of the ill-treatment received at the hands of nurse or some member of the family, which statements I am morally sure were false. The only explanation is that vivid impressions on an excited imagination have fixed themselves like facts, and that the perversion of judgment is due to morphia alone.

In the description of symptoms, you cannot rely on the morphine taker's statement. Anticipated pain is so clear to the patient's mind that the future is present, and he declares himself a sufferer before pain has begun; nor if in actual pain, can you trust his statement as to the real amount of present distress. Nor can you trust his statement in regard to the actual occurrences of his daily history. Imagination supplies the place of fact, and he dreams in a world of ideas.

And this brings me to the chief point that I wish to make—a medico-legal one. As you cannot, without other reason than his own statement, believe the habitual morphine-taker with regard to himself, nor as a narrator of events occurring in his daily life, so his testimony on oath is worthy of discredit in legal matters. Alcohol, when it fevers the brain, excites the imagination but little, and it benumbs the memory so that the devotee to alcohol may make a poor witness by stupid forgetfulness. But the morphine-taker clearly remembers his so-called facts and mingles equally the truth and fiction of his narrative. I would not believe a man addicted to the use of morphine on oath, were there any reason to doubt his statement. It might be truthful and it might, equally, be false. I do not know if this has ever been made a point in taking legal testimony, but it might, and should be, in a criminal trial. A man's character or his life may be sworn away by a witness rendered incompetent, by the use of morphine, to discriminate between truth and falsehood.

In any important matter under trial, I believe that the habitual use of morphine by a witness should be a proper subject for investigation, and that the character of a witness, as a witness, is deserving of impeachment if the morphine habit is found to have made him its slave. It would not be so if the effect of opium were only to make a man oblivious or forgetful. Forgetfulness is a venial fault and the stupid man is merely a poor witness, not needfully a dangerous one. But the mind of the man who uses the hypodermic syringe and gives himself morphine is clear, often preternaturally clear. It works logically, and granting impressions to be facts, his conclusions, drawn from given premises, would be correct. For this reason he is the more dangerous witness. Cross-examination would not shake him; he believes his impressions correct, and his reasoning is logical. His statement would be overthrown, if at all, by direct denial.

There is nothing in behavior or general appearance often to reveal the habit. Alcohol confesses itself, and one is on guard against the drunkard. As a witness the man who has been tipsy with drink will be stupid or forgetful, but not malicious in perverted remembrance. The morphine-taker will, on the other hand, go about his business, irascible perhaps and moody, and able to state a case or conduct an argument, yet unable to hold the clear distinction between fact and fiction. If these propositions are true, I believe that the challenging of the testimony of the user of morphine should be a thing which the court could sustain.

During the past few months I have been much interested in the cases of two of my patients, both victims to the morphine habit and the use of the hypodermic syringe. The first was a young man of great intelligence, unusual business capacity, and with great business responsibilities. As an occasion of additional nervous strain, he had a wife to whom he was devotedly attached, but who was a victim of ill-health and a complication of nervous troubles. There could not be a case where the temptation to resort to means that should produce sleep and forgetfulness could be greater. The introduction to the use of the syringe had been an intercurrent illness of his own, at a time when his wife was a great sufferer. He felt the need of overcoming the habit, and determined to do so, and came to me for such help as I could give him. I found him changed from my former acquaintance, neat and almost dapper in appearance, to a man unshaven, almost unwholesome in looks, and with the air of one who did not get home at all, all night. I urged him to surrender himself to close guardianship, giving up all business except that of cure. He quite insisted that, if I would trust him, that he could, with intelligent sympathy, work out a cure. He knew my faithlessness in the word of a morphine-user, for it had been repeated to him as a part of a (supposedly) confidential conversation I had had with his parents in reference to his case. In answer to his inquiry, I had to admit the fact of having expressed such opinions; but I added that if he would always give me his full confidence, his failure as well as his success, I would believe him. The result was a complete personal history of his case. He went out of town to be occupied, and sent me daily and voluminous bulletins of his success or failure. I allowed him codeia, bromide of potassium, and trional only as his need should seem to himself extreme. He within four weeks conquered his habit, and has since lived, not in full confidence that the desire is gone forever, but with the determination to resist its most insidious approach.

This case in its bare outline interests me as one of those exceptional ones where a man of power, mentally, has been able to dominate his appetite, when he seemed lost. There is nothing new claimed in the narrative, only the increased courage derived by the exceptional proof of self-control makes me look more hopefully on others.

My second case was that of a physician, a friend. He had been under my care for various illnesses, including last, a year before, an attack of rheumatic gout which disabled him for months and was a threat to his life. Before this, during it, and up to the time when he consulted me, in March last, he had taken regularly hypodermic injections of morphine of half-a-grain strength at four o'clock in the morning, and sometimes at other periods during the day. He was anxious to be broken of the habit, but dreaded the suffering of the immediate stopping, or the protracted discomfort of gradually diminished dosage. He had read accounts from Paris of the employment of hypnotism in such cases, and treatment by hypnotic suggestion. He came to me and begged that I would hypnotize him for this purpose, saying that he believed I was the only man in New York who could hypnotize him, and that I certainly was the only one whom he would allow to do so.

I had always felt a consciousness of certain power in that direction, but had always resisted it, and was wholly without practical knowledge of the method. His appeal was such a personal one, however, that I told him that, if I could get sufficient instruction from my friend, Dr. Starr, I would attempt the treatment. I had no difficulty. He became hypnotized the first time in five minutes, at the subsequent sittings in three. The first time I used a bright coin, and in the others the eyes only. From the first three trances I wakened my friend; in the two next he was sleeping quietly as I left his house. He wakened in about half an hour. During the séances I talked to him, rather iterating and reiterating the phrase, "Do not be

the slave of the drug," than bringing up new thoughts to his mind.

After the first three treatments he took his morphine as usual, after the next two he did not take it, and had no craving or sense of loss, and slept quietly and refreshingly through the night. Since that time he has been practically well of his habit. I write on June 16th.

In this case I had in treatment the earnest co-operation of my friend, the patient He was eager to be free of the drug, was desirous of being hypnotized, and was sure that it would be helpful to him. So far it can hardly be considered an ordinary example of such method of treatment. The point which most interested me in the case was the cessation of craving, which ceased suddenly and completely.

My previous notes were written in June. I saw my friend a few days ago. During the summer past he has had administered, for pain too great to bear, two or three doses of morphia, but these have been isolated, and the craving has not followed its exhibition.

DR. J. MARION SIMS AND HIS WORK.[1]

By JOHN A. WYETH, M.D.,

NEW YORK.

At the close of the memorial address upon one of the most distinguished members of the medical profession in the city of New York, in 1861, Dr. J. Marion Sims was called upon to make some remarks. He said:

"Mr. President: It seems hardly right that I should be the first to break the solemn silence that hangs like a pall over this mournful assembly, for I see here those who have known our beloved Dr. John W. Francis for half a century, while my acquaintance with him was confined to the last seven years of his life. But, sir, in those seven years I knew him as well and loved him as dearly as did any of you. When I first came among you, friendless, as it were, completely wrecked in health, and almost without a hope in life before me, I received many acts of kindness from your hands, which have sunk deep into my heart, and none of which, I trust to God, will ever be effaced; but while I make this acknowledgment of indebtedness to you, I must candidly confess that I owe more to Francis than to all others."

My acquaintance with the distinguished subject of this address was confined to the last seven years of his life, and I can truly say in those seven years I knew him as well and loved him as dearly as did any man; and with like candor, I confess that I owe more to Sims than to all others.

From the day I began the study of medicine, Marion Sims was a familiar name, and when, in 1872, I came to New York City to live, his star was in the zenith. Fresh from his European triumphs, where such men as Keith, Simpson, Spencer-Wells, Velpeau, Nélaton, Civiale, Ricord, Chassaignac, Baron Larrey, Martin, Simon, Bohm, and other great masters in surgery had acknowledged his genius and applauded to the echo the grand achievements of the brilliant American, it is no wonder his name was on every tongue. That marvellous career, beginning as it did from his birthplace, in the humble log-cabin upon his father's modest farm, in Lancaster district in South Carolina, to his position then as the father of gynecology and the most widely known surgeon of the world, was certainly enough to attract the attention of the student who might, however feebly, strive to follow in his footsteps.

Though living in sight of his hospitable home, it never occurred to me that I would ever become personally acquainted with so illustrious a man. At the time of the unhappy controversy over the Woman's Hospital, I read carefully the pamphlets issued by all of the parties, and, although I knew none of them personally, my sympathies were immediately and entirely on the side of Dr. Sims. So strong were my feelings in the matter, I ventured to write him a letter in which I stated that, in common with the vast majority of the profession, I sympathized with him and indorsed his position, adding that, although unknown to him, I was from Alabama and stood ready at any time he might call upon me for any service I could render him. The next morning at an early hour he walked into my office in Twenty-seventh Street, holding the letter I had written in his hand, and looking me full in the eye with his gentle yet manly expression, asked, "Did you write this letter?" I told him I did, and he grasped me by the hand and said, "From this time on you and I are friends." His assurance was prophetic, for from that moment to the time of his death my attachment for him grew stronger and stronger, and I had many evidences of his friendship.

When in the following year I called upon him in Paris, where he was residing, he was as earnest and cordial in his attentions as heart could wish. Recognized there as at home a benefactor of his kind and a surgeon of world-wide renown, his professional advice and his operative skill were sought by people of all classes in all parts of the continent. Success never lessened his attentions or the evidences of kindly feeling to the less successful and less fortunate, nor did the flattery or patronage of the rulers of Europe or its titled aristocracy dull for a moment his appreciation of his native country, nor chill the fervor of his republicanism. He was an American to the core, and, although loyal to the cause of the South in her terrible struggle for a separate existence, he was always an American.

I recall an incident which left this impression strong in my mind. Dining with his family in Paris one evening, there was present Colonel Blank, a member of the personal staff of the Prince of Wales. In common with many Englishmen, who will not see any possible good outside the Queen's domains, he seemed never to grow weary of expatiating upon the greatness of England, her victories, conquests, and the broad humanity of her policy, domestic and foreign. Having been schooled in early life in the grievances which the cruel policy of Great Britain had inflicted upon my own country and people in its early history, I waited with patience, hoping someone older than myself would resent the assertions of the bragging Englishman; but evidently Dr. Sims, as the host, was too polite, and the others were too modest. Unable longer to hold my tongue, I retorted with a narration of as much of the cruel foreign policy of England as I could conjure up, from the instigation of the Indian massacres among the frontier settlements in the United States, the brutal conduct of Tarleton and his troops in the Revolutionary War, the horrible prison war-ships in New York harbor, the blowing of the Sepoys from the cannon-mouths, the opium traffic, and everything mean and bitter against England I could remember. It is enough to say that the topic of conversation was immediately changed, and everybody at the table took a great interest in everything but the discussion of American and English politics. The next day when I made my dinner call, feeling that I owed some apology to my host, I told Dr. Sims I hoped he would pardon my rudeness, giving as an excuse the great irritation to which I felt we were all subjected by his remarks. He slapped me on the shoulder and said: "Apologize! why, I never was more gratified in my life than to hear the scathing you gave that arrogant, self-conceited Englishman, and it was all I could do to keep from joining in with you."

From that time on I saw him frequently whenever he was in this country, and when, in 1880, he passed

[1] An address delivered before the Southern Surgical and Gynecological Association in Washington City, November 13, 1895.

through the terrible ordeal of a double pleuro-pneumonia, he sent for me to come and stay with him during his severe illness, and for fifteen nights I stayed by his bedside or lay upon a sofa in easy call of the suffering patient. As is common with all doctors, he was a very bad patient. He had his own ideas of things, and, although he had the fullest confidence in his attending and consulting physicians, he would at times decline to take the remedies that had been prescribed. In the course of this illness, when the second pleura and lung began to be involved before the first had cleared up sufficiently to furnish respiratory surface, it seemed that he could not live from hour to hour, and it became necessary to administer oxygen, to which he had a great aversion. He positively declined to inhale the gas, and I was compelled to resort to dissimulation, and to place the end of the tube beneath his pillow in such a way that the gas escaping from the cylinder would mingle with the atmosphere close to his mouth. I had been directed by Dr. Loomis that no morphine should be administered at this particular crisis. On one or two occasions, when he was suffering intensely, a small quantity had been administered with gratifying effect to the patient. He insisted at this time that I should give him a hypodermic. I remonstrated mildly, telling him his condition was such that it was very dangerous to take it, and that Dr. Loomis had left positive instructions not to give him any that night. He raised such a clamor that at last I said, "Well, if you will have it, you must, but you must relieve me of all responsibility." He answered, "All right, I'll do it." Having anticipated such a demand, I had already loaded my syringe with pure water, and took the bottle of Magendie's solution and went through all the form of filling the syringe with the proper quantity. It may be possible that I affected just a little too much nicety in the performance. I stuck the needle into the patient's arm, injected the contents of the syringe, put everything away, and went back to my sofa, lay down and pretended to be asleep. The patient was quiet for five or ten minutes, then became somewhat restless, and soon after I heard him call. I got up and walked around to the side of his bed. "How much Magendie did you give me?" he asked. "Six minims," I replied. Without taking his eyes from mine he pointed his finger at me and said quickly, "Wyeth, that's a lie, and you know it!" I am sure it was one of those white lies which will never be recorded against me, and I have every reason to know, after his convalescence and recovery, he had entirely forgiven me. I did not, however, allow him to forget it, for I never missed an opportunity to tell it on him when we were together in company.

Marion Sims died on November 13, 1883. Early in 1882 he had returned to Paris and revisited New York in August, 1883. In the interval between August and the day of his death in November I saw him frequently. A day or two before he died, I remember he was coming into the parlor of his residence, complaining that his heart beat very fast whenever he went upstairs. I remarked that he was unnecessarily apprehensive, since Loomis and all the diagnosticians had excluded any organic heart lesion. He said, "It doesn't matter what they say, this heart trouble will kill me yet." He had intended to return to Europe on November 8th, and had purchased tickets for himself and family on a steamer sailing on that day. He was, however, prevailed on to remain over to do an important operation on the wife of a prominent citizen of New York City, which he did on November 12th. He returned home about eleven on that night and went to his bed. It was his custom to keep pieces of white cardboard by his bedside and a lead pencil convenient, so that at any time in the night when a thought occurred to him that he wished to record, he could do so without making a light. He was thus engaged when, in an instant, without an expression of pain, his heart ceased to beat. Truly, Nature crowned his splendid career with the greatest of all possible blessings, a painless death. He died as he had always wished to die, in the fullest possession of his wonderful faculties. He so often said that he hoped it would not be his lot to live to be a worn-out old man, one laid upon the shelf.

In that most fascinating book, "The Story of My Life," Dr. Sims says that thirteen was always a lucky number with him. He was born in 1813; on the 13th of the month he graduated from college; he left his South Carolina home to practise in Alabama on the 13th; arrived in New York City on the 13th, and it was on November 13, 1883, at fifteen minutes past three o'clock, that he died. It might be remarked that this 13th of November, 1895, is the anniversary of his death.

It is safe to say Marion Sims attained the highest position ever achieved in the history of our profession. He stands alone in this; his reputation as a surgeon was so world-wide that in any capital, in any country within the domain of civilization, he could command at any time a lucrative practice. Assuredly, there does not exist in the history of surgery another such distinction. In New York, London, Paris, Brussels, Berlin, Vienna, Rome, Madrid, Lisbon, and St. Petersburg he found himself everywhere sought after, not only by the patients he could benefit, but by the leading members of his own profession, who were anxious to pay tribute to his wonderful genius. The study of his life should instil hope into the heart of every student. Born amid the most humble conditions in a backwoods county of South Carolina, he died the foremost surgeon of his country and of the world. What a transition from the log-cabin of the poor farmer in Lancaster district to the palace at Saint Cloud, where he was a guest of Napoleon III., the trusted physician to the Empress, as he was to the highest and lowest of those who sought relief at his hands in any part of Europe!

John Sims, his father, never had a day's schooling in his life until after he was married and this, his oldest boy, was six months old. He then went to school less than a year in all, but, under the direction and encouragement of Mahala Mackey, his wife, he became even at this late date an accomplished accountant and bookkeeper, and wrote, as his son attests, a beautiful hand. He became a leader among his people, a surveyor of repute in the settlement of disputed land boundaries, colonel of a regiment of militia, and rendered efficient service in the war of 1812 with Great Britain, as he also served in the army of the Confederacy. It is evident that at an early day he recognized the genius that was then in embryo in his eldest son, for, being able to give only one of his boys a thorough college education, he selected Marion as the scholar of the family, sent him to the best schools in his neighborhood, afterward to the University of South Carolina at Columbia, where he graduated in 1832, and later to a medical school at Charleston, and then to Jefferson Medical College at Philadelphia, where he took his degree in medicine in 1835.

The young graduate of Columbia seemed to be entirely unconscious of the possession of any extraordinary faculties. He says of his class, "It was conspicuous for its want of talent, with possibly two exceptions, Lessesne and Mitchell, for I was never remarkable for anything in college except good behavior. Nobody expected anything of me, and I never expected anything of myself."

There were, at that time, but three avenues open to a young man with a university education—the law, the church, and medicine. Marion Sims did not have a great respect for the law; he did not feel that he was good enough to be a preacher, and so he said there was nothing for him to do but to be a doctor. When he told his father that he had determined to study for this profession, that old gentleman could not conceal his

unbounded contempt, and said, "To think that my son should be going around from house to house in this county, with a box of pills in one hand and a squirt in the other, is a thing I thought I would never have to contemplate."

I have often been asked if I did not consider it a fortunate thing for the reputation of Dr. Sims that he happened to live in a time when the science of obstetrics was so little understood that vesico-vaginal fistula was of common occurrence, since it is well known that this accident rarely occurs in modern practice. In my opinion, he was a man of such extraordinary mental endowment, he would not only have made a world-wide reputation as a discoverer in any surgical epoch, but he would have made a like reputation in any avocation to which he might have given his energy and ability. Circumstances do not make men. It is the genius of the individual that takes advantage of circumstance, quickly recognizing the opportunities which it presents. Dr. Sims was a practitioner of recognized ability, a surgeon in a large way and very successful, for several years before the accident occurred which opened up to him the line of work upon which he made his greatest reputation.

The early professional career of Dr. Marion Sims was not unlike that of the majority of young physicians. He returned to his home in Lancaster in the early part of 1835 to begin the practice of medicine, with no clinical advantages, no hospital experience, and, as he states, "having seen nothing at all of sickness." He had a full set of instruments for the performance of operations and a full stock of medicines, but a very small stock of what he needed most—practical acquaintance with injuries and disease. He had a tin sign which was fully two feet long, because like all young doctors just starting, he "wanted to let everybody know where he could be found." They were not long in finding him out, for he was soon called to treat a child with cholera infantum. He knew nothing of the cause of this disease, and could know nothing of its therapy; he prescribed for the baby and it died. A second case had a similar fate, and the young doctor took his sign down, threw it into an old well that was in the yard behind his office, and determined to leave his country for his country's good.

In the fall of 1835 he went to Alabama and located at a country cross-road. It was here that he first gave evidence of that moral and professional courage which was a distinct trait in his character, as well as of the clearness of insight which made him prominent as a diagnostician. He was called to see a man who had been complaining for several weeks, and recognized at once that it was an abscess of the liver. None of the consultants agreed with him, but he insisted that it was an abscess, and if it was not opened the patient would die. When they argued with him that the operation itself was very dangerous, he used in reply the great surgical axiom that it could do no more than kill the patient, and that it was better to die in the effort to be relieved than to remain as he was and suffer so much and then die after all. The patient, himself a sensible man, recognized the soundness of this position and submitted to the operation, which was done without an anæsthetic, as chloroform and ether were then unknown. The man recovered, and the reputation of the young surgeon travelled for the usual "forty miles around." His practice improved to such an extent that he was able to go back and claim his sweetheart for his wife, and he seems at this time to have reached the summit of his ambition. He says of this time, in 1837: "I had as much as I could possibly do, and was exceedingly happy in my new position. I had a little piece of ground on which there was a small cabin, containing one room, and I had a small addition built to it, making two rooms in all, and there our first two children were born."

It was about this time that the human family came very near to suffering a great disaster, for the young surgeon who was soon to startle the world with his discoveries was about to abandon the profession. He said of himself: "I am an example of a man who never achieved the object of his early ambition. My successes have been in a direction that I never dreamed of at the start. I had no particular interest in my profession at the beginning, but I studied away at it and at the end of five years had become quite a respectable physician and a tolerably successful one. I never dreamed of making other than a local reputation, and was ready to take up anything that offered to hold out an inducement of fortune, because I knew I could never make a fortune out of the practice of medicine." It was at this time that Dr. Sims received a letter from a gentleman in Philadelphia, who wrote that some capitalists had offered him the credit of $100,000 in Philadelphia, if he would take a stock of clothing, move to Vicksburg, and set up a large clothing house. He offered him a half-partnership if he would quit the practice of medicine and join in this enterprise. The offer was accepted quickly. The little log cabin with two rooms and the piece of ground was sold for $400, but just as he was about to leave for Vicksburg, a letter came stating that the capitalists had backed out at the last moment, and the Vicksburg enterprise was ended. The routine life of the country practitioner was resumed. He made his visits through his own and the adjoining counties with his medical saddle-bags, his dog and gun, and said he "never made a visit in the day-time that he did not succeed in bagging some game."

He continued in this easy country life until 1840, when he was stricken down with malarial fever, which continued so persistently that out of sheer desperation he gave up his country home and practice and moved to Montgomery, where he thought it would be more healthy. It seems that about this time he concluded that there was more in medicine than the saddle-bags and dog and gun, for he said, "When I went to Montgomery, I gave my dog away and sold my gun. I determined to devote myself henceforth entirely to my profession."

While in Montgomery, between the years 1840–45, he built up an extensive practice, did all kinds of general surgery, successfully operated on club-foot, strabismus, hare-lip, cleft palate, and practically all the major amputations. I have taken pains to look over the current medical periodicals of that day and time, and have been surprised at the magnitude of some of the work he did. In the *American Journal of the Medical Sciences* for April, 1847, I find a detailed account of the "Removal of the Superior Maxilla for Tumor of the Antrum; Apparent Cure; Return of the Disease; Second Operation; Sequel," by J. Marion Sims, M.D., of Montgomery, Ala. Every surgeon knows that this is one of the most formidable operations, even with all the accessories of modern surgery, and, remember, this was done in times when there were no anæsthetics, which makes it all the more wonderful. It is described as the process of Warren and Velpeau. The operation was so extensive that the origin of the inferior oblique was divided, and the contents of the socket (orbital cavity) separated from the orbital plates of the maxilla and malar bones. Further on, the only remaining bony attachment was the pterygoid process of the sphenoid bone, which was separated. The diseased mass being then movable started slightly downward, exposing to view the second branch of the fifth pair of nerves, just as it entered the infra-orbital canal, when it was easily divided, producing excessive but momentary pain. The disease returned on May 24th, four months later, and the operation was repeated. He says: "The patient bore the operation for the greater part of the time with wonderful fortitude, but at the close his strength was almost exhausted, and he would cry out in the bitterest agony,

'Oh, how long, how long will it last!' And it lasted, I am sorry to say, one hour and twenty-nine minutes."

In the same journal for the month of October, 1847, I also find the report of a case of "Osteo-Sarcoma of the Lower Jaw; Removal of the Body of the Bone without External Mutilation," by J. Marion Sims, M.D., of Montgomery, Ala. In this case the operation was done from within the mouth. The soft parts were divided with the scalpel and the bone sawed in two with the chain-saw above the angle and at the symphysis in front. This patient recovered. In conclusion the operator says:

"There are several considerations to recommend this operation in preference to the usual one with its extensive incisions: 1. There is no extensive mutilation. 2. As the third branch of the fifth pair of nerves was divided at the outset of the operation, its subsequent stages were comparatively free from pain. 3. As no important blood-vessels are cut, no ligatures are required. (In this case it was my fault that the left facial artery was wounded.) 4. There is no trouble with the after-treatment. 5. It is just as easy of performance as the old operation."

This was certainly heroic surgery. I have myself, on one occasion, removed the entire half of the lower jaw from within the mouth without an external incision, disarticulating the temporo-maxillary joint, but I am sure that the difficulties without an anæsthetic must have been much greater than with it.

It was also about this time that he wrote his first observations upon "trismus nascentium" and the compression of the brain due to overlapping of the cranial bones. The first child with this trouble, to which he was called, died and, with true scientific instinct, he insisted upon and held a post-mortem examination. He found the cranial bones over-lapping and making mechanical pressure on the brain, and a clot of blood, due to extravasation between the spinal cord and its membranes. The profession is entirely familiar with his contributions on this important subject. He considered it his first great discovery in medicine. Others were soon to follow. His reputation had so extended that difficult and chronic cases began to be brought to his notice, and among these were a number of vesico-vaginal fistulæ; but, after a careful study of these cases, he despaired of ever being able to cure them; and the last three or four who had been brought to him, he had directed to their homes, as he could do nothing for them. But they were not to go. An incident, trivial in itself, occurred that day that determined his career and laid the corner-stone to that great temple of gynecology of which Marion Sims was architect and builder.

Victor Hugo, in his wonderful description of the battle of Waterloo, says the fate of that battle, and, probably of the world, turned on the accidental meeting with a peasant lad, who was minding some cattle and who, seeing the head of the allied army moving in the wrong direction, said to the leader, "Don't go that way, go this!" I have often wondered over what womankind would have suffered through all these years, had not that immortal Alabama hog laid itself down to sleep in that particular fence corner by the roadside, on that eventful day in June, 1845. The animal, awakened and frightened by the nearness of a lady on horseback, started up with considerable noise, the horse sprang from under its rider, who struck heavily upon her pelvis. She was carried to her home, and when Dr. Sims reached her, she complained of great pain in her back and pelvic organs. A careful examination revealed a backward displacement of the uterus. Placing her in the genu-pectoral position and in the further manipulation to replace the uterus, the accidental advent of atmospheric air dilated the cavity, and, at the same time suddenly restored the uterus to its normal position. The quick eye of genius at once took in the entire significance of this accident. Almost overcome with the discovery, he said to himself, "If I can accomplish this by the use of atmospheric pressure, why can I not employ the same agency in attempting to relieve these incurable cases of vesico-vaginal fistula?" Enthused with this idea, he hurried back to his office, only stopping at a hardware store on the way to buy a large pewter spoon, and from this was evolved at once the speculum which bears the name of its inventor, and of which the illustrious Emmet says, "From the beginning of time to the present, I believe that the human race has not been benefited to the same extent and in a like period by the introduction of any other surgical instrument. Those who did not fully appreciate the value of the speculum itself, have been benefited indirectly to an extent they little realize, for the instrument in the hands of others has probably advanced the knowledge of the diseases of women to an extent which could not have been done for a hundred years or more without it."

It is unnecessary to say that the patients with the vesico-vaginal fistulæ were not sent away. Poor in pocket as in health, Dr. Sims had erected in one corner of his premises in Montgomery a hospital which contained sixteen beds, and these he filled with patients suffering from this most loathsome of all human maladies. He even boarded them without charge, and scoured the country for others and brought them to his hospital at his own expense. It took him three months to have the necessary instruments made and to have everything ready for the operations. But, alas, the speculum was not all that was necessary to success. Operation after operation was done with the ordinary silk sutures, but no complete cure was effected. He says, "My operations all failed so far as positive cure was concerned." This went on not for one year, but for four years. As a matter of course, it was an enormous tax for a young doctor to carry. At first he had the help of others, but after two or three years of constant failure and fruitless effort, his friends lost confidence in the success of his efforts, and it was with difficulty that he could get any physician to help him with his operations. His patients, however, believed in him and stayed with him. He had concluded that the suture material was the cause of disaster. He thought if he could use a metal suture he might succeed. He tried the lead suture introduced by Mettauer, of Virginia, but that failed. In the midst of his great perplexity, one day, in walking from his residence to his office, he noticed on the sidewalk a little bit of brass wire which had been attached to a pair of suspenders to act as a spring or elastic; it was very fine and seemed to be just what he needed. Taking this to a silversmith in the city, he asked him if he could not make him some silver wire of the same size. When this was received from the jeweller, he went to work at the operation again. The famous Anarcha was chosen, and this was the thirtieth operation he had performed upon her. He says that "with palpitating heart and anxious mind, at the end of the week I looked at the wound for the first time, and it had entirely healed without redness or inflammation, and Anarcha was cured!" In two weeks more Lucy and Betsey, two other patients upon whom he had operated several times, were also cured. He said, "I realized then, at last, that my efforts had been blessed with success, and that I had, perhaps, made one of the most important discoveries of the age for the relief of suffering humanity."

If this is not a picture which attracts the sympathy and interest of the civilized world, I cannot imagine one.

But this was not all. His first cases were cured in 1849. Under the excitement and tension which he had suffered during these long, anxious, weary years, no sooner was his success achieved than his constitution gave way, and his health failed him entirely. He was taken with a severe, painful ailment, from which

he suffered for many years, and which rendered him unfit for professional work. Conscious of the value of the discoveries he had made to the profession and to mankind at large, it is not surprising that he was no longer content, although an invalid, to remain quietly in a small town in Alabama, so he concluded to remove to New York City, in the hope of calling the attention of the profession to his work. He reached New York in 1853, where, after many vicissitudes of fortune, he triumphed at last in founding the Woman's Hospital of the State of New York, an institution which was the centre for the dissemination of all that was new and best in gynecology, and which to-day stands as one of the monuments to the memory of its immortal founder.

It would be painful, and it is unnecessary, to refer to the opposition with which he met from the leaders of the profession. It is comforting to know that the rank and file were with him heart and hand. It is more comforting to remember that so complete was his recognition and his triumph, that those who most opposed him at first were compelled to acknowledge his superior ability, and to recognize the high position he attained. By 1861 his methods were fully established in his own country, and were not unknown in Europe, but Marion Sims was not a man to sit quietly in his own land and allow the work that he had done to disseminate itself through civilized lands by the slow process of medical periodicals. He went abroad and arrived in Paris, then the centre of surgical science in Europe. There he went to the leading hospital surgeons, told them what he had done, what he could do, and asked them to furnish him with the patients, and he would show them how to cure a disease up to that time incurable. Case after case was operated upon by him and each was cured, until his presence in Paris created a *furor* in hospital circles. So great was the reputation he had achieved that he was called to all parts of Europe, not only to perform this special operation, but in consultation and to treat various maladies in the department of gynecology. In fact, it was but a short while until he had a most lucrative practice among the best people of the European capital.

It is known to you that Dr. Sims performed the operation of cholecystotomy without knowing it had ever been done, and, in fact, he was only preceded by another American, Dr. Bobbs, of Indiana, a few months. There can be no doubt but that the establishment of this great operation was due to its advocacy by so distinguished a surgeon, with whom it was original.

Outside of his contribution to the subject of gynecology, probably the most important forecast of the surgery of the future, and one designed to rank higher in professional literature, are his remarks on the treatment of gunshot wounds of the abdomen in relation to modern peritoneal surgery, which were published, only a little while before his death, in the *British Medical Journal*, a synopsis of which was read before the New York Academy of Medicine, on October 6, 1881.

After quoting the fatal statistics of Otis, recorded so faithfully in the "Medical and Surgical History of the Rebellion," quoting also the experience of some of the great surgeons of our day, men of large experience in the treatment of peritoneal wounds—the grand old teacher in surgery, Samuel D. Gross, and his scarcely less distinguished son; Pirogoff, in the campaign in the Caucasus; Lohmeyer, in the Danish War; Legouest, in the Crimea; Surgeon-General Longmore, of the British Army; Dr. J. S. Billings; Dr. H. S. Hewitt; Dr. N. S. Lincoln; Professor Hunter McGuire, who wrote, "Penetrating wounds of the belly are nearly all fatal, and we must look for some other means of saving life than we know of at present. If the shock, thermometer, etc., indicate wound of the bowel, cut down and sew it up. You say it is desperate. I answer that the condition justifies it. We must do something more than give opium and use poultices."

After quoting all these eminent authorities, and from his own experience as surgeon-in-chief of the Anglo-American Ambulance Corps in the Franco-Prussian War, Dr. Sims concludes:

"1. The external wound or wounds should be enlarged, as soon as possible, sufficiently to ascertain the whole extent of the injuries inflicted. 2. These should be remedied by suturing the wounded intestine and ligating bleeding vessels. 3. Diligent search should be made for extravasated matter, and the peritoneal cavity should be thoroughly cleansed of all foreign matter, either fecal or bloody, before closing the external wound. 4. The surgeon must judge whether the case requires drainage or not. Generally it will not if these rules be strictly carried out. We must not forget that fecal effusion has taken place after the abdomen has been sutured, simply because the surgeon fails to find and suture all the lesions. We must not forget that fatal results have followed enterorrhaphy when thoroughly done, simply because fecal effusion had taken place before the intestine was sutured, and had been left in the peritoneal cavity, producing death as speedily and certainly as if the lesion had not been found and closed. Therefore, it is essential not only to find all lesions and remedy them, but to be sure that we leave the whole cavity of the peritoneum perfectly clean."

It may safely be said that this paper by Marion Sims ("The Careful Aseptic Invasion of the Peritoneal Cavity Not Only for the Arrest of Hemorrhage, the Suture of Intestinal Wounds, and the Cleansing of the Peritoneal Cavity, but for all Intra-peritoneal Conditions") was the starting point in this new field of surgery. It is true that other surgeons, many years before this date, had opened the peritoneal cavity and sutured intestinal wounds. Dr. Newell, of New Brunswick, N. J., as early as 1847 had made "an abdominal incision, and sutured the intestine in a case of gunshot wound of the intestine, cleansed the cavity, closed the wound, and the patient recovered." Our own Southern surgeon, Kinloch, opened the abdomen in June, 1863, excised an inch of the upper portion of the ilium and two inches of the lower portion, near a fistulous opening caused by a gunshot wound received in October, 1862. In 1882 he performed laparotomy, and sutured five pistol-shot wounds in the mesentery and intestine; but two other wounds escaped observation and the patient died in thirty-two hours.

But the operation was not accepted until, accepting the conclusions of Dr. Sims, our distinguished surgeon, Dr. W. T. Bull, of New York, in a successful case of intestinal suture for gunshot wound, presented before the New York Surgical Society on January 27, 1885, demonstrated the value of exploration of the abdominal cavity under such circumstances beyond all controversy, and from that date the operation has been frequently and successfully performed.

It is interesting, in this address, to consider for a few moments how the advanced position assumed by Dr. Sims was looked upon at that time. Dr. James R. Wood, who was then without doubt the most prominent general surgeon in New York City, and one of the most prominent in the United States, in the discussion which followed the reading of the paper said:

"I dislike to speak after the king. I do not like to take issue with him. He has spoken as a surgeon who has had to do with the female organs of generation and others in that region of the body, and which he has treated so wonderfully well, but I am loath to indorse all my dear friend, Dr. Sims, has said. I think that a surgeon should be careful how he invades the peritoneal cavity, unless, as my friend, Dr. Sayre, has said, he has made out an accurate diagnosis, and to do this, especially in gunshot wounds of this cavity, is almost impossible. I have during my professional life seen a great many gunshot wounds of the abdomen, of the pelvis, of the thorax, of all the great cavities of the body, and early in my professional days I searched for

bullets as I should not have done. . . . But suppose we cut into the cavity of the peritoneum and we find blood in large quantity; the patient is still laboring under shock, for in penetrating wounds of all serious character, especially gunshot wounds, the shock which follows lasts for a long time. In the celebrated case of Fisk the patient never came out from the shock. Suppose we cut into the cavity of the peritoneum while the man is suffering from shock, what becomes of him? He dies, and probably will do so while we are cleansing the cavity. I am simply setting forth surgical facts, and we must look them squarely in the face. We have, besides, to look to the reputation of the profession of which we are members. If the patient dies while the surgeon is operating and the blood is flowing freely, what will be the effect produced upon the community? Again, suppose we proceed to cut out the lacerated portion, as Bilroth did the diseased portion in cancer of the pylorus, which in my opinion is a dreadful operation to perform. We will sew up the opening, but the contents will escape into the peritoneal cavity and also down into the pelvis, and if we now make a free incision in the abdominal walls for the purpose of cleansing this cavity, I believe we should get ourselves in trouble. Most of these patients die in shock. They do not live long enough to get blood-poisoning. But we are told that we must not wait lest this bloody serum reaches the peritoneal cavity and gives rise to blood-poisoning. Yet, if we sew up the opening in the stomach, cleanse the cavity of the peritoneum, the patient does not come out of shock and dies. . . .

"While I should be cautious about opening the peritoneal cavity, if I found that this cavity had been penetrated I should keep the opening patent. So you see that it is my belief that some of the surgeons here are not altogether behind the times, although the gynecologists are getting all the glory. I do not believe, however, that you, sir (Dr. Sims), get half as much as you deserve. This is a great subject, too great to be exhausted in one evening's discussion. I thank you, sir, for opening our eyes. You have said what I never before heard, and I thank you and those whom you represent for your able paper, for what you have said and so well said; but to the gynecologists does not belong all the glory."

The distinguished editor of the MEDICAL RECORD, Dr. George F. Shrady, himself an authority in surgery, says: "Rarely, even before the New York Academy of Medicine, is a subject brought up for discussion which commands so much interest and affords so much practical instruction as that treated of in the paper of Dr. Sims. The subject is one which of late has claimed the attention of the leading surgeons throughout the world, and its careful study has invited the performance of operations in abdominal surgery which have been daring, brilliant, and, in a goodly number of cases, successful. While, however, there is danger that this craze for bold and startling operations upon the peritoneal cavity may be carried to extreme, it is safe to say that by a more thorough mastery of the principles that underlie success, even in the most daring surgical procedures on the abdomen, much substantial progress is to be made. . . . The author of the paper, with the foresight and prerogative of an acknowledged leader in his specialty, prospects possibilities and anticipates results which are salient points for profitable discussion. At the same time, they challenge in a direct and practical manner the calm and stern judgment of the clinical experience of surgeons in general. From his stand-point, it is safe to assert that Dr. Sims cannot go too far in his advocacy of abdominal section for all injuries connected with the peritoneal cavity. But it is fortunate, however, that the profession at large is not yet prepared to accept his views *in toto*."

When President Garfield was shot, and he was consulted, in Paris, as to his opinion in regard to the proper treatment, he telegraphed: "If the President has recovered from the shock, and if there is undoubted evidence that the ball has traversed the peritoneal cavity, his only safety is in opening the abdomen, clearing out the peritoneal cavity, tying bleeding vessels, suturing wounded intestine, and treating the case as we would after ovariotomy, using drainage or not as circumstances require."

And in his eloquent and at times aggressive way, he reiterated, "This is what I said then; this is what I say now, and what I am able to defend on the broad principles so well proved in peritoneal surgery. Shall we sit idly by and see any man, whether he be president or peasant, certainly die with a gunshot through his intestines without an effort to save life?

"If the facts now presented to you on this subject be accepted, I think we can logically draw the following conclusions: 1. Death from septicæmia is the general result of gunshot and other wounds of the peritoneal cavity. 2. Gunshot wounds of the pelvic cavity recover because of natural drainage by the track of the ball carrying off poisonous effusions. 3. Gunshot wounds of the peritoneal cavity die because there is no natural drainage, and the poisonous effusions and bloody fluid flow into the pelvic cavity and are there absorbed, producing septicæmia and death. To evacuate this bloody fluid and other effusions, it is necessary to enlarge the peritoneal wound, clear out the peritoneal cavity, suture wounded intestine, tie bleeding vessels, using drainage or not, according to circumstances."

After this memorable meeting adjourned Dr. Sims and Dr. James R. Wood were walking, arm in arm, on their way home, when Dr. Wood remarked to Dr. Sims: "Sims, that was a great paper you read to-night. You gynecologists deserve a great deal of credit for the work you are doing, but you are going too far." Dr. Sims replied, "Well, Jimmy" (that was his pet name for Dr. Wood), "you and I are getting old, and we may not live to see it; but what I have said to-night will be accepted and will be the practice in time."

In 1894, a year ago, there was unveiled in Bryant Park, New York City, a statue in bronze of this immortal man. It stands erect and proud, a life-like image of the great teacher, the spontaneous gift from his brothers in the profession throughout the civilized world, and from many of the unfortunate beings his genius and skill had benefited. In brief yet comprehensive phraseology, the inscription tells the story of his career:

J. MARION SIMS, M.D., LL.D.,
BORN IN SOUTH CAROLINA, 1813. DIED IN NEW YORK CITY IN 1883.
SURGEON AND PHILANTHROPIST.
FOUNDER OF THE WOMAN'S HOSPITAL OF THE STATE OF NEW YORK.
HIS BRILLIANT ACHIEVEMENTS CARRIED THE FAME OF AMERICAN SURGERY
THROUGHOUT THE CIVILIZED WORLD.
IN RECOGNITION OF HIS SERVICES IN THE CAUSE OF SCIENCE AND MANKIND
HE RECEIVED THE HIGHEST HONORS IN THE GIFT OF HIS COUNTRYMEN
AND DECORATIONS FROM THE GOVERNMENTS OF FRANCE, PORTUGAL, SPAIN, BELGIUM, AND ITALY.

On the reverse:

PRESENTED
TO THE CITY OF NEW YORK
BY
HIS PROFESSIONAL FRIENDS,
LOVING PATIENTS,
AND
MANY ADMIRERS
THROUGHOUT THE WORLD.

Marion Sims possessed a striking personality. With all his long and bitter struggle with poverty and for professional recognition, and in his early days for health and life itself, time had dealt gently with his form and face, whereon Nature had set in unmistakable lines the stamp of greatness. Although he had rounded well the years allotted by the Psalmist, his

step was still quick and firm, his carriage erect, dignified, and graceful. The frosts of age had not tinged the rich abundance of his dark-brown hair, which fell straight back from off the massive forehead, for the ever-active brain and the deep-seated, searching eyes of brown, asked always for the light! The brows were arched and unusually heavy and prominent; the nose beautifully proportioned and of Grecian type; the mouth well shaped, lips usually compressed, which, with the prominent chin, bespoke courage and firmness of purpose. His face was oval, clean-shaven and smooth, and the usual expression was of almost womanly sweetness, yet it was quick to vary in harmony with whatever emotion was predominant. Away from excitement and in the home-life, his expression and actions were almost boyish. He never seemed to have forgotten that he was once a boy, and he would throw himself into a household frolic with all the abandon of his early days. He was courageous to a degree, and, although he rarely lost control of his temper, yet he was at times imperious and aggressive. When occasion demanded he was a good fighter, and fought his enemies with right good will; but he was quick to forgive, and just before his death he said to me one day, "I have forgiven all who ever did me wrong, with one exception." As said of him by a gifted orator, he possessed qualities ideal in the make-up of a truly great surgeon, "the brain of an Apollo, the heart of a lion, the eye of an eagle, and the hand of a woman."

If generosity be a fault, it was his besetting sin, and that was all the sin I deemed him capable of. In literature, law, or politics, he would have vaulted into prominence by reason of his ability. Dr. Wesley Carpenter wrote of him:

"The ease with which he described the details of a protracted and delicate operation, and the comprehensiveness of the description, is one of the most, if not the most, complete contribution which has ever graced the transactions of this Society, and may be followed as a most complete pattern by all medical writers. Warming with his subject, he closed his article with a pen picture of Mr. Keith, which for simplicity, faithfulness of description, and elegance of diction, has not been surpassed. So marvellously complete was it that when the writer of this sketch visited Edinburgh, in the following summer, he said to himself, 'There is Thomas Keith,' as a carriage passed him and stopped on the opposite side of St. George's Square." It was Thomas Keith.

As to his eloquence, no better test could have been made than in the impromptu speech on board the steamer Atlantic, July 4, 1871, to the toast, "The Fourth of July." It is too long to reproduce here, but it was such an eloquent and earnest defence of the South, such a clear presentation of the principles which had actuated Southern statesmen in exercising the right of secession, such a dignified and powerful resentment of the humiliating conditions which had been forced upon the South in the period of reconstruction, and, with all, such a truthful criticism on some of the weaknesses of his own people, that it is well worth preservation.

He went on to say, "It was said this morning by my friend, Mr. George Francis Train, the eloquent orator, that the Fourth of July was annulled by the bombardment of Fort Sumter. Sir, the thunders of Fort Sumter were but the premonitory throes of a labor that ended in the new birth of one of the mightiest nations of the earth, for we can now truly say that we have been born again. If you applaud so vociferously that sentiment from a citizen of New York, let me tell you that this is from the heart of a red Southerner, for I was born in South Carolina, was wholly educated there, and lived there till I was a full-grown man; that I was contemporary with Davis, and Stephens, and Toombs; that my political teachers were Thomas Cooper and Turnbull, Mr. Duffie and the immortal Calhoun; that I was for years an intimate personal as well as political friend of Yancey; that in later years I was in the kindest and most sympathetic relations with Mason and Slidell; and that I sympathized heart and soul with the South in what you miscall a rebellion.

"Sir, we of the South are a congenial people. Have you of the North been magnanimous or generous to a fallen foe? to a prostrate brother? No, sir, you have ruled us with a tyrant power. You have been merciless and vindictive. You have forced upon us conditions humiliating to our pride and subversive to our rights. You have confiscated our property and disfranchised our best citizens. You have robbed us of civil liberty, and degraded us politically below the level of the meanest slave that ever wore a shackle. But, if I reproach you with injustice, and injury, and wrong-doing, don't for a moment suppose that I justify the South in the course she has pursued since the War. In her it is folly to talk of the lost cause. It is puerile to sulk and to play the part of abstention. Let her citizens now show to the world that they are men, that they can understand the great problems now before them, that they can rise and prove themselves equal to the emergencies of the time. Let them, like sensible, practical, honest men, accept the issues of the war, the fifteenth amendment and all. Then shall we have universal amnesty, and equal rights under the Constitution, not as it was, but as it is."

The people of the South later learned the value of this counsel, and, resolute in peace as in war, within two decades were in control of the Government by which they had been crushed. In politics as in surgery, he was ever in advance of his age.

Toward the higher and purer civilization, the progress of man is slow. As yet the shadows of barbarism linger about him. His heroes are the destroyers, the Cæsars and Napoleons, who covered the earth with ruin and buried beneath it countless lives, sacrificed upon the altar of personal ambition. But the time must come when those whose genius and works give life and health and happiness to the world will be first in the heart of man. In this purer temple of fame, along with those of Jenner, Ephraim McDowell, Morton, Lister, Pasteur, and others, generations yet unborn shall read the name of Marion Sims.

Medico-Legal Points in Regard to Infanticide.—1. It is possible for a woman to be unconsciously delivered, but not likely that she should go through the full term without being conscious of her pregnancy. 2. If the child was suddenly and unexpectedly born, and dropped accidentally on the floor or into a water-closet vault, the cord would be found torn and broken off and untied, and not cut and tied in the ordinary manner. 3. In order that a child shall be live-born within the meaning of the law, it must show some sign of life after being completely separated from the mother. 4. If a mother prepare no clothing for her child, and the child be found dead shortly after birth, this would be considered very strong evidence that the woman intended to destroy it. 5. It is possible that a child may be born living, yet so badly deformed as to render the prolongation of life, after the separation of the cord, impossible. 6. If the child has food partly digested in the stomach and intestines, and the meconium all passed away, the child has lived at least twenty-four hours, and has been fed. 7. If the septum ovale of the heart is found closed, making a four-cavity heart, the child has lived as much as four days. 8. If the navel cord has withered and come away, and the navel healed completely, the child has lived as long as a week. 9. It is a fact worthy of remembrance, that a child will stand a great amount of exposure, and that they have been found living for days after neglect, under the most terrible circumstances.—*Medical Summary.*

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

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THE TREATMENT OF OBSTINATE COUGHS.

IN a recent number of the *American Journal of the Medical Sciences* Dr. Beverley Robinson, in his usual convincing and practical way, discusses the subject of the cause and treatment of certain kinds of cough. Dr. Robinson states that while the great majority of coughs are symptomatic of conditions that are easily recognized and easily relieved, yet there remains a certain remnant which are baffling, obscure, and obstinate. It is to these various obscurer types of cough that he directs attention. Among the cases in which the general practitioner is often at fault he places the cough which is dependent upon an engorged lingual tonsil. Here there is no chest affection, no apparent throat trouble sufficient to cause the distressing symptom. Anodynes fail to afford relief, and sprays and vapors are equally inefficient. Along with the cough there may be a continuous desire to swallow, and the effort of swallowing may be somewhat disagreeable. There may also be a constant feeling of constriction, which increases when the patient lies down at night. Such patients are sometimes looked upon as phthisical, and sometimes as hysterical. A laryngoscopic examination shows that the fossa between the epiglottis and the base of the tongue is more or less filled up and distended by a mass of lymphoid tissue. Sometimes large veins pass over the surface, and from these occasionally bleeding occurs. The causes of the enlargement are menstrual derangement, continual constipation, and an underlying gouty condition, to which microbic infection is added. This form of cough is relieved by the internal use of salicylates and antirheumatic drugs, with local applications. Among these we have blisters, forms of galvano-cautery, and the compound tincture of iodine. The cautery is not always satisfactory on account of the secondary inflammation it causes, and the frequent application of iodine is often sufficient. The removal of a tonsil by the guillotine is not recommended, as a rule.

Another form of obstinate cough is seen, most frequently in young children. It occurs mostly at night, and is due to the dropping of thick mucus or muco-pus from the naso-pharynx upon or into the larynx. In other cases it is due to an irritation of the posterior turbinated bodies. Removal of the nasal tonsil by scraping with the finger-nail, and the application of the various antiseptic and astringent substances, relieves this condition. Such children, however, in addition, need to receive general treatment. They should receive a light supper, and the bowels should be kept in good condition.

In connection with this subject the writer speaks of coughs produced by reflex irritation from sensitive areas in the nose and pharynx. All local applications, at times, he says, are futile in such cases, and of the internal remedies which do good he prefers codeia and terpine hydrate.

When the cough, as is sometimes the case, comes from aural irritation, the removal of wax and cleansing of the ear is often sufficient to relieve it. Repeated applications of alcohol, or a mild solution of bichloride, are recommended over the sensitive canal.

Dr. Robinson states that the mucous membrane of the vocal cords may be, objectively, in a morbid condition, and yet have its apparently physiological functions; but, on the other hand, there is sometimes, with only the same amount of objective disorder, a great deal of coughing. Some of these cases are benefited by changing from one place to another, and especially to the air of pine forests. Trout fishing, or a visit to some sulphur spring, also are of help. Such patients are usually lithæmic and need to be given salicylates and antirheumatic drugs. Indeed, Dr. Robinson lays very considerable stress throughout his paper upon the importance of studying the general condition of the patient, a thing which we have heard that many laryngologists ignore. He especially finds that a lithæmic or gouty condition underlies a good many laryngeal affections.

The suggestions which he makes concerning these frequently annoying forms of cough are very practical and timely.

MERALGIA PARÆSTHETICA.

DR. WLADIMIR K. ROTH, a professor in the University of Moscow, sends us a short monograph, entitled "Meralgia Paræsthetica." The term meralgia means pain in the thigh, and the title of the professor's paper might be translated into English under the name of "paræsthetic neuralgia of the thigh." The author has observed a large number of patients who suffered from symptoms of a quite definite and fixed character, to which the above name he thinks can be given. The symptoms consist of a constant burning pain on the outer side of the thigh, following mainly the distribution of the external cutaneous femoral nerve. The pain sensation is not always marked, and indeed, in some patients the sensory trouble consists only in a feeling of numbness and discomfort, or slight burning or prickling, or perhaps a feeling of cold. Severe pains occur only on standing or walking, but they then sometimes increase so much that the patient is obliged to keep perfectly quiet. Rest of the body, with slight flexion of the leg, relieves the distress very much. Objectively, one can sometimes recognize a diminution of sensation, or slight anæsthesia to touch, and pain. The limits of the sensory disturbance generally fall in closely with the distribution of the external or lateral cutaneous nerve of the hip, which comes from the second lumbar nerve. Rarely, the trouble extends upward and

downward somewhat. Usually only one side is affected, but this is not an invariable rule. There are not often any disturbances of an atrophic or vaso-motor character. The disease develops slowly, and its course is usually very chronic, though sometimes a rapid cure is effected. As to the cause of the trouble, the male sex is more frequently affected than the female, out of fourteen cases there having been only two women. The patients vary in age from thirty to fifty. Persons who lead a sedentary life are more disposed to the trouble, and Professor Roth has never met with a case in the working classes. In about half of the patients excessive use of alcohol was admitted. The previous existence of syphilis and acute infectious diseases, such as influenza and typhoid, were observed in some of the cases. The exciting cause was rarely found; in one instance only the trouble began directly after exposure to cold; in two others injury was the cause. Professor Roth thinks that the anatomical change is a slight degree of perineuritis of the lateral cutaneous nerve, and he made a number of examinations upon the cadaver in order to determine whether there were any mechanical conditions which would explain the fact that this particular nerve was affected, rather than other branches of the lumbar or sacral plexus. He found that there were four places in the course of the nerve which were more or less under the influence of disturbing mechanical causes: First, at the exit under the psoas muscle; second, at the point of bending directly under the antero-superior spinous process of the ilium; third, at the fibrous canal in the fascia lata femoris, which surrounds the nerve; and fourth, at the point of exit from the canal. The treatment of the trouble does not receive very much attention from our author. He prescribes blisters, local massage, regulation of the diet, and attention to the bowels. In two cases rapid healing followed the use of galvanization of the nerve. We suspect that if Professor Roth had looked up the bibliography of the neuralgias of the lumbar nerves, he would have found that his peculiar stereotyped set of symptoms had been recognized and more or less described before; nevertheless, the subject is one which he has made interesting by his own special and careful researches.

BOGUS MEDICAL JOURNALISM.

While the Medical Record hails with satisfaction the advent of any new medical journal which appears to have a legitimate sphere, and always extends to it such encouragement as lies in its way, it seems right that a word of condemnation should be uttered respecting the too numerous periodicals which are launched upon the profession without any reasonable necessity or justification. Not a few are conceived solely by advertising agents—men who have neither interest nor sympathy with the profession save as they can make it a means of livelihood for themselves—and published at more or less nominal prices in anticipation of a circulation which will enable them to obtain the advertisements upon which they depend for their profits.

It is unfortunate that there are always medical gentlemen to be found who, for a small sum, are willing to "run" these journals. Again, it not infrequently happens that a medical journal is started by some doctor who is desirous of exploiting his own abilities and skill, and at the same time add to his library such books as he may be able to induce publishers to send to it for "review." We know of journals published in this country, by individuals and by associations of physicians, whose almost sole *raison d'être* is the exchanges and editorial copies of books which they obtain, without which they would cease to exist, and to obtain which they must always speak of them in terms of commendation. The publishers, not the subscribers, must be considered first. Medical journals of their class are a delusion and a snare to the profession, and an injury to all rightly conceived and conducted periodicals.

As we have often stated, we believe in local medical journals and their generous support by their legitimate constituency; and we cannot but regret that they should have to compete with journals such as we have mentioned. Of course, there is no way to prevent the publication of these illegitimate journals, and the only recourse in the hand of the profession is, as far as possible, to patronize only those of whose origin and management they have some personal knowledge. In other words, avoid subscribing to medical journals which have not good and well-known pedigrees on the sides of both publisher and editor.

MONEY AND UNCLEAN HANDS.

Money is proverbially filthy, but whether constant handling of small coin is accountable for the disgustingly grimy condition of the hands of street-car conductors is questionable. It is certain, however, that, as a class, their hands are conspicuously unclean. Many passengers may be observed, who, in paying their fare, avoid touching them as they would the plague.

It would probably be somewhat ahead of the times for boards of health to impose personal cleanliness upon men who come in such close contact with the public, but the superintendents of all railway lines might be supposed to take a little pride in the neat and cleanly condition of their employees. A small outlay for soap, and an insistence upon its frequent use, would add much to the comfort of every community.

A Medical Bicycle Specialist.—A correspondent sends the following copy of an alleged advertisement:

"New York, September 1, 1895.

"Dr. James Q. Smith begs to announce that he makes a specialty of giving advice regarding the medical and surgical diseases associated with the use of the bicycle. He is also prepared to make physical examinations of men, women, and children, and prescribe for them the kind of bicycle, and the amount of bicycle exercise adapted to their constitution. The doctor will also provide, to those who desire it, suitable wheels, and arrange the gearing, seats, and handles so that the machine will accommodate itself to the physiological peculiarities of each patient. Dr. Smith has had a large experience in this specialty, and confines himself to it."

News of the Week.

It is This Way.—The members of the old staff of the city hospitals were not put out, but only a few were put back in the vacant places.

The National Guard's Medical Department.—The special committee of surgeons appointed by Surgeon-General Terry, of the National Guard, to discuss the needs of its medical department and make suggestions accordingly, met here yesterday. The committee decided not to concur in a recommendation that the medical corps be made a separate organization. It was decided to increase the number in the hospital corps to twelve for each regiment, six for battalions, and two for separate companies. Of the twelve in the regimental corps three are to rank as corporals, and two of the battalion corps likewise. It was decided to recommend that each member of the corps be provided with an instrument case and revolver, and each corps with a surgical and medical outfit. It was voted that to procure competent hospital stewards they be paid $50 a year in addition to pay for duty.

A Correction.—Dr. T. G. Davis, of Bridgeton, N. J., writes: "You made a misstatement when you said 'Germany has never ventured to erect a statue to Hahnemann.' There is one at Leipsic, in the public park, or was in 1891."

The Idaho Medical Society held its third annual meeting in Boise on September 9th, 10th, and 11th. There was a good attendance, and the meeting was a very successful one. The members of the society are making a gallant struggle for the passage of a law regulating the practice of medicine in that State. The law-makers have hitherto been deaf to their arguments, but the legislative committee of the society is persistent in its efforts, and all friends of higher medical education hope to see them successful with the next Legislature of 1896-97. The president of the society is Dr. W. D. Springer; the secretary, Dr. C. L. Sweet, both of Boise.

Legacies to Hospitals.—The late Samuel Inslee has left bequests of $5,000 each to the Manhattan Eye and Ear Hospital, and to the Sanitarium founded by Dr. E. L. Tradeau at Saranac Lake, N. Y.

Trouble with a Hospital Staff.—The members of the house-staff of the Lebanon Hospital, in the annexed district, have sent in their resignations. The resignation of house-staffs is generally due to some friction with the superintendent or head-nurse. In this case, we believe, it is the superintendent.

The Author of "Yankee Doodle."—It is not generally known probably that the author of that stirring ballad, "Yankee Doodle," was a young surgeon of Albany, named Dr. Richard Shuckburg. "Yankee Doodle" has probably had more influence upon the course of public affairs than many more ambitious pieces of literature.

Central Park Ambulance.—The ambulance service in Central Park has been abolished by the Park Commissioners for economical reasons. The service will be supplied hereafter by the ambulances of the general hospitals.

Golfer's Elbow.—Every sport has its special disease, and it seems that the pastime of golfing, which is now being very enthusiastically adopted by the Americans, has a little pathological attachment. This is best described by printing the letter from a sufferer, written to *The Field*. The writer says: "I am a sufferer from what is, I suppose, 'golfer's elbow.' The point of the funny bone is very sore, and on bending the elbow to and fro a tendon seems to slip in and out of its place with a sort of jerk. I have not been able to play for the last two months. If anyone could tell me of a remedy likely to be efficacious I should be much obliged."

Drunkards in America.—The total number of drunkards in this country is modestly estimated by the *Quarterly Journal of Inebriety* to be 1,600,000 persons. As there are about twenty-five millions of adults in this country, this means that one person out of every fifteen drinks intoxicating liquors to excess, that is to say, drinks to drunkenness, and may be, therefore, classed as more or less a drunkard. The journal thinks that this estimate is a very modest one, and rather under the mark than above it. Still people want saloons open seven days in the week.

New Scale of Fees for Medical Examiners.—One of the leading life insurance companies of this city and country has proposed the following schedule: The fees for examination for insurance of $3,000 or less is to be $3. Between $3,000 and $25,000 the fee is to be $5, and for sums above $25,000, $7.50. This is going to cut down the fees for examinations made by physicians, in country practice especially, about forty per cent., and the country doctor is protesting vigorously against the reduction. Such things, however, are matters of pure business, and if insurance companies can get good service for $3, there is no reason why they should pay $5. "Business is business."

An Honest Editor.—The editor of the *National Medical Review* remarks, "We can't discuss the question of free dispensaries, for we do not understand it." This state of mind is, perhaps, not unnatural, but the candor which accompanies it is certainly rare.

Another Post-graduate School.—A post-graduate school has recently been established in Washington, D. C. The prospectus states that there is no post-graduate school south of New York and Philadelphia and that a school such as they propose is very much needed. The faculty, as we find it given in the *National Medical Review*, contains some familiar names, including that of Dr. Samuel C. Burey, Dr. W. W. Johnston, and Dr. J. Ford Thompson.

A New Medical Journal.—The *Los Angeles Polyclinic* is a new medical monthly, published at Los Angeles, Cal., by Dr. J. F. T. Jenkins.

"Climate and Health" is the title of a publication issued by the United States Department of Agriculture. It is edited by Professor W. L. Moore, Chief of the Weather Bureau, and Dr. W. F. R. Phillips. It contains statistics, tables, and charts relating to atmos-

pheric pressure and temperature, humidity, rainfall, wind, sunshine, morbidity, mortality, etc., in the various States of the Union.

The Woman Who Did.—A young woman of London recently announced to her family and friends that she was going to live with a certain man, named Sullivan, without the preliminary formality of matrimony. Her parents protested and asserted that she was insane. Dr. Blandford, well-known as an alienist and man of high character, as well as learning, examined her and committed her to a private asylum. The newspapers took up the matter, the lunacy commissioners were forced to examine into the case, and the girl was released. We do not know the facts upon which Dr. Blandford based his opinion of insanity, but it seems extremely unlikely that a man of his position would make a mistake on such a matter. This girl, who is currently known as "the woman who did," has succeeded in making quite a noise in the world by her performance.

The Colorado State Board of Medical Examiners has passed a resolution, declaring that hereafter it will not recognize the diploma of any medical college that does not require an entrance examination and a four years' graded course of not less than seven months in each session. This seems to hit some of the numerous Denver medical colleges rather hard, and the Denver *Medical Times* makes a protest against the position thus taken. All the same, we think that the profession of Colorado will be the better off if the Board sticks by its resolution.

The Success of the London Hospital Sunday Fund.—For the first time in ten years the response to the appeals in behalf of the hospitals in London has been successful beyond expectations, the sum realized for the hospitals through the Sunday fund being £70,000. In previous years it has ranged at about £40,000.

Trained Nurses to Travel with Insane Patients.—In South Dakota, one of the asylums, that at Yankton, has adopted the plan of sending trained and uniformed nurses to attend patients who were about to be taken to the asylum. The plan, it is said, is working well. The New York Lunacy Commission has ordered trained attendants to be sent after patients, due notice being given. There is an item of $25,000, paying for the transportation of patients.

A Siphon for the Communion Cup.—The attempt to make the ceremony of the communion aseptic has led to a great many ingenious and some rather grotesque devices. A communion siphon is one of the latest inventions. This is a small silver tube, about five inches in length, and not larger than a straw. Each individual is supposed to have a siphon, and it practically turns the taking of the wine into the undignified proceeding of sucking through a straw.

Chicago Medical Inspectors.—The Civil Service Commission of the city of Chicago has so arranged that the examinations of the medical inspectors conform to those required for entrance into the Government medical service. The salary of the Chicago inspectors is $1,200 a year.

American Physicians to whom Monuments Might be Raised.—In an address on "American Medicine," delivered at the annual dinner of the Chicago Gynecological Society, Dr. John H. Hollister referred to some of the distinguished medical men who were identified with the early history of our country. Dr. Joseph Warren, for example, was President of the Committee of Public Safety, in Boston, and was a major-general in the army. His brother, John, was the founder of the medical department of Harvard College. In Philadelphia, aside from Dr. Benjamin Rush, Dr. Hollister refers to Dr. Nathaniel Chapman, who founded the first American medical journal, and influenced greatly the medical progress of the early part of the century. Valentine Mott, Willard Parker, Alonzo Clark, Fordyce Barker, Gurdon Buck, Nathan Smith, Gross, Drake, and McDowell, would all deserve a monument if we adopted the standard of patriotism which exists in some of the countries abroad.

President Eliot on the Future of the Harvard Medical College.—In an address delivered at the annual meeting of the Harvard Medical Alumni Association, of Boston, President Eliot outlined the three different steps in the advancement of the school which he hoped to see, sooner or later, brought about. The first of these was increasing the teaching facilities of the school, so that everything known to medical science could be learned, and so there should be opportunity for persons to study medicine, not four years alone, but twenty years, if necessary. The second step was the raising of the standard of admission to the school, so that no one should be admitted who did not possess a degree in Arts or Science. The third step was the establishment of an hospital in connection with the school, so that the medical department could be independent of the great public hospitals of the city. Only in this way, he thought, would it be possible to secure for the medical school the best teaching talent in the land. President Eliot's ambition for Harvard Medical College is evidently great, and his ideals are the highest.

The St. Louis College of Optical Science is the name of a college in St. Louis, where opticians are educated to fit glasses to lame eyes.

A Plea for Venesection.—One of the most eminent physicians of Austria, Professor Jaksch, recently read a paper before the Medical Society at Prague, advocating the use of venesection. He advises it in pneumonia, uræmia, pleurisy, and certain forms of heart disease. Professor Jaksch, however, does not give us any especially new indications.

Obituary Notes.—Dr. John Lloyd Zabriskie, of Brooklyn, died suddenly on November 11th, aged sixty-four. Dr. Zabriskie graduated from the University Medical College in 1858 and had practised medicine in Flatbush ever since. He was a trustee of the Long Island College Hospital, and was one of the staff of consulting physicians of that institution. He was also one of the consulting staff of the Flatbush Hospital.—Dr. Elman H. Borst, a leading physician in Newburgh, N. Y., died on November 7th, aged thirty-three. He was a graduate of the College of Physicians and Surgeons.

Reviews and Notices.

A TEXT-BOOK OF PRACTICAL MEDICINE. Designed for the Use of Students and Practitioners of Medicine. By ALFRED L. LOOMIS, M.D., LL.D., Professor of Pathology and Practical Medicine in the Medical Department of the University of the City of New York; Visiting Physician to Bellevue Hospital, etc. Revised and enlarged, with two hundred and seven illustrations and one chromo-lithographic plate. Eleventh Edition. New York: William Wood & Company. 1895.

IT is stated in the preface of this edition of Dr. Loomis's well-known work, that the lamented author was actively engaged upon the revision of the volume at the time of his death. The most important changes and additions are in the sections on diseases of the heart and lungs, in the study of which Dr. Loomis had always shown a special interest. The sections on affection of the nose and throat were revised and in part rewritten by Dr. Coakley, and that on nervous diseases by Dr. E. D. Fisher. Concerning the work itself we need not speak, for it is so well and favorably known as an authoritative guide to medical practice that any praise is superfluous. The fact that it has gone through ten editions is evidence enough of its excellence.

THE PRACTICE OF MASSAGE: Its Physiological Effects and Therapeutic Uses. By A. SYMONS ECCLES, M.B. Aberd. New York: Macmillan & Co. 1895.

AS this book is dedicated to Lauder Brunton, it must have his endorsement; and this in itself is somewhat a guarantee of its value.

Massage has come to be something of a fad, with the result that many incompetent persons have taken it up, and with very little instruction, or perhaps none at all, advertise that they are ready to treat patients.

Massage improperly applied does no good and may do considerable harm, and should therefore be employed only by one who has received thorough instruction; and preferably by one who understands something of anatomy and physiology. Even under these circumstances the work should be done under the direction of the physician.

The author of this book is an educated physician, and has evidently given considerable attention to this subject, upon which he has been writing since 1887. Many of his articles in journals are referred to, as well as the works of other authors.

In addition to the various disorders which have long been recognized as receiving benefit from massage, viz., certain forms of skin diseases, injuries of muscles, sprains of joints, atrophy after disuse, etc., disorders of digestion, and some forms of paralysis, the author claims to have seen much benefit from massage in heart disease and asthma.

The various manipulations are clearly described, but it is doubtful if anyone, by reading such directions, could become a skilful masseur. Work which requires manual dexterity can be satisfactorily performed only by one who has had practical instruction and experience.

To such a one the book will appeal more than to the profession in general.

LEHRBUCH DER VERGLEICHENDEN PATHOLOGIE UND THERAPIE DES MENSCHEN UND DER HAUSTHIERE. Von GEORGE SCHNEIDEMÜHL. Erste Lieferung: Die Infektionskrankheiten des Menschen und der Hausthiere. Pp. 206. Leipzig: verlag von Wilhelm Engelmann. 1895.

THIS work is somewhat novel in its scope, and though written especially for veterinarians, ought to be most useful and instructive to the human practitioner. We find here recorded, first, a succinct account of infectious diseases of man, and then a description of the same diseases in the lower animals. The description of each disease, as it occurs in man, is somewhat brief, while the part in which diseases of the lower animals is described is more extensive. A perusal of comparative pathology, as presented in this way, throws a new and broader light upon our conceptions of disease. Looking over this volume at random, we find, for example, a description of diphtheria in man, followed by that of diphtheria in fowls, in calves, and in horses. A subsequent chapter describes influenza or grip, as it occurs in man and horses. Under the same head comes a description of the contagious pleuro-pneumonia of horses (*brustseuche*). A somewhat allied disease is that known as *skalma*, a miasmatic contagious disease of horses. The author has shown a great deal of thoroughness and erudition in his description of the infectious diseases of man and the domestic animals, and we think that even well-informed physicians will be somewhat surprised at the number of maladies which are comcommon to us and our animal associates. The author is a privat docent in veterinary medicine at the University of Kiel.

A TEXT-BOOK OF NERVOUS DISEASES BY AMERICAN AUTHORS. Edited by FRANCIS X. DERCUM, A.M., M.D., Ph.D., Clinical Professor of Nervous Diseases, Jefferson Medical College. 8vo, pp. 1056. Philadelphia: Lea Brothers & Co. 1895.

THIS goodly sized volume embodies the work of twenty-two leading authorities in neurology in the different and special lines of their individual fitness for the same. The general arrangement is as systematic and practical as it well can be under the existing difficulties, pathological and clinical, of definitely separating allied affections. The division of subjects is the natural one, and is mainly based on the special or leading pathological lesions rather than the clinical features. Notwithstanding this is the case, the clinical features of each of the varied affections are made to take a leading part to impress the student and reader with the fact that, only with the mastery of them can any clear perception be gained of their purely pathological significance. This is placing within easy and intelligible reach of the student the most rational method of mastering by easy stages a knowledge of what are generally considered very abstruse points. Thus the general affections are first considered in their purely clinical manifestations, and incidentally are pathologically explained. When this ground plan is properly understood and the general laws of nervous troubles are duly manifest, the reader is prepared to appreciate the bearing and importance of the special and rarer forms of disease. The result of such an arrangement is shown in the interest which grows upon the reader as he follows the order of the progressive chapters. There is one feature which cannot be too strongly commended in any text-book, and that is the aim in every writer to bring out the really salient distinctions of special diseases by themselves, and not at the beginning confusing the mind with exceptions and qualifications. The latter very properly come in with the more or less complicated building of the necessarily wider and more mature conception. It is this mechanical make-up of the book and the apportionment of individual work, showing skill in editorial direction, that will assure for the treatise a wide range of adaptability. The illustrations, although not very numerous, are quite illustrative of leading types of deformities or other conditions, and serve to round out the admirable descriptions of the trained and able contributors.

THE CLIMATES AND BATHS OF GREAT BRITAIN. Being the Report of a Committee of the Royal Medical and Chirurgical Society of London. By W. M. ORD, M.D., Chairman, A. E. GARROD, M.D., Hon. Secretary. Vol. I.

THE CLIMATES OF THE SOUTH OF ENGLAND AND THE CHIEF MEDICINAL SPRINGS OF GREAT BRITAIN. London and New York: Macmillan & Co. 1895.

ELEVEN contributors from the eighteen gentlemen constituting the committee have articles in the present volume of 640 pages.

The Chairman, Dr. Ord, contributes the "Introductory Remarks on the Climates of the South Coast of England," and also "Introductory Remarks on the Medicinal Springs of Great Britain." "Bath" and "Buxton" are written by Drs. Ord and Garrod conjointly, while the latter has written upon many of the other springs. Malcolm Morris has written upon Harrogate, Moffat, and Strathpepper. It is altogether quite a pretentious work, and has been prepared with much care. There are numerous statistical tables, and a large colored map is inserted opposite the title-page. The press-work is attractive. To anyone seeking the latest authentic reports upon health-resorts in England the work commends itself.

DISORDERS OF THE MALE SEXUAL ORGANS. By EUGENE FULLER, M.D., New York, Member of the New York County Medical Society, Academy of Medicine, American Association of Genito-urinary Surgeons; Instructor in Genito-urinary and Venereal Diseases in the New York Post-Graduate Medical School, etc. Philadelphia: Lea Brothers & Co. 1895.

THE author opposes the view held by many, that the majority of functional disorders of the male sexual organs are of the neurotic, neurasthenic, or psychic type. He believes that

physiological and pathological factors have been ignored by many writers, while in his opinion disorders independent of nervous conditions are primarily at fault. Differential diagnosis is of the utmost importance, and the anatomy of the parts is so necessary that a chapter has been devoted to this subject, to which is added a report on the histology of the seminal vesicle and vas deferens, by Dr. James Ewing. There are seven chapters, the last being devoted to the histories of thirty-eight instances illustrating the author's views and methods.

The chapter on anatomy is illustrated with drawings from photographs of post-mortem specimens. Some of these show what is intended in a clear manner, while others have to be accepted more or less on faith. Much attention has been paid throughout the work to seminal vesiculitis in its various forms, and the author's observations bearing upon the question, which are already somewhat known through his writings, especially in the *Journal of Cutaneous and Genito-urinary Diseases*, are amplified and elaborated. A more fitting title for the work would be "Some disorders of the male sexual organs," since most of them are left out.

LE PHTISIQUE, et son Traitement Hygiénique. Par le DR. E. P. LÉON-PETIT, Médecin de l'hôpital d'Ormesson, Secrétaire-Général de l'Œuvre des Enfants Tuberculeux. Préface de M. le Dr. Hérard, Membre de l'Académie de Médecine. Avec 20 gravures dans le texte. Paris: Ancienne Librairie Germer, Baillière et Cie. Félix Alcan, Editeur. 1895.

TUBERCULOSIS is becoming more and more a great and serious question. The great minds of the century are no longer concerning themselves about what to do for the individual consumptive patient, but rather what plans can be formulated and carried out to make an impression upon the disease as a whole. How to treat large bodies of patients so as to make them less of a danger to the community at large and to each other, is a problem to be solved. Hygiene, open-air life, sanatoria, diet, medicinal measures, all must be carefully studied. The author has made a praiseworthy attempt in this direction. Under authority he has examined the resorts and institutions of Europe, and describes the organization in paying as well as in public sanatoria.

The question is treated almost wholly from the hygienic side, but the work (300 pages) contains valuable statistics and information concerning tuberculosis.

A TEXT-BOOK OF PHYSIOLOGY. By M. FOSTER, A.M., M.D., LL.D., F.R.S., Professor of Physiology in the University of Cambridge, etc. Sixth American Edition. 8vo, pp. 929. Philadelphia: Lea Brothers & Co. 1895.

THE sixth American edition of this widely appreciated text-book makes its appearance with the announcement that every page has been subjected to careful scrutiny, all useless verbiage omitted, obscure sentences revised, histological details materially abridged, and much theoretical discussion omitted. No one questions the authority of Professor Foster, and the work in question fully expresses his views on all questions of interest to the student.

A MANUAL OF ELECTRO-THERAPEUTICS FOR STUDENTS AND GENERAL PRACTITIONERS. By C. T. HOOD, A.M., M.D. 8vo, pp. 881. Chicago: Gross, Delbridge Co. 1895.

THIS book is written in a simple, conversational style, somewhat in the form of short lectures. The first twelve chapters are devoted to a description of the physics of electricity, and a great many familiar experiments are described to show electrical phenomena. Chapters follow on batteries, electrodes, and electro-physiology. The rest of the book, embracing about one-half of the contents, is devoted to electro-therapeutics. This portion seems to be very much like the ordinary discourses upon this subject, that is to say, the author asserts in a general way that electricity relieves paralysis, spasms, pains, strictures, etc., and is of help in various uterine disorders. There is nothing at all critical or scientifically valuable in this part of the work or in the book as a whole. The chief merit is in its presenting again the subject of electro-therapeutics in a simple and elementary way. The book is about as good as others of its size and class.

Health Authorities Punish a City.—The city of Montreal was recently fined $500 at the instance of the health authorities for having useless sanitary apparatus in the city hall.

Society Reports.

THE PRACTITIONERS' SOCIETY OF NEW YORK.

Stated Meeting, November 1, 1895.

ANDREW H. SMITH, M.D., PRESIDENT, IN THE CHAIR.

Intra-cranial Neurectomy for Chronic Tic Douloureux (Hartley's Operation).—DR. ROBERT ABBE showed one patient, and related the history of another, relieved of chronic tic douloureux by intra-cranial, but extra-dural, section and tearing out of the branches of the fifth cranial nerve. The patient presented was a woman, sixty-five years of age, who had had for eleven years inveterate tic douloureux of the right side of the face. Twice physicians had operated on the lower jaw, once on the middle branch, but without giving any relief, the patient being no better, perhaps even worse, immediately after the operation. When she consulted him, two weeks ago, she was constantly holding the head in the hands and dodging the pains, which would come in paroxysms every two or three minutes and were of the severest type. Although she was rather old to submit to the Hartley operation, her life was not worth much without relief from the pain; the operation was undertaken and proved in every respect successful. The patient was immediately relieved and had felt no pain since. The steps of the operation consisted in making an incision, the form of a horseshoe, down to the bone over the temporal region, base downward, then without dissecting the soft parts, chiselling the bone along the line of incision, until it could be pried up with one or two chisels, snapping it directly across below. On turning down this osteoplastic flap, the dura came into view. The edge of bone was then gnawed away, the dura was lifted, two branches of the fifth pair, passing through the foramen rotundum and the foramen ovale, were exposed, were seized, cut across at the foramina, the distal end tucked forward, the proximal end, just in front of the Gasserian ganglion, were twisted, wrenching their roots out of the ganglion, the piece brought away being broom-shaped and about an inch long. Considerable venous hemorrhage came from the cavernous sinus, which was close by, but it was checked in a few moments by packing with iodoform gauze. The whole channel was lightly packed with the gauze, and the flap was left loose until next day, when the packing was removed, and the brain, the dura intervening, again filled the space. Immediate union followed. Although the patient had suffered no pain since the operation, as usual in these cases the anæsthesia was not, or did not remain, complete. In her case the anæsthesia was complete in the lower branch, and during the first week it was nearly complete in the second branch, but not complete in the first. Half of the tongue and lips were quite anæsthetic. The pain before the operation had begun in the lower branch and had extended until all the branches were more or less affected, the upper least. A dentist had drawn fourteen teeth without giving any relief.

The other case, related later in the evening, was the wife of a physician, was fifty-four years old, and had suffered from tic douloureux for twenty years, the pain being no less severe than in the other case. Two or three operations had been performed, one on the inferior dental and one on the middle branch, without giving relief. When Dr. Abbe saw her two years ago he performed Sulzer's operation, reaching the two branches of the nerve in the temporo sphenoidal fossa at their exit through the foramen rotundum and foramen ovale by making section of the zygomatic arch and dissecting the temporal muscle. The operation proved not diffi-

cult, half an inch of each nerve branch was dissected out and the wound closed. The patient was relieved of pain for two months. It then returned, and for ten months was as great as it had been before. He then, last January, performed the Hartley operation. Like the other case, this one bled very little for this operation. Relief was perfect and remained so until the patient's death, three months later, from some cause not connected with the facial trouble.

Dr. Abbe said that in a number of cases of inveterate neuralgia of the inferior dental, he had taken out an inch or an inch and a half of this nerve and given permanent relief, but some cases had returned. The same was true of the eight or nine cases in which he had performed Carnochan's operation for neuralgia of the middle branch, dividing the nerve back of Meckel's ganglion; some of the patients had been permanently relieved, others had returned. Sulzer's operation was somewhat more difficult than Carnochan's, and left more of a scar, and was not, he thought, as satisfactory as the intra-cranial operation. He had done the Sulzer operation with satisfaction in three cases, but in two there was return of the pain. The Hartley operation was the final one, and although it was more recent than the others, it bade well to give permanent relief. It was quite due Dr. Hartley that it should go by his name. Out of fifty or sixty reported cases there had been a few deaths from hemorrhage or cerebral abscess, but Dr. Abbe thought that with due care these accidents could be avoided.

Dr. Bryant asked Dr. Abbe how he knew the hemorrhage in his case came from the cavernous sinus.

Dr. Abbe replied that there were two sources of hemorrhage. The first was from the middle meningeal artery at the foramen spinosum, a jet coming out which stopped after ligation. The other was venous hemorrhage, which took place while he was isolating and evulsing the nerve, the inner side of the bundle lying close to the cavernous sinus, which, doubtless, was torn and gave rise to the hemorrhage. This was controlled by packing. He had no other proof of the origin of the hemorrhage.

Dr. Bryant thought it was an interesting fact, if proven, that the cavernous sinus could be torn, the hemorrhage checked by gauze packing, and no further trouble follow its removal next day.

Dr. Abbe remarked that a number of operators had resorted to packing, and that Dr. Keene had used a bundle as large as one's fist, showing that the brain could be considerably compressed, yet everything go well after removing the packing.

Dr. Robinson inquired whether the ordinary means for overcoming pain had been tried in these cases, and whether Dr. Abbe would resort to an operation at once.

Dr. Abbe replied that opium, sulphonal, and other agents had been used. He would not operate until the pain had become unbearable.

Some Remarks on the Morphine Habit.—Dr. H. F. Walker read a paper bearing this title (see p. 692).

Dr. George L. Peabody, referring to Dr. Walker's first case, wished to know whether the patient had had a strong enough will, on going to the country, to entirely refrain from morphine.

Dr. Walker replied that he had, but at the beginning he took a little codeia.

Dr. Peabody thought the patient had shown unusual power of will. Regarding codeia, while it was recommended as a means of weaning patients from morphine, he believed that in the form in which it usually came it was equivalent to morphine, and giving it to these patients was practically allowing them to taper off from the morphine habit. So far as he had been able to learn, the weight of evidence was in favor of rather rapid withdrawal of morphine in the treatment of those addicted to its use. He would suppose that, like with alcoholism, gradual withdrawal of the drug would not be successful.

In the second case, it seemed an unusual train of circumstances had favored the success of the treatment adopted. The patient was a doctor, he wished to be hypnotized, had faith in it, and desired to be rid of his habit. Dr. Peabody doubted the general applicability of hypnotism to the morphine habit.

Dr. Robert Abbe had been impressed with the fact emphasized by Dr. Walker—absence of moral force on the part of the morphine habitué. He thought the loss of will-power was equally striking. The few whom he had seen who wished to break themselves of the habit had followed the physician's directions to a certain point, but when it came to cutting the drug down below a certain amount their resolution always failed. He had seen two or three very earnest people try it, but after reaching a relatively small dose they seemed absolutely unable to go farther. Morphine habitués suffered from certain sensations or cravings which they called pain, but which probably were only allied to the pain sense, and these prevented them from giving the drug up entirely, although only a small dose might prove sufficient to allay these sensations. He believed there was a mental deterioration in the chronic cases which possibly might be overcome by hypnotism, but he had had no experience with it. The loss of the moral sense seemed to him a grave phase of the question. Personally he would not trust all the statements of morphine habitués.

Morphinism and Glycosuria. — Dr. Hermann M. Biggs asked an opinion, based on two cases of the morphine habit seen by him. A woman, fifty-three years of age, had begun to take morphine seven or eight years ago, for the relief of pelvic pain, and during the last three or four years had taken the drug continuously. She was taking eight grains a day when he first saw her. Within four or five days the amount was reduced considerably, and it was then that he had occasion to examine the urine carefully and found that it contained sugar. On inquiring into her previous history, it proved very suggestive of glycosuria, from which she had not entirely recovered. There had been frequent micturition, great irritation, thirst, etc. He reduced the quantity of morphine from seven or eight grains to half a grain in the course of a week, and the sugar in the urine increased considerably, until it was about four per cent. She had used in the interval some trional and bromide. She became somnolent, with muttering delirium, and her condition became so serious that he did not dare withdraw more morphine, nor did he think it desirable in view of the glycosuria. Indeed, he gradually increased the quantity to a grain a day. The patient improved slowly, and at the end of two weeks was in her normal condition, taking a grain of morphine a day. The diet was then restricted, and the glycosuria disappeared, but if a quantity of starch were eaten the sugar immediately reappeared in the urine. She had been under observation over two years, the quantity of morphine taken had remained at one grain a day, being administered by her daughter or son, and it seemed she had made no attempt to obtain morphine outside. She had, however, a craving for stimulants, and it was necessary to keep these out of her reach. Her health was very fair.

The second patient was a woman, aged about fifty, who had been addicted to the use of morphine twenty-five years. She had begun taking the drug occasionally when she was twenty-five years old for the relief of pain during the menstrual period, and for fifteen years had taken it continuously, in any form she could get it. When a year before he saw her the opium was cut off. She had been taking ten ounces of McMunn's elixir a day. For seven months before he saw her she had received no opium, but during that time she was in poor health and had had several attacks of serious illness. During these attacks she was given alcoholic stimulants, and later, during an attack of hay fever was given cocaine in spray, and she immediately contracted

the cocaine habit. She had always had a craving for stimulants, and when Dr. Biggs first saw her she was taking a large quantity of cocaine (about twelve grains a day) and as much alcohol as she could get. On withdrawing the cocaine she passed into a condition resembling acute alcoholism—delirium, sleeplessness, hallucinations, illusions, delusions.

The question arose whether in such a case it was possible or desirable to entirely withdraw the opium and attempt to keep the patient free from narcotics. He supposed it was a sort of heresy, but he had had the feeling that where a patient had been so long addicted to the habit, had lost the power of moral and physical resistance to its influence, and yet who was in good health, as this patient was, the entire withdrawal of the drug would require constant surveillance, and would be followed by enfeeblement of health, and it had also seemed to him that if any narcotic were allowed, opium by the mouth, in restricted amount, would prove the least harmful. He asked for an expression of opinion upon that point.

Dr. A. Alexander Smith said he felt more hopeful after hearing the histories of Dr. Walker's cases than he had felt before, for he had always doubted the ultimate result in any case of confirmed opium-taking. Many years ago Dr. Sands had remarked to him, on observing a morphine habitué in the street, that he did not believe any woman who had become confirmed in the use of the drug could stop it. Dr. Smith was then inclined to doubt this statement, but many years' observation had since convinced him that it was exceedingly rare for patients to become entirely cured of this habit.

How Much Opium is Necessary to Constitute One an Habitué?—Dr. A. A. Smith said further, that he had been interested in the medico-legal aspect of these cases. "Some years ago I was asked by a friend to go to a neighboring State and testify in a suit which he had brought against his father-in-law for keeping his wife and children from him. 'What is the matter with your wife?' 'She is an opium-eater.' 'You had better let the case stand, then. If she is an opium-eater, it seems to me your father-in-law has relieved you of a very great responsibility.' 'I accept that, but I want the children.' And then he asked me what view I took with regard to the reliability of the testimony of any opium-taker, and I said I thought it was absolutely unreliable. I felt that an habitual opium-taker was an habitual liar, and when I took the witness-stand and made that statement I was berated by the opposing counsel, and was asked what I regarded as a habitual opium-taker. The judge seemed very much interested in the question of the reliability of the opium-taker, and he turned to me and said: 'Are you not making a very strong statement?' 'I hope so, for that is exactly what I intended to make, having been impressed with the utter unreliability of these people. It is not because of a vicious purpose, but rather a want of capacity to tell the truth.' I should like to ask Dr. Walker what he considers the smallest quantity of morphine which will make one a confirmed opium-taker, and render his testimony unreliable?" Dr. Walker having replied that he thought it would depend upon the case, and the effect upon the patient, Dr. Smith went on to say that his reply on that occasion was, two grains at least, and from that amount up. That it would differ according to the individual and the circumstances. On that statement his testimony was very much damaged, for in the case in court it was shown that the woman tolerated large quantities of morphine because of severe pain.

Opium and the Temperature.—Dr. F. P. Kinnicutt thought it would be a very important fact if further experience should corroborate Dr. Walker's as to the value of hypnotism in the treatment of opium habitués. He had also seen some striking examples of the perversion of the moral sense in the particular direction of inability to distinguish between truth and falsehood. The word of the opium-taker was not to be relied upon; absolutely not. Regarding the semiology, one point had been impressed upon his mind many years ago which now was probably well known to all. He was asked to see a case with an eminent physician, to determine the cause of an irregular fever from which the patient seemed to be suffering. They were baffled, but later he read of observations made in Europe on temperature of irregular type observed in opium-takers, which at once explained the case.

As to treatment: For the past ten years he had employed only one method, that of sudden withdrawal of all opium, not even permitting the patient to use codeia. While the suffering was great, yet patients who had used both methods had told him that they preferred sudden withdrawal to the prolonged suffering of gradual withdrawal. In some cases the symptoms had appeared alarming, but no untoward result had ensued. He allowed the patients alcohol in any form, in any quantity, and also trional, sulphonal, or bromide, during the treatment. Regarding the ultimate prognosis he must say that he had not very great hope. Out of a considerable number of patients treated by him, only one had left off the drug for a long period. In the one case there had been freedom for ten years. Of course he was speaking of the habit of months' and years' duration.

Prefers Gradual Withdrawal of Opium.—Dr. Beverley Robinson said he agreed in the main with the previous speakers, but he did not think it wise to suddenly withdraw all opium from one who had long been in the habit of taking a large quantity. It caused unnecessary distress. Nor did he think other stimulants would take its place satisfactorily. Regarding the question of prescribing opium, he thought that sometimes it could not be avoided. That day he had used morphine in a case of headache in a woman who had consulted many prominent practitioners in the city without obtaining relief. There were certain mental troubles calling for it, and a neurologist had given it occasionally to one of his patients suffering from melancholia. Druggists sometimes prescribed the drug, or repeated prescriptions containing it without instruction from the doctor. He thought our prescriptions for opium should be allowed to go only to druggists whom we knew to be too conscientious to repeat them unless so directed.

Dr. Peabody said, in relation to giving morphine subcutaneously for the relief of headache, that about five years ago he was asked by a woman to see her husband, a doctor, who had been in receipt of a very large income from his practice, but who had suddenly gone abroad for many months and had only recently returned. The doctor patient quieted his suspicions by immediately telling him that morphine was the cause of all his trouble. He asked Dr. Peabody if he remembered who had given him his first dose of morphine, and stated that it was Dr. Peabody himself, who, seventeen years before, had administered a hypodermic injection for the relief of headache. The patient had continued its use ever since, although there had been intervals.

Dr. Peabody thought we ought not to administer morphine to people troubled with headache.

Dr. Kinnicutt said he fully agreed with Dr. Peabody. Women came to us with sick headache, and it did sometimes seem that morphine was the only drug which would give them relief, but he was positively of the opinion that it should not be used in those cases. A migraine was likely to last a number of years, and if morphine were once used it would likely be continued.

Dr. Peabody added that his patient died a most miserable death as a result of a combination of morphine and cocaine habit. Neurotic people, suffering from chronic neuralgia, were the very ones to whom morphine should not be given.

Dr. Robinson said it must be assumed that those physicians who sometimes gave morphine exercised some precaution and solicitude. They did not put the drug into the patient's hands and walk away. There were some cases which could not be afforded relief in any other way, so that all one could do was either to administer morphine, or walk out of the room and leave the patients to suffer for hours with extreme headache. He was not talking to the general practitioner, but to members of the Practitioners' Society.

Why Opium Habitués Prevaricate.—The President, Dr. Andrew H. Smith, could see no reason why opium should tend any more toward destruction of the moral sense than alcohol. The only difference was, he thought, that the person taking alcohol usually found no necessity for concealing it, while one taking opium always did so stealthily. At first he lied only with regard to this habit, but by degrees he became accustomed to prevaricate. He thought it was wrong to try to corner such patients and convict them of their habit against their statement, for it only precipitated the habit of untruthfulness.

Regarding gradual withdrawal of opium, the usual method was to reduce the quantity by, say, one drop a dose. This meant a reduction perhaps of one-tenth the first day, one-ninth the next, one-eighth the next, and so on, the increase becoming rapid and distressful to the patient. The President had found a better method to consist in filling up the bottle, if a liquid preparation were taken, by adding water or alcohol after each use. By this method the reduction was by a smaller percentage each subsequent dose, but the amount of opium taken finally became infinitesimal. He found in practice two classes of opium habitués. The first class took the drug for the relief of pain or some form of suffering, and for that reason had not the fortitude to lay it aside. The second class, much less numerous, could lay it aside, but continued to take it because of the mental excitement which it caused. The latter were the most intractable. He had known such persons to drop opium for a long time, until all necessity for it must have been lost, and then, when the favorable opportunity came, they deliberately returned to its pleasant sensations.

The President said he had not been able to detect opium in the urine unless it were taken in considerable quantity. He asked for the experience of others in that direction. He supposed all knew that a single dose might send the temperature up, but he did not know whether, after continued use of the drug, the system ceased to respond in this way.

As to depriving the patient of the drug suddenly and entirely, he recalled the case of a physician, an intelligent man, who had been under the care of many doctors at different times. At one time his life seemed to be a complete wreck. Finally it was found that by allowing him a certain amount of morphine every day it would not incapacitate him, and he could attend to a large consultation practice. There was no reason why this moderate amount of morphine, which was essential to him as his daily food, should be cut off. He knew one woman who had become a wretched creature through the use of morphine, mentally, morally, and physically. Under some influence she gave up the drug, regained her health and beauty, and happiness was restored to her family. After a number of years, within the last year or two, she had gone back to opium, and was again becoming a wreck. It was difficult to understand why a person, after such an experience, and after so long a respite, should fall a victim to the drug again.

Regarding habitual headaches, they were difficult to meet at times, and often it seemed cruel to withhold a single injection of morphine which was capable of giving relief. He could hardly bring himself to say that it was wrong to use the drug in such cases when the intervals were long and the danger of establishing the morphine habit was not so great. In one case the woman had suffered about once a month for years, and he was in the habit of giving her relief with a single hypodermic injection of morphine. Finally, he induced her to consent to an operation for very slight strabismus, and from that time the headaches had ceased, and she had received no more morphine.

Dr. Walker closed the discussion.

NEW YORK NEUROLOGICAL SOCIETY.

Stated Meeting, October 1, 1895.

Edward D. Fisher, M.D., President, in the Chair.

Neuritis of the Brachial Plexus, as a Sequel of Pneumonia.—Dr. W. M. Leszynsky presented a man, thirty-six years of age, who five months ago had suffered from an attack of neuritis involving the brachial plexus upon both sides. This condition had developed during convalescence from acute pneumonia. There was no history of traumatism or exposure to cold, nor was there any evidence of alcoholism, syphilis, or rheumatism. He looked upon the pneumonic infection as the direct cause of the neuritis. The speaker said that at present there was a pronounced and typical paralysis of the left serratus magnus, and also some atrophy of the deltoid and supra-spinatus. Upon the right side there was well-marked atrophy of the deltoid, with absolute anæsthesia in the cutaneous distribution of the circumflex nerve, and complete loss of faradic irritability. There was also some atrophy of the supra-spinatus.

Hereditary Cerebellar Ataxia.—Dr. Joseph Collins presented a patient illustrating so-called hereditary cerebellar ataxia. The patient, a boy eleven years of age, was the second of two children. Both his parents were still living, and aside from a marked tubercular history on the paternal side of the family, no hereditary taint could be traced. The child had never had spasms, and had passed through the ordinary infectious diseases of childhood. He began to talk and walk, and the teeth developed, at the customary time. The mother said he had never been able to walk or talk like other children. He was always "stiff in his joints," "easy to fall," etc.; he never climbed and played like other children, though he tried to do so. When four years of age it was noticed that he was becoming very near-sighted, and glasses were applied and had been worn since that time. In February, 1894, after returning from an outing with his father, he vomited a large quantity of liquid, and later clotted blood. A few days before this he had had a fall down a flight of stairs, and to this fall the parents attributed his illness. He had been attending school since his fifth year, and had been repeatedly sent home on account of inability to make any advance. A year ago he had been returned from school permanently. For a year or more there had been periods when his mother said he could not use the left side of the body, and at such times the arm and leg had become very steady, and his speech more unintelligible. Great difficulty had been experienced in keeping him warm, and especially in the winter. The speaker said that mentally the boy was peevish, irritable, and irascible. He was affectionate, fond of animals and pictures, and while he could be led, he could not be dominated. When seen on July 21, 1895, it was noted that he was tall for his years; face looked very old; the skin looked and felt dry and the flesh pultaceous; no enlargement of the thyroid gland; right side of face more innervated than left; very slight grip in hands; knee-jerks exaggerated, especially on the right; elbow-jerk lively; moderate ankle clonus; gait shambling and reeling; head bent forward; walks as if intoxicated; stands fairly well with feet wide apart; no Romberg; genital or-

gans extremely undeveloped. His manner of rising from the recumbent posture resembled that of one suffering from progressive muscular dystrophy, except that he did not "crawl up the legs." There was no real nystagmus, but the fixation power of the eyes was not good, and the eyeballs twitched, and there was slight weakness of the external ocular muscles. There was progressive myopia, but Dr. W. A. Holden, who examined the eyes, stated that in the background no real abnormality could be stated. His speech was ataxic, explosive, and thick, and sometimes quite jerky. It was almost impossible for him to go up and down stairs. Ataxia of the upper extremities very marked. Mentally, he was very defective, particularly his associative faculties.

The speaker said that this case, although not a pure one, would tend to corroborate the view taken of these cases by Nonno, to whom more than to anyone else credit was due for calling intelligent attention to them. Marie, who discussed Nonno's cases, and some others, had suggested the name heredo-ataxic cerebelleuse. He took for granted a factor which apparently was not necessarily constant, viz., heredity, unless we use the terms hereditary and familiary interchangeably. The sister of this boy, who died in her second year, was affected in the same way, for the parents give a very clear description of her condition. Another element stated by Marie to be constant was optic atrophy, yet in some cases recently reported, and in Fraser's case, the first to be substantiated by autopsy, this symptom was absent. The condition has been more commonly observed in patients older than the one just presented. In fact adolescence is the period in which it is usually recognized. It was hardly necessary to refer to the apparent relationship between Friedrich's disease and this condition.

Cystic Tumor of the Brain.—Dr. L. Stieglitz presented a young woman whom he had exhibited to the Society in January, 1893, after she had been operated upon in June, 1892, for a cystic tumor of the brain, situated in the right arm centre.[1] The cystic tumor was subcortical, about one inch and a half deep, and its walls had been found perfectly smooth. About an ounce of straw-colored serous fluid had escaped from the cyst at the operation. In discussing the case at the time, it was clearly shown that the cyst could not have been of vascular or of parasitic origin, and the conclusion had been arrived at, that a glioma was at the bottom of the trouble, and on that account a recurrence of the growth had been feared. During the following two years the patient had done very well, and had recovered the use of her arm sufficiently to attend to her housework, but had been subject to more or less frequent focal epileptic seizures involving the left hand, or the entire left arm and side of the face. During this period she had also had about five general convulsions which had set in with the same focal symptoms. In March of this year, the patient had begun to complain of headaches, the power in her left hand had again perceptibly diminished, and the focal seizures had occurred more frequently than ever, from one to three times a day. Dr. Koller, who had examined her eyes frequently, found a beginning cloudiness and swelling of the disk for the first time. A recurrence of the original neoplasm, or a refilling of the old cyst, was suspected, and Dr. Gerster performed a second operation upon the patient in April of this year. Upon exposure of the brain, a very small maroon-colored mass about the size of a filbert was found at the point where the cyst had been. This mass was removed, and as it evidently infiltrated the surrounding brain-tissue, a broad ring of the latter was excised. The patient made a good recovery. She had two severe general convulsions when the dressings were first removed, but had been free from all seizures ever since, a period of six months. Her arm was at first completely paralyzed, but she had now recovered its use to a certain extent, the only marked paralysis left pertaining to the index-finger, which could not be fully extended, and to the thumb, which could be flexed, extended, abducted, and adducted only very imperfectly. Tactile sensibility was less acute in the paralyzed limb than on the other side. There was a very marked disturbance of the muscular sense, the patient being very uncertain about passive movements in her finger-joints, especially in those of the thumb and index-finger. The deep reflexes of the arm and knee-jerk were greatly exaggerated on the affected side. Curiously enough, they were also distinctly exaggerated on the healthy side, though to a far less degree. The microscopic examination of the excised tumor was very interesting. The old cyst wall was found collapsed: originating from a point in this wall a small spindle-cell sarcoma was found. This could be seen in the specimen. Sections through the ring of brain-tissue removed showed the new growth to be of a very malignant and complex type. From its character at different points it would have to be termed a melano-glio-angio-spindle-cell-fibro-sarcoma. The brain-tissue was infiltrated, and no doubt sooner or later the patient would have a recurrence of the growth.

The case showed that cystic tumors of the brain were not as innocent in character as many would believe, and on that account the excision of the cyst-wall would be advisable in all cases of this kind. If this were not possible at the first operation, it could be easily done at a subsequent operation, a few months later, when the wall would be found compressed into a small, solid mass.

Dr. B. Sachs expressed the belief that the original cyst might very well have been of hemorrhagic origin.

The President said that the clinical history of the case prior to the first operation would throw light upon that question.

Dr. Stieglitz said that in order to save time he had omitted the details of the original history. The patient had been perfectly well up to December, 1891, when she had been suddenly taken with twitching in her right thumb and fore-finger. The twitching had spread rapidly up the arm to the face, and had ended in a general convulsion. In December the patient had had three or four more general convulsions of the same character, but none after this time. She had been subject, however, to frequent focal seizures confined to the right hand. When first seen in December there had been no loss of power in the arm. The weakness in the arm had developed the following March, and had gradually increased, until in June, the time of the first operation, it had become very marked. In spite of the absence of all general cerebral symptoms, the diagnosis of progressive, destructive focal process, probably a tumor, had been made. The slow and late development of the paralysis after the onset of the symptoms of cortical irritation positively excluded any vascular lesion.

Amyotrophic Lateral Sclerosis.—Dr. William Hirsch presented a case of amyotrophic lateral sclerosis, which had developed in a patient who had formerly had anterior poliomyelitis. M. D——, forty-five years of age, gave a negative history as regards syphilis and heredity. About three years ago he noticed a stiffness and weakness in his left leg, which gradually became worse. After some time, the right leg also became affected. He soon became unable to use his legs in working his sewing-machine (being a tailor), and his gait became so much impaired that he was not able to stand or walk for any length of time. When he came under treatment, four weeks ago, he had complained of nothing else, and there were no sensory symptoms or disturbance of bladder or rectum. The examination showed an atrophy of some of the muscles of the trunk and the upper extremities. The right deltoid, the su-

[1] American Journal of the Medical Sciences, June, 1893.

pra-spinatus, and especially the thenar eminence on the right hand, showed a fairly marked atrophy. There was fibrillation in the muscles of the trunk and shoulder, increased by tapping them with a percussion-hammer. There was also diminished electric excitability, and in some muscles the reaction of degeneration was present. There was no atrophy in the muscles of the lower extremities, and the electric reaction was perfectly normal in these parts. The tendon reflexes of the lower extremities were considerably increased, the knee-jerks were extremely exaggerated, and there was bilateral ankle clonus. The last very frequently came on spontaneously, to the great annoyance of the patient. Sensation was perfectly normal in all parts of the body, and the senses of pain and temperature were unimpaired. There were no abnormal conditions in the function of the cranial nerves, with the exception that the tongue was slightly atrophied, and there was a marked masseter reflex. Speech was in no way affected. There was no nystagmus, and the ophthalmoscopic examination showed perfectly normal conditions.

This was evidently a typical case of amyotrophic lateral sclerosis, and the man was brought here because of a possible relation between the present disease and an old affection.

An examination of the case at present showed a very marked atrophy of the muscles of the left shoulder and upper arm, but the patient did not think it worthy of mention, as he said it had existed as long as he could remember. This appearance together with the history show that he had had in childhood an attack of infantile paralysis. This brought up the interesting question, Does there exist any relation between the present disease and the anterior poliomyelitis, and if so, what is the nature of this relation? Dr. Hirsch said that Ballet and Dutil were the first to enter upon a discussion of this subject. They pointed out that an infantile spinal paralysis might give rise in later life to various affections of the spinal cord, but that they were all limited to the gray matter of the anterior horns. The irritation of the cord by the old lesions enfeebled, they said, the medulla and made it a *locus minoris resistentiæ*, which on any occasion might become subject to further disease. Charcot expressed the view that there existed in some individuals a certain disposition, a kind of hereditary vulnerability of the ganglion cells of the anterior horns, which at one period of life might give rise to an acute poliomyelitic anterior, and at another, to a progressive muscular atrophy, so that in fact both diseases would form different periods of one and the same pathological process. In some cases of infantile spinal paralysis, Charcot said, the old scar which was produced by the inflammatory process in the gray matter of the anterior horns, formed a latent, but permanent, inflammatory focus, which at any time might light up afresh and cause a new set of symptoms. A similar view, the speaker said, was held by Strumpell, who, on the theory of the infectious origin of poliomyelitis anterior, compared the scar in the anterior horns to an old tubercular focus which was capable of setting up a new inflammation at any time. So far as he knew, the case presented differed from all others recorded in literature, in that the later disease was not limited to the anterior horns of the gray substance, but that other parts of the cord were also involved, *i.e.*, both lateral pyramidal tracts. He would not attempt to decide upon which of the theories applied to this case, but it could be proved with absolute certainty, by the history of the clinical symptoms, that the pathological process of the present disease started from the place where the old scar of the poliomyelitis anterior was located. This lesion lay apparently in the left horn of the cervical region of the cord. As the man first noticed weakness and stiffness of the left leg, the process must have approached first the left pyramidal tract, which lay next to the scar. Then, after the affection of the right horn, which showed itself in atrophy of the muscles of the right upper extremity, the pathological process spread over to the right pyramidal tract, causing a spastic condition in the right leg. Whatever the theory regarding the nature of the relation between the two diseases, there could be no doubt that there existed such a relation between infantile spinal paralysis and various spinal diseases of later life. Further observation and study of similar cases might throw more light upon this subject, as well as upon the etiology and nature of the diseases in question.

A Report of a Series of Cases of Multiple Neuritis in Infants in the City of Bridgeport, Conn.—Dr. Græme M. Hammond read a paper in which he reported a series of cases of multiple neuritis in infants in the city of Bridgeport, Conn. There were ten cases in all, ranging from four and a half months to four and a half years in age. In all but two cases there were distinct premonitory symptoms of headache, vomiting, and fever. Following this there was a gradual and progressive paralysis, usually beginning in the foot and extending to the upper extremities, and in some instances involving the muscles of the trunk, and in two cases the muscles of deglutition. Accompanying the paralysis there was pain, both spontaneous and on passive motion, and the nerve-trunks were very sensitive to pressure. The area of pain and tenderness accompanied the extension of the paralysis. The reflexes were abolished, and the electrical reactions of degeneration were well marked. Two of the cases exhibited symptoms of spinal meningitis in addition to the neuritis. One case, the youngest, aged four and a half months, died after an illness lasting one month. The muscles of deglutition became paralyzed, and the child died from exhaustion. In the other cases recovery began in from four to six weeks, but was not completed until from three to four months. No similar cases were discovered in neighboring towns. After referring to the epidemics of anterior poliomyelitis which have in the past been reported, both in Europe and in America, the reader concluded by accepting the theory of their microbic origin, and expressed his belief that these cases of neuritis were due to a similar cause.

The author expressed his indebtedness to Dr. John C. Lynch, Dr. Samuel M. Garlick, and Dr. J. W. Wright, of Bridgeport, for the reports of cases, and for their courtesy in affording him the opportunities for personal examinations.

THE NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, October 9, 1895.

George P. Biggs, M.D., President, in the Chair.

Diseased Placenta.—Dr. Mary Putnam-Jacobi presented an extremely diseased placenta, together with the liver, heart, lungs, and kidneys of the child. As the child had been born only two days before, no opportunity had been given for a microscopical examination. It was the mother's third child, and the first one born at term. All three children had died with exactly the same symptoms. The mother had been married about twelve years, and had been apparently healthy at the time of her marriage. For the first two or three years afterward she had been under treatment for sterility. No obvious uterine disease had been discovered. Afterward, she had had two early miscarriages. When about three months pregnant, a watery discharge from the uterus began, and became more and more abundant until, at about the seventh month, labor had come on spontaneously. The child lived two hours. About three years later she again became pregnant, and again, at about the third month, there was a similar discharge of water. As a result of keeping absolutely quiet the discharge was diminished, but by the sixth month it had become very profuse, and

the uterus almost empty of fluid. This gave rise to strong uterine contractions, several times a day. She was kept under opiates with the hope of postponing labor until the period of viability. This was done, for labor occurred when she was seven months and one week pregnant. The child was placed in an incubator and did well for a short time. It then began to breathe with great rapidity, and after a few minutes of this excessively rapid respiration it died. Last January this woman again became pregnant. She was at once placed on milk diet, and medication with iodide of potassium and bichloride of mercury. This time the child was carried to within four days of full term; then there was spontaneous labor, and after four or five hours a child weighing about four pounds was delivered. The child was cyanosed and extremely feeble. Just before labor the fœtal pulse had been very strong, and 140 per minute. The child was wrapped in cotton and kept warm by artificial heat. For one hour after its birth the fontanelle beat forcibly. Seven hours after birth the respirations suddenly rose to 70, and a few minutes later the heart stopped beating. An autopsy was made two or three hours later, and the pleural cavities were found distended with fluid which, on the right side was sanguinolent, but on the left side clear. The fluid in the pericardium was also very abundant. There was no fluid in the peritoneal cavity. The lungs had evidently expanded, as they floated perfectly on water, but they were found to be intensely congested throughout. There was no evidence of there having been any intra-uterine respiration. The greatest congestion was located in the upper lobe of the right lung, and in the lower lobe of the same lung. The right heart was completely empty, while the left ventricle was distended with a large quantity of dark coagula, and these extended into the left auricle. It would appear, therefore, that the arrest of the heart began, not in the lungs, in which case the damming up of the circulation should have been in the right heart, but in the left heart, and hence, as the left ventricle was unable to empty itself, there was a damming up of the blood toward the auricle and the lungs. On this theory it was inferred that the congestion of the lung might be the immediate consequence of a failure of the left ventricle to contract. The liver was of normal size, and in the fresh state looked quite normal. Without a microscopical examination, the speaker said, she could not state at all positively regarding the condition of the kidneys. The placenta was excessively small, and there was an entire absence of the normal lobulation of the placenta. From the gross appearance, the maternal side of the placenta seemed healthy, but on the fœtal side the placenta was almost completely converted into a tough, thick mass. The manner in which the blood-vessels entered the placenta would seem to indicate some form of degeneration, either fibroid or amyloid, which had caused contraction of the tissue around it. The exact form of degeneration could not be stated without microscopical examination. The placenta probably represented that type formerly called "fatty placenta," but now known to be a condition in which the blood-vessels have become degenerated. The existence of hydro-thorax and hydro-pericarditis in this case was interesting from several points of view. In the first place, there was nothing in the child typical of "general dropsy of the fœtus." Ballantine, an authority on this subject of general dropsy, says that this condition hardly ever occurs in women having renal disease. This mother, ever since the first pregnancy, had presented more or less pronounced indications of chronic interstitial nephritis. At that time there had been no albuminuria, and the urea had been sufficient in quantity. The discharge of amniotic fluid the speaker was inclined to attribute rather to a disease of the chorion primarily, because the patient had had a slight endometritis. In the interval between the first and second pregnancies the symptoms of nephritis had become more pronounced—there had been a marked diminution in the urotoxic coefficient. Normally, from thirty to sixty cubic centimetres of urine were necessary to poison a single kilogramme of rabbit, while in this patient from seventy-three to eighty cubic centimetres had been required. In the second pregnancy this diminution of toxicity persisted, and she also began to exhibit a slight dilatation of the heart. She had, during the pregnancy, two or three distinct attacks of transient aphasia and hemiplegia. There was no albuminuria, but after the birth of the child marked œdema of the lower extremities and albuminuria were present for a short time. During the last pregnancy a tricuspid insufficiency developed, there was some œdema, the albuminuria was marked about one month before confinement, and there were one or two uræmic attacks before confinement.

Dr. Jacobi closed by propounding the following questions: Is not the degeneration of the placenta an expression of the poisoning of the maternal blood? Was the hydro-thorax and hydro-pericarditis the direct expression of this poisoning derived from the maternal blood, or was there any renal disease inherited by the fœtus, and there being an obstruction of the peripheric circulation, the heart was unable to overcome it, and heart failure resulted? Or, was it an expression simply of asthenia from the cachexia? Could this abundant effusion into the cavity have occurred during the seven hours of extra-uterine life, or did it occur before birth?

Dr. H. S. Stearns, in answer to the query regarding the rapidity with which an effusion might occur, referred to the rapidity with which the pleural cavity filled up in cases of empyema. He had at the present time under observation a case which would discharge about ten ounces in twenty-four hours.

Dr. Donald M. Barstow thought it unlikely that the lungs would have expanded so well had this effusion existed before birth. He recalled several autopsies in which there had been apparently a very rapid effusion of fluid into the pleural cavity just before death.

Dr. Warren Coleman said that he had seen at autopsy, on the preceding day, a case which had been previously carefully examined physically by a competent physician, and no fluid detected, yet at autopsy a considerable quantity of perfectly clear liquid was found in both pleural cavities. In this case, the actual cause of death was thrombosis of both pulmonary arteries. To be sure, there was in this instance a decided obstruction to the circulation, but in the case now under discussion, the marked congestion of the lungs might be considered as an obstruction to the circulation.

The President said that it was very common, at autopsies on very young infants, to be unable to determine satisfactorily from the pathological findings the cause of death. It was particularly difficult to discern slight changes in the kidneys of such infants, at least without microscopical examination. He had also frequently observed at autopsy a considerable quantity of fluid in the pericardial and pleural cavities, in cases in which careful physical examination just before death had failed to show the existence of such an effusion.

Rupture of the Liver.—Dr. Donald M. Barstow presented a liver removed from a man who had been brought into the Hudson Street Hospital on June 2d. About half an hour previously a rope had been twisted around him, thus squeezing the body forcibly. He was in a condition of collapse at the time of admission, apparently from internal hemorrhage. Before infusion could be performed, the man died. At autopsy, made about three hours after death, abrasions were found on the two sides, on the lower part of the thorax, marking the location of the rope. Curiously enough, the ribs did not appear to have been at all injured. The heart and lungs were normal. About four quarts of blood

were removed from the peritoneal cavity. The only injury was in the liver, the tissue of which had been completely ruptured between the lobes.

DR. COLEMAN asked the experience of the President as to the seat of rupture with reference to the point at which the external violence had been applied—was the rupture at this point or on the opposite side?

THE PRESIDENT said that he had not observed that these injuries followed any definite rule of this kind. He could, however, recall seeing the rupture at some distant point from the spot at which the violence was applied.

DR. COLEMAN said that he had seen on the preceding day an autopsy on a man who had fallen off a fire-escape. The external marks of violence extended from the ensiform cartilage to the umbilicus. The cause of death was found to be a very similar rupture of the liver. All the organs were markedly anæmic, and the abdominal cavity was filled with blood. In this instance it seemed as if the blow had thrown the liver back, and that the tension thus produced in the suspensory ligament had resulted in the rupture at this point. There was no other internal injury.

"**Dissecting Aneurism of the Aorta, Rupturing into the Pericardium.**"—DR. WARREN COLEMAN reported a case of this kind. The subject was a muscular, well-developed man, forty-seven years of age, a meat-carver by occupation, found dead in his room. As he lived alone, no history could be obtained, and all that could be learned was that he had failed to report for work one morning, and on investigation he had been found dead. When the sternal plate had been removed, the pericardium was found full of blood, and in addition a distinct swelling at the ascending portion of the aortic arch was noted. Suspecting rupture of the heart, or an aneurism at the arch, the thoracic viscera were removed, including the thoracic portion of the aorta, and then the parts were carefully dissected. The examination of the heart excluded rupture, and the calibre of the aorta was normal, at least as far as the diaphragm. The outer portion of the aortic wall, however, had been dissected off throughout almost the whole of its circumference, and from the diaphragm to the heart, by an effusion of blood which, upon reaching the pericardium, had broken into it at the reduplication of the membrane upon the aorta. The blood had not suffused itself between the aorta and pulmonary artery, but had passed down on the right, or outer side of the arch. The inner surface of the thoracic portion of the aorta was normal except for a few atheromatous patches, none of which had ruptured. Aneurism of the abdominal aorta was then sought for as a source of the blood, and the abdominal viscera carefully removed. But the aorta was of normal size down to the bifurcation, as were the common and external and internal iliac arteries. The aorta and the iliacs were removed as far as Poupart's ligament, especial care being taken not to wound the vessel wall. The separation of the coats of the vessel extended to the bifurcation of the aorta, and thence down the left common iliac to its division into external and internal. Upon opening the vessels, extensive atheromatous patches were discovered in the region of the cœliac axis, and above it to the diaphragm, while below the patches were few and discrete. None of these patches had ruptured. Atheromatous changes were found also around the mouths of the lumbar branches of the aorta. With a probe sufficiently large and blunt to prevent an accidental puncture, these branches were tested, and it was found that three had been torn just at their junction with the aorta, and that a communication existed between the lumen of the aorta and the space in its wall. The torn vessels were in the region of the cœliac axis, the portion of the aorta showing the most extensive atheromatous changes. The fact that more than one of the lumbar arteries was ruptured, of course, cast some doubt, the speaker said, on his interpretation of the case; but admitting the method pursued to have been defective, it did not seem likely that each of the three arteries would have been cut just at its junction with the aorta. Cutting them from within would have been impossible, as an enterotome was used in opening the aorta, and an accidental cut from without might be excluded also, for the wound did not involve the outer portion of the aortic wall, but extended only to the space formed by the effusion of blood. The explanation offered by Dr. Coleman was, partial rupture of the aortic wall at the mouth of perhaps one of the lumbar arteries, the other two being torn subsequently as the result of violent physical exertion, or a blow on the abdomen followed by an effusion of blood both below and above, until the rupture into the pericardial sac occurred. It was impossible, owing to the absence of a history, to determine the length of time between the rupture of the artery and the occurrence of death. As nearly as could be ascertained, this interval was not greater than forty-eight hours, and perhaps less than thirty-four hours. The rupture of more than one of the lumbar arteries must have increased the amount of blood extravasated, and have hastened the onset of death.

The speaker said that dissecting aneurisms were rare as compared with the other varieties. They were seldom recognized during life. The duration of life after the rupture of the artery varied greatly in different cases. Holmes states that "when the coverings of the blood are strong, and the fluid finds a ready passage back into the artery, life may be prolonged for a considerable period; in fact, the symptoms referred to the disease have been observed to last for years." The blood, however, instead of re-entering the artery, might suffuse itself into the surrounding tissues, or pass upward along the course of the vessel until it finally ruptured into the pericardium. Holmes says: "The position of the original rent seems always to be in the aorta, and generally in the arch, quite close to its origin; though it has been known to be situated in the abdominal aorta, even as low as its bifurcation. The position of the secondary rupture of the inner coats, by which the blood passes back into the cavity of the vessel, varies much. A case is mentioned in which the separation extended into the popliteal artery; and in another case, in which the primary rent was in the transverse arch, the secondary opening was in the subclavian. Death occurs soon in all cases where the blood passes out of the artery, either into the pericardium or into the surrounding tissues; and in most of those in which the blood makes its way back into the artery. The patient is usually advanced in life, very probably a female, and suffering from hypertrophy or other disease of the heart."

Abdominal Aneurisms.—DR. GEORGE P. BIGGS presented an abdominal aneurism removed from a male, aged thirty-one, an ice-man by occupation. He had been admitted to the New York Hospital on September 16th, and had died the same night. It was said that a week before admission he had begun to have constant pain in the left shoulder, and three days before admission, pain in his right shoulder and neck, and occasionally across the chest. For these three days he had been unable to retain any food. He had been accustomed at his work to carry very heavy blocks of ice. On the day before admission he had had severe headache and pain in the back. At autopsy a number of old cicatrices were found on the legs, suggestive of specific disease. The peritoneal cavity contained 1,500 c.c. of blood; the left pleural cavity contained 200 c.c., and the right pleural cavity, 400 c.c. of blood; there were a few old tubercular lesions in both lungs. In the abdominal aorta was a sacculated aneurism. It was just below the diaphragm on the anterior aspect of the artery, and just above the superior mesenteric artery. The aneurism pressed forward just about the cardiac end of the stomach, and near the cardiac orifice. The opening from the artery to the aneurism was circular,

and 1½ ctm. in diameter. The aneurismal sac was 10 ctm. in diameter, and was filled with coagulated blood and thick layers of fibrin. In the adventitia of the aorta there was an extensive dissection of blood for some distance below the point of the aneurism, and upward about the œsophagus and aorta to the middle of the transverse portion of the arch. No distinct point of rupture into the left pleural cavity was found, but on the right side there was a distinct rent through the pleura near the root of the lung. It was about half an inch in length. There was also a large rupture at the peritoneum. In addition to these lesions, there were chronic diffuse nephritis and a fairly well-marked cirrhosis of the liver. The interesting feature was the multiple points of extravasation of blood.

Dr. Biggs then presented another aneurism. He said that in an autopsy occurring within a few days of the preceding one, another abdominal aneurism had been found—or rather, three aortic aneurisms in the one case. The specimen presented had been removed from a man, aged forty-five, an engineer by occupation. He had been found by an ambulance surgeon in the street, where he had suddenly fallen while walking. It was said that consciousness had been lost for a short period after the fall. When first seen he was complaining of severe pain in the right hypochondriac region. For two or three days previously he had not been feeling very well. From the location and character of the pain, together with the statement that these pains had been experienced several times before, the ambulance surgeon thought the man was suffering from biliary colic. Examination at the hospital showed the whole right side of the thorax to be extremely tender. Dyspnœa was quite marked, but was thought to be due to the pain caused by respiratory movements. He died quite suddenly during the night on which he was admitted, and after the expectoration of a few ounces of fluid blood. At autopsy there was such extreme emaciation present that the case appeared on inspection to be one of phthisis. The diaphragm on the left side was at the level of the fifth space in the mammary line, whereas on the right side it was very much depressed, having a convex instead of a concave undersurface, and being on a level with the sixth space on the mammary line, and extending nearly down to the free border of the ribs in the axillary line. The left pleura presented only a few old adhesions. The right pleural cavity contained 400 c.c. of coagulated and fluid blood in about equal quantity. The heart was normal in size, the ventricles were contracted, the muscle was apparently normal. There were slight atheromatous changes in the mitral and aortic valves. Both primary bronchi contained a small quantity of coagulated blood, and the small bronchi in the lung contained also a considerable quantity of blood. The left lung appeared normal. The pleura over the posterior and outer surfaces of the right lower lobe was completely dissected up from the lung by extensive hemorrhage. No distinct point of rupture into the bronchi could be detected, but it was thought that the small quantity of blood in the bronchi came from multiple extravasations into the pulmonary tissue. The spleen and kidneys were normal. The liver was distinctly cirrhotic, but not of the syphilitic form. The aorta was the seat of advanced atheromatous changes throughout. It presented three aneurismal dilatations; the first one, situated in the upper part of the descending portion of the aortic arch, was about the size of a hen's egg. It projected forward, and was adherent to the apex of the left lung. The mouth of the aneurism was 3½ ctm. in diameter, and the wall 1½ to 2 mm. in thickness. The inner surface was not lined with fibrin. The second aneurism was found in the thoracic portion of the aorta, opposite the root of the lung. It projected backward, and had eroded superficially the soft tissues over the seventh, eighth, and ninth dorsal vertebræ. Its diameter was 7 ctm., and the opening into the lumen of the aorta was of about the same size. The wall was only 1 mm. in thickness in certain portions. It was not lined by fibrin. There was a large, ragged rupture 2 ctm. in diameter at the root of the right lung, and blood escaped through this rupture between the visceral pleura and the lung. The third aneurism was located in the abdominal aorta, just above the origin of the renal arteries. It had a diameter of 4 ctm., and an opening of about the same size. The superior mesenteric artery and the cœliac axis arose from the interior of the aneurism. The former was of large size, while the latter was completely occluded just at the origin of the vessel from the aneurismal sac. The occlusion seemed to be due to the contraction of new fibrous tissue in the wall around the lumen. The manner in which the blood-supply was kept up under these circumstances could not be determined, as the specimen had not been carefully dissected, and this point was not discovered until the following day.

Dr. Coleman said that in view of the occlusion of the cœliac axis, he would like to know the exact condition of the stomach and spleen.

Dr. Biggs replied that both these organs were normal, although it was difficult to understand how that could be.

The Society then went into executive session.

Clinical Department.

ACUTE ŒDEMA OF THE LARYNX.

By E. B. BAYLIES, M.D.,

DAYTON, O.

Dr. F. E. Hopkins, in reporting an interesting case of this distressing affection in the issue of the Medical Record dated October 19th, goes exhaustively into the subject of etiology, but seems to have forgotten that malaria has shown one of its many ways of attacking mortals by appearing in this form.

Dr. Jacob D. Arnold, in his article on acute laryngitis contributed to Burnett's "System of Diseases of the Ear, Nose, and Throat," pages 312 and 313, describes what he terms miasmatic epiglottitis, and cites cases in point.

The following case is reported on account of its uniqueness in demonstrating the possibility of malaria causing œdema of the glottis, as well as showing how readily it can be controlled by the proper remedies.

A. B——, aged thirty, a letter carrier, presented himself at the office on June 4th last, relating a history of having been under the care of a homœopathic physician for about a week, on account of difficulty in breathing and swallowing, the diagnosis having been tonsillitis.

At this time breathing was moderately difficult, and deglutition was not exceedingly painful.

Examination revealed a reddened pharynx, but no evidence of the enlargement of the tonsils.

A laryngoscopic examination brought to view a typical case of œdema of the larynx, though the tissues were not so much swollen as to prevent a very fair view of the cords.

After cocainizing the parts, a thorough application of zinc chloride two per cent. solution was made, and the patient sent home, to report next day, taking, in the meantime, lozenges composed of mild astringents, to be dissolved in the mouth at stated intervals and swallowed. No report was heard from him the next day, but the day following a call to come in haste was received. On arriving at the house it was seen that all the symptoms were very much aggravated, though the patient said that the day before he had concluded that entire recovery had taken place. The treatment was as before, with the addition of cold applications to the

throat, and proper medication for an elevation of temperature to 101° F., which was found. Toward evening the symptoms abated, and the night and following day were spent in comparative comfort. The fifth day of his being under my care was the worst of the series. The temperature was above 101° F., and all the symptoms were more grave. The voice was husky, and in fact it began to look as if more radical measures would have to be employed if life was to be saved.

The peculiarity of the action of the disease had impressed me with the fact that perhaps it was of malarial origin, and I began the exhibition of quinine as soon as the fever subsided. Five grains that night, ten the next morning and night, with five on the morning of the seventh day, had a happy effect, the attack on that occasion being very mild. A continuation of the treatment as outlined above prevented any further trouble and restored the man to health.

This cannot be called a malarious country, but if the action of remedies has anything to do with determining the nature of diseases, my case was surely one produced by miasmatic influences.

A YOUNG MOTHER.

By C. W. GLEAVES, M.D.,

WYTHEVILLE, VA.

I WISH to report the case of the youngest mother in Virginia. Annie H—— was born in Bland County July 15, 1885, and September 10, 1895, she was delivered of a well-formed child weighing five pounds. She was only ten years and nearly two months old. The girl has no developments of a woman, although she has menstruated regularly since she was five years old.

The labor was a short and uneventful one, and two hours afterward the child-mother wanted to get up and dress, and would have done so had she been permitted.

There were no developments of the mammæ, or secretion of milk; the baby was nourished through its short existence (as it only lived a week) by its grandmother, who had a child only a few months old. The parents of this child, Mr. and Mrs. J. P. H.——, are prosperous, intelligent, and worthy people, and there is no doubt of their child's age.

The child is now well, and plays about with the other children as if nothing unusual had happened.

CANCER OF THE PROSTATE GLAND.

By ERLY H. MADISON, M.D.,

ORAMEL, N. Y.

WILLIAM D——, aged sixty-seven, carpenter by trade; health, previous to last illness, was always good. Gave the following history:

In the winter of 1890 he received an injury in the region of the prostate gland, caused by being thrown on the pommel of a saddle while riding horseback. This injury caused him trouble for some little time, but he finally recovered, as he thought, perfectly.

In the winter of 1894 he complained of uneasiness and pain in the neck of the bladder and in the region of the prostate, accompanied by a frequent desire to urinate; also pain upon defecation. These symptoms gradually increased in severity until about May 1, 1895, when he was confined to the house, with complete retention of the urine and great pain at stool. About this time he had an attack of localized peritonitis on the left side, which readily yielded to treatment.

The most prominent symptoms in this case were frequent desire to urinate, pain upon defecation, and intense pain in the region of the bladder and prostate gland, emaciation, and loss of appetite.

Cancer of the prostate gland was diagnosed. About January 10, 1895, I called Dr. A. H. Lyman, of Fillmore, N. Y., in consultation, who confirmed my diagnosis and who watched the case with me during the remainder of his illness. The symptoms already described steadily increased until death, July 3, 1895.

Post-mortem showed a scirrhus of the prostate gland about as large as a hen's egg, nodular and very hard. The peritoneum was also infiltrated with cancerous masses. There was also a small secondary cancer of the liver, some portions of which had undergone calcareous degeneration. The bladder contained about one ounce of purulent liquid, evidently partly urine, partly pus. The mucous membrane at the base of the organ, while extremely red, could hardly be said to be ulcerated. A more correct description of it would be conveyed by the term granular inflammation. The rectal wall was infiltrated by the growth and was adherent to the tumor, although rectal symptoms were surprisingly few and slight, being practically limited to pain on defecation.

The peculiar characteristics of this case are: 1. The rarity of the disease. I have been able to find only three cases reported, two by Sir Henry Thompson. Dr. Samuel D. Gross says he never saw in all his practice a scirrhus of the prostate, the only form he ever saw being colloid. 2. The obscurity of the symptoms, making diagnosis extremely difficult. 3. The amount of opiate required to control the pain. The last three weeks of his illness I gave him four grains of morphine, hypodermically, every four hours, and this amount did not produce complete narcosis, the effect lasting only from two to three hours. A hypodermic needle was used on this case something over one thousand times.

Such cases as this are extremely suggestive in the light of present pathological knowledge. Here was a growth no larger than a hen's egg which had not ulcerated and which caused no pressure symptom whatever excepting inability to urinate. The urine, to within a few days of death, remained entirely normal as far as chemical analysis showed. The microscope only showed a small amount of mucus from the bladder. There was never any rectal discharge, and the post-mortem showed no breaking down of the tumor. And still the growth caused death.

Death from malignant disease is generally attributed to sepsis from absorption from ulcerated surfaces and to hemorrhage. But such cases as this seem to point to a specific cancer poison, to a specific cancer germ which, though it now eludes the microscope, still probably exists and will some day be discovered.

Quackery in Bavaria.—Official statistics which have recently been published show that the total number of persons practising the healing art without a legal qualification in Bavaria, at the end of 1894, was 1,168 as against 1,152 in the previous year. Of the number 866 were men and 302 were women. With the exception of 17 Austrians, 2 Americans, 1 Italian, and 1 Swiss, the whole of this noble army of quacks was a home product. As regards the special form of quackery, the statistics show some curious features. Thus, 12 philanthropists devote themselves to freeing their fellow-creatures from tapeworms; 12 practise "electrohomœopathy," whatever that may be; while 84 are set down as apostles of homœopathy, pure and simple; 129 offer to sufferers—for a consideration—"secret remedies and sympathy," and 3 deal in uroscopy.—*British Medical Journal.*

Phœnix, Ariz., is progressive. It has recently organized an Anti-Noise League. When the league is in good running order we hope it will send missionaries to New York and other suffering places.

Surgical Suggestions.

Caries of Vertebræ.—Fontan describes a new operation for reaching the bodies of the vertebræ; he makes an incision one centimetre from the middle line, splits the common mass of muscles in order to come upon the apophyseal tubercle; then outside this he plunges in his finger, in order to recognize the costal apophysis which lies at a deeper level. Then with a chisel he cuts this at its base, seizes it, and excises it completely. From here he follows the vertebral column from behind forward with the raspatory, keeping close to the bone under the periosteum, until he reaches the seat of the caries.—M. FONTAN.

Diphtheritic Conjunctivitis.—The only local treatment was by washing with warm water and with a solution of boric acid, and the serum was administered in doses of from ten to thirty cubic centimetres, according to severity and to the age of the patient. In two of the cases single doses of ten cubic centimetres were sufficient.—MORAX.

Appendicitis.—I have been led to feel that when the symptoms indicate appendicitis, the combination of a rapid pulse and respiration, going with a temperature normal, or nearly so, points to the necessity for prompt operation.—DAWBARN.

Bone-grafting.—Dead bone seems to answer the same purpose as the living, if it fills the defect properly, the formation of bone in each case taking place throughout the implanted portions of bone. With decalcified bone the case is different; the deposition of bone takes place only on the surfaces of the fragments. Bone in which the animal matter has been destroyed by heat answers the same purpose. The beneficial influence seems to depend upon the presence of the calcium salts. The author states that calcined bone placed in the soft parts, or even in the abdominal cavity, is followed by bone-formation.—BARTH.

Vaginal Secretion of New-born Infants.—For twelve hours after birth the vulva and vagina are sterile. From this time until the third day germs are occasionally found, and after the third day they are present in most cases. In four per cent. of cases staphylococci were discovered, while in 14.6 per cent. streptococci were isolated.—VAHLE.

Is it Peritoneum or Transversalis Fascia?—Regarding the recognition of peritoneum as distinguished from transversalis fascia, these membranes cannot always be distinguished by a differing appearance. I have often seen transversalis fascia that did not look fibrillated, and was just as shining as the peritoneum. Possibly it may be worth while, for others than the members of this Society, to refer to a valuable point which many years ago I obtained from Dr. McBurney, and have never seen in print, namely, that after cutting the deepest muscle, its cut edge be lifted and its deep surface examined. If, now, that surface be found bare, then the transversalis fascia has not yet been cut. But if that under-surface of the deepest muscle be found covered with a fascia, however thin, that is the transversalis fascia, which has already been cut, and then the next membrane attacked will of course be the peritoneum.—DAWBARN.

Cancer.—He believes that both on *a priori* grounds and on the existing evidence the germ-theory of cancer should be rejected unhesitatingly, and thinks that "the microbe of cancer has not yet been discovered, because in all probability it does not exist." As to contagion, there is not a single authentic instance of the transmission of cancer from one individual to another, and the alleged successes in the attempts to transmit it to lower animals should, he thinks, be accepted only in a tentative sense.—WILLIAMS.

Correlated Variability.—It is a very remarkable fact that in every female all the secondary male characters, and in every male all the secondary female characters, exist in a latent state, ready to be evolved under certain conditions. It seems perfectly warrantable to assume that the normal condition of the mammæ in each sex is determined by correlation with the essential sexual organs. When the latter are destroyed the correlated integrated force determining mammary development also fails, so that the latent tendency to develop the opposite sexual characters then becomes manifest.—WILLIAMS.

Foul and Sloughy Wounds.—In the treatment of this sloughing surface sterile gauze soaked in oil of turpentine was freely employed and changed daily, the skin being thickly dusted with compound talcum or bismuth subnitrate, to avoid turpentine blistering. This treatment was not much complained of, and was ideal in its results. Indeed, in foul and sloughy wounds, everywhere, the writer knows of no plan of equal value with this, which he first saw suggested many years ago by Dr. Banks, the Liverpool surgeon.—DAWBARN.

Lithotomy.—The supra-pubic method seems so thoroughly to have established itself among surgeons that one may easily look forward to its being the operation of the future.—HEATH.

Flat Foot.—1. The feet of the infant at birth are not flat; the tracing at that time resembles the adult normal foot. 2. A body of fat develops under the arch which gives the appearance of flat foot for some years, and at four or five years of age this is absorbed. 3. The smoke tracing is not a perfect method of studying abnormality of the arch of the foot, because it fails to detect the slighter cases or to record pronation. 4. The element of pronation is more constant than breaking down of the arch of the foot, and may be entirely separated from it. 5. The condition of pronated foot without breaking down of the arch of the foot, should be recognized and not confused with flat foot. 6. The treatment of pronate and flat-foot is the same, and consists in the use of proper boots, the application of a pad or plate, the stretching of the gastrocnemius muscle where it is shortened, and in the routine use of massage if obtainable, and always of exercises to develop the muscles which hold up the arch.—HOVETT AND DANE.

Ectopic Pregnancy.—The etiology of ectopic pregnancy is still shrouded in doubt, but after examining a large number of cases and the prior history of these patients, I am led to the opinion that the true cause is a former salpingitis, which has either destroyed or impaired the integrity of the ciliated epithelium of the Fallopian tube to that extent, that the ovum is impeded in its passage through the tube, together with the impairment of the peristaltic action of the tube through the same inflammatory process.—SHELDON.

Acetanilid as an Antiseptic.—The action of acetanilid upon wounds, especially granulations, when used in full strength, is to produce intense dryness, blueness, and to check at once and prevent the formation of pus. Upon extensive granulating surfaces and chronic ulcers a slight burning sensation is at first perceived, which is rapidly succeeded by a sedative or anæsthetic effect. If used in sufficient quantity, a thin scab of acetanilid, combined with the wound secretions, forms, under which healing rapidly progresses. If a very large surface is exposed to the action of the undiluted drug, toxic symptoms promptly supervene in susceptible individuals.—MORTON.

Therapeutic Hints.

Alcohol in Fevers.—1. If the tongue becomes dry, discontinue; if moister, the drug is doing good. 2. If the pulse becomes quicker harm is being done, and the contrary if slower. 3. If the skin becomes moister the antipyretic effect of alcohol is obtained, and again good is being done. 4. If the breathing becomes easier continue the drug.—ARMSTRONG.

Alcoholic Intolerance.—The fact that many persons use spirits to excess at intervals, or in moderation for a lifetime, and from superficial observation are apparently no worse, is both misleading and dangerous. In one case it conveys the impression that spirits are harmless in small quantities, and occasional excesses are of little injury from which restoration quickly follows. In the second case the danger of repeated pathologic disturbances are masked until organic changes take place, and most serious results follow, that are not apparent except in other departures from health.—CROTHERS.

Cimex Lectularius and Phthisis.—Parisian scientific circles are exercised over the discovery that bedbugs are active agents in the transmission of the bacillus of tuberculosis from one person to another.

Adenoid Growths.—The reflex spasms of the larynx and a condition closely resembling that of croup is frequently caused by reflex nerve-irritation from the pressure of such growths; and general convulsions, attacks of asthma, or deafness, are all well-known complications resulting from the same nervous irritation.

Local Tuberculosis.—The caustic action of iodine is limited and prolonged when the metalloid is introduced in the powdered form into a tubercular focus, and it is still more prolonged when the sublimed crystals are put in even to completely fill the cavity. Iodine seems to have an elective action on tuberculous tissues. It acts deeply, and is painless when applied to tubercular nodules, but it is painful and merely superficial in its action when applied to healthy tissue.—GUERMONPREZ.

Arsenic in Skin Diseases.—The diseases for which arsenic seems to be especially useful are few. At the top of the list stands psoriasis, then chronic eczema, and the lichens, with some of the hydroa type. Some cases of psoriasis are benefited.

Removal of Tattoo Marks.—After asepsis of region the tattoo is remade with a solution of thirty parts of zinc chloride in forty parts of sterilized water; with due precautions no great inflammatory reaction takes place. After a few days a crust forms, which falls off from the fifth to the tenth day.—BRAULT.

The Contagion of Scarlet Fever.—Dr. Edward G. Gilbert writes to the *British Medical Journal* that in a considerable practice for the last twenty years he has acted on the conviction that in a desquamating skin after scarlet fever there is no danger to others; and that if the throat and nose are quite sound again, isolation of the patient is not necessary for more than a month. Acting on this theory, he has uniformly succeeded in preventing the spread of the disease, although often children with free desquamation still going on have mixed and played freely with others who have never had the disease. During the period of isolation he has the skin smeared daily with a weak solution of carbolic acid in oil, and during the last week of it the patients have three good scrubbings with hot water and soap, immediately after the last of which they are sent from their rooms, leaving all their belongings behind them.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

KING'S COLLEGE—DR. BEALE'S ADDRESS—ORIGIN OF LIFE—SIR CRICHTON BROWNE'S ADDRESS—MIND AND MATTER—HARVEIAN ORATION AT THE COLLEGE OF PHYSICIANS—SOCIETIES—MEDICO-CHIRURGICAL NEW ENTRIES.

LONDON, October 25, 1895.

KING'S COLLEGE is a Church institution, and all its professors are accordingly required to accept the articles of the Episcopal Established Church. In consequence of this, opposition was raised to a grant from the public funds, and the late government withdrew the grant unless the College would give up its sectarian demand. The College refused, and the new government has restored the grant. Whatever may be said in favor of tests in the theological faculty, there are departments of knowledge in which sectarianism might well be excluded. King's was founded avowedly as a Church school, to counteract the influence of University College, which was established on non-sectarian lines. No doubt there would be legal difficulties in the way of altering the constitution of either.

The professor of medicine at King's and physician to the hospital is Lionel Beale, F.R.S., whose researches on bioplasm, a word of his coining, must be as familiar to your readers as his great authority on microscopical researches. At his opening lecture he took the opportunity of declaring his continued conviction that the materialists' views of the origin of life, of late years so ardently advocated by a small section of scientific men, are contrary to all living nature, and to make them popular it was necessary to invent a new nature—a nature which has been shown to be impossible. Then he remarked that lately a change has come over these advocates, and not a few have begun to doubt whether the purely physical doctrine of life is supported by facts. Even the president of the Chemical Section at the late Scientific Congress pleaded "for a little more vitality," and Dr. Beale naturally joins in the plea, as he has for years been the prominent supporter of the view that a vital, guiding, arranging, regulating, constructing power is working in everything that has life. It is some five and thirty years since Dr. Beale laid down the distinction between forming and formed material. He has taught that every form of living, growing matter is absolutely distinct from every kind of formed material produced by it, and that the influence on the non-living pabulum is peculiar and belongs to all living matter, but to this only, and is not comparable with or allied to, any other property, power, or action. Many new facts have been discovered about living matter, but observation and experiment go to show that all its powers have been derived from pre-existing living matter and may be transmitted without loss, though sometimes with temporary modifications. We have been told again and again that we are on the eve of finding out how life works, but Dr. Beale says we are further off than ever from this discovery, and asks whether, in the whole range of knowledge, one fact can be pointed out as comparable with vital characteristics; whether anyone of the powers of living matter has received anything like adequate explanation; and whether there is anything in the non-living world comparable with the ordinary changes that have taken place in every living particle that has ever existed. Dr. Beale then observed that, in the wonderful operations of living matter, we must look for the foundations of physiological, pathological, and medical science, and indeed, of that of the whole living world as distinguished from the lifeless cosmos. Here, too, we must look for origin of the changes characteristic of the living state, and

account must be taken of these vital phenomena in discussions about consciousness, thought, and will, and the life that has been, is, and is to be.

Approaching the subject from a somewhat different stand-point, but travelling to the same goal, Sir J. Crichton Browne, in his presidential address at the Medical Society, on Monday last, treated of relations of mind to matter. Admitting that, as often asserted, there is an inbred predisposition to adopt materialistic constructions of the external world, and that if it be so it would be, it follows, as Arthur Balfour argues, that such belief is necessary, he remarked that the tendency may have been strengthened by medical studies, so that some had come to regard thought as a cerebral secretion. No doubt a few medical writers have used language of this kind, which Sir Crichton proceeded to controvert—maintaining that investigations would be more fruitful if unhampered by this false hypothesis. He held it necessary to again and again insist on the truth that mental activity cannot be referred to any physical agency, and that ingenious analogies with heat, light, and electricity, though useful for illustrative purposes, can never bridge the gulf between mind and matter. Mind and matter, he declared, were two distinct essences, irreconcilable in their nature, but accordant in their operations. One kind of motion may be transformed into another, but under no condition can mind pass into a thought, or a thought into motion. Even a neural process and a mental process have nothing in common. The discoveries in the histology of the brain have not brought us a hair's-breadth nearer a solution of the mystery of mind. But mental changes are definitely linked with changes of body, and to account for this Sir C. Browne supposed a parallelism of two causal series running side by side, but never interfering with each other. This is somewhat akin to Leibnitz's pre-established harmony, which likened mind and body to two clocks, side by side, keeping exact time. A psycho-physical parallelism is thus assumed as an ultimate scientific fact, and the two sets of sequences must await a higher synthesis to unite them. That higher synthesis is an ideal to which perhaps we cannot attain with our present faculties, though it would introduce us to a coherent theory of the universe.

But this psycho-physical parallelism, though close and exact as far as it goes, is very limited in extent. Vital phenomena are insignificant if compared with the forces of the material universe, and of these vital phenomena there are only a few in which we discern mental processes. The whole mass of organic life, animal and vegetable, is but a film of exquisite tenuity spread over patches of the material surface like the bloom on a ripe plum. Brain substance in this film is only an infinitesimal sprinkling like grains of gold in the earth's crust, and of this brain substance only a tithe, the gray matter of the cerebral hemispheres, is concerned with man's mental life. The parallelism is only between mind and the highest level of nervous evolution, and does not apply to the elaborate products of mental life. In other respects obvious limitations were pointed out. What we perceive is but a fraction of physical events beyond our cognizance. The spectrum is only a measure of the degree in which we are not color-blind. Stone-deafness, except for a paltry eleven and a half octaves, is universal in our species, and there are in nature vibrations laden with tastes, smells, and tactile impressions that cannot reach us. So limited after all is the parallelism, that we might perhaps rather liken mind and matter to two vast spheres that only impinge on each other at one point. Sir Crichton repudiated therefore some of the localizationists as quite as ridiculous as their predecessors, the phrenologists. In breaking up the faculties into constituent ideas and distributing them among morphological units of the brain, they have overlooked the complex processes involved in the formation of an idea. There is no mental atom indivisible, unalterable, and eternal. A single rod or cone of the retina cannot be the seat of a visual image, and no more can a single cell of the visual area be the seat of a visual idea. The young medical psychologist who piqued himself on having discovered a delusion cell was only the victim of a profound delusion.

While I was writing my last week's letter, the Royal College of Physicians was commemorating Harvey and its other benefactors by the Harveian oration, which was delivered this year by Dr. W. S. Church and was, I am assured, a good specimen of these discourses. This is the two hundred and thirty-ninth celebration, or nearly so, for I believe there have been a few intermissions of the annual function, which is not to be wondered at in so long a period. Of course, one does not expect anything new about Harvey by this time, but a fresh aspect is sometimes given at these orations to some facts in connection with him or his work. On this occasion, I learn, his views on "innate heart" were prominently considered. At the conclusion of the oration the Baly medal was presented to Dr. Gaskell. This medal was founded in 1866 in memory of Dr. Baly, physician to the Queen and translator of Muller's Physiology.

At the Medico-Chirurgical it was considered "a graceful act" to present to the country doctors who had contributed valuable information to the Report on Health-Resorts, a copy of the part of the report containing their contributions. A very graceful act! If the report is worth anything I should have supposed each contributor, not being paid, would have expected a complete copy. Considering how soon the volume will be almost unsalable, I should think the society might distribute copies to those who have assisted.

There was a paper on "Posture in Relation to Operations and Anæsthesia," but the debate on it was adjourned, so I defer any remarks.

There has been a meeting of one or other society or else a lecture every day this week, and to night the Clinical Society is to have the president's address and several papers. You will see, therefore, that there is plenty going on to occupy those who can or will spare time for attendance, and this society's work is well worth the fatigue it entails, for even at the dullest meetings there is generally something to be picked up, and of course always the opportunity of meeting friends; though it must be confessed that sometimes "the bores" have long innings.

The new entries at the London schools are not quite so discouraging as was feared.

The death of another surgeon-general is announced, that of Dr. Shelton, of paralysis, in his seventy-fourth year. Death has been very busy of late among the retired army surgeons.

MATERNAL IMPRESSIONS.

To the Editor of the Medical Record.

Sir: The case of supernumerary thumbs, recently reported in your columns, recalls a case in which my informant believed that a child was born with cleft palate, because the pregnant mother had been surprised at seeing her roommate remove from her mouth a set of artificial teeth.

As counter-evidence allow me to contribute the following: Mrs. S——, who had recently lost an only child, a daughter, aged ten, to whom she had been devotedly attached, and for whom she "mourned, and mourned, and mourned," became pregnant. Living in the neighborhood was an intimate friend who had an idiot child. During the whole of the pregnancy Mrs. S—— was profoundly impressed with the idea that the coming babe would be a girl, and she an idiot; but at the proper time she was delivered of a well-nourished boy, and he as intelligent "as they make them."

My experience leads me to the following conclusions: If maternal impressions could produce the effect some claim, 1, the majority of conceptions would abort soon after the mother discovered she was pregnant; and, 2, the minority would be "marked" or crippled, mentally or physically.

FREDERICK H. S. AMES, M.D.

DENVER, COL.

WHERE THE PRINCIPAL BLAME SHOULD REST.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: I have read your recent editorials concerning the "reform" in the charity hospitals, secured through the summary removal of men who, for years, had given their time and talents toward the succor of the poor, and the substitution of supposedly equally competent men prepared to similarly serve the worthy poor. You have laid stress on the gross outrage thus inflicted on a deserving body of professional men, and you have paid your respects in an honest, upright, manly way to the so-called "reform" Commissioners who, on the surface, have dictated this act. You have also incidentally noticed the statement that certain of these Commissioners claim that everyone is satisfied except the "soreheads" who have been removed.

Since I may properly figure as not being a "sorehead," having voluntarily resigned last spring after duty properly done—otherwise the Commissioners presumably could not have appointed me—I feel safe in calling your attention to a fact you seem to have overlooked, which is, that the obloquy and the shame—everlasting shame—of this wholesale and uncalled-for removal belongs to, and shall rest with, the small number of medical men who instigated and advised the act, rather than with the Commissioners, who were simply tools. This fact it behoves the medical profession to ponder over and to remember. Respectfully,

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THE QUESTION OF AN INTERNATIONAL LANGUAGE.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Your correspondent, Dr. W. T. Greene, of Belvedere, Kent, England, simply ignores the question at issue. In my first paper on Greek, read before the Academy of Medicine, I said: "The rivalry of nations is against the employment—as an international language—of one of those principally spoken in the civilized world, such as English, French, or German. In addition, these languages are insufficient for the expression of new ideas and for the composition of words. Even as it is now, the English, French, and German have one thing in common, they borrow from one and the same language, which has many claims to be preferred to every other in the selection of a universal language for scholars. In choosing Greek no mutual rivalry need be taken into consideration. . . . While an universal language sufficient to satisfy the intellectual want of every people and of every time can be as little imagined as the equality of all mankind, still such an uniformity is possible in a restricted part of human society, viz., in that aristocracy formed by art and science. It is not the masses who need such an universal language, but the men of science."

Dr. Greene himself confirms my views in saying, "I dare say the Frenchman and the German would squirm at the idea [to have English the universal language]. Let them." Now, this settles it; as long as the Frenchman and the German squirm, English will simply be an impossibility as an international language.

Dr. Greene is perhaps not aware that of hundreds of German physicians there is hardly one who speaks English; in France it is certainly not better. It is amusing, however, to read in his letter that the French and the Germans have annexed many English words. The German would say, "Umgekehrt wird ein Schuh draus." I think I understand German and French both pretty well, but I know only one English word which all Germans and Frenchmen employ, namely, the word "beefsteak."

Far be it from me to say one word in disparagement of the English language, the English or the American people; on the contrary, I fully admire both language and nations. In one of my pamphlets on Greek I even have quoted the enthusiastic praises of the greatest German linguist, Jacob Grimm, which he has given to the English language. English is certainly, as Dr. Greene says, a good and a practical language; but, as I have said already, it is, as little as the German or the French, the language to be selected for international communications of scholars.

There can be no doubt that the study of the classic languages, and of the Greek more especially, is indispensable to the formation of a truly cultured mind. It has been said that no truly liberal education is possible without the study of Greek. It is impossible to imagine a polished gentleman devoid of knowledge of it. Especially an Englishman, in order to understand his own language, must necessarily know Latin and Greek.

I am sure Dr. Greene will not dispute these facts, and since Greek has to be on the school plan, since every true scholar is obliged to know it, I only ask for a consideration of the living Greek, and that it be taught in a rational way in our schools.

A. ROSE, M.D.

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Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending November 9, 1895.

	Cases.	Deaths.
Tuberculosis	111	115
Typhoid fever	39	15
Scarlet fever	55	5
Cerebro-spinal meningitis	2	3
Measles	112	9
Diphtheria	188	41
Whooping-cough		5

The Dangers of Long Journeys.—Huchard calls special attention to arterial cardiopathy and interstitial nephritis. Some years ago, he says, a man fifty years old, who had arterial cardiopathy, showed slight symptoms of renal insufficiency, with hyposystole, although there were no traces of albumin in the urine. The patient intended to make a long journey by rail, and M. Peter, who saw him in consultation with M. Huchard, made no objection to this. They were very much astonished, says the author, to hear that, two days after his arrival at Nice, he had been taken with dangerous symptoms of acute uræmia and had died in less than a week. In the same year another patient, suffering with the same trouble, died after a journey of twenty-six hours by rail. M. Huchard has also seen the same symptoms supervene in identical conditions, but without a fatal termination. The trembling motion of the train, says M. Huchard, which so quickly produces symptoms of renal congestion and genito urinary excitation, leads to the transformation, in arterial cardiopathy, and especially interstitial nephritis, of incomplete renal impermeability to a complete impermeability, from which sometimes arise the fulminant symptoms of uræmia. M. Huchard thinks that patients who suffer

with arterial cardiopathy or with interstitial nephritis, with slight symptoms of renal insufficiency, should avoid long journeys by rail. If, however, a long journey has to be taken, it should be done in easy stages, with intervals of several days for rest. The following examples, says M. Huchard, demonstrate the unfavorable influence of long journeys on patients suffering with these troubles: A patient who had come under Prout's observation suffered very much from cold and sea-sickness during a tiresome voyage, and died the following morning. Charcot mentions the case of a woman who, before leaving Paris for Switzerland, made a number of calls on foot and returned home completely exhausted. The following morning she became comatose, and death occurred very rapidly. Foster cites an observation of a man who took a very long walk in order to reach his home. He complained of feeling very tired, and on the next day symptoms of diabetic poisoning set in and he died on the third day. M. Huchard himself has observed a diabetic who suffered with arterial cardiopathy. This patient went to Paris, where he spent some time in taking long walks about the city. Eight days afterward he became comatose, and death rapidly supervened. Here, says M. Huchard, the aggravation of the disease cannot always be attributable to renal congestion, nor can the long journeys by rail be given as the pathogenic cause of the symptoms. It is known that the muscles, which are alkaline in a state of repose, become acid after repeated and energetic contractions, for a muscle that is tired is a muscle poisoned by acids, and especially by lactic acid. Now, fatigue, long walks, and violent exercise act in the same way as diabetic poisoning, which is nothing but an acid poisoning.—*New York Medical Journal.*

The Ductless Glands.—The equivocal position of the ductless glands in the animal economy, and the interesting nature of the facts that have recently been ascertained in regard to them, give a special interest to a recent address by Professor Schäfer. The functions of the spleen, thyroid, thymus, and supra-renal capsules have long been shrouded in obscurity, and many points in their life-history still remain to be elucidated. (*The Lancet.*) The similarity of the structure of these bodies to that of glands, but unprovided with ducts, their large volume, and the evident activity of the processes that take place in their interior, as indicated by their large vascular and nervous supply, which militates against the supposition that they are useless or that they are mere degenerate remains of once more important organs; and, on the other hand, the possibility of removing the whole or the greater part of their substance without apparent injury to the health of the animal—all these and many other facts combine to render them a physiological puzzle. For many years past, however, the conviction has been growing in the minds of physiologists that their true function consisted in the separation of certain materials from the blood, acting in the same fashion as the salivary glands or pancreas, but that these secretions, instead of being discharged from the surface of the body, as is the sweat, or into the alimentary canal, are reabsorbed into the blood, and fulfil certain definite purposes in the economy. Hence the term applied to them by Professor Schäfer, of internal secretions. In one sense every part of the body, be it nerve or muscle, bone or fat, modifies the blood in a similar manner, by abstracting from the blood the materials of its own nutrition and restoring to that fluid the products of its disintegration. In the cases of the liver and pancreas the internal secretion is more important than the external, since the secretion of the former of these glands, at least, may be permanently diverted by a fistula without interference with the vital functions, while removal of the whole gland is invariably fatal. As our knowledge of the liver and its functions has extended we begin to see the reason of this. The liver visibly secretes bile which may be abstracted before entering the alimentary canal without harm, but it also forms urea and glycogen, and it is the accumulation and decomposition of these products that cause death when the whole gland is removed. Analogous experiments on the pancreas enable similar deductions to be drawn. The pancreatic juice can be diverted by a fistula from the intestine, and the major part of the gland can be cut away without harm, but if the whole be removed death results from diabetes. The internal secretion of the gland is more important than the secretion it discharges by its ducts. After discussing the relations of the thymus and thyroid bodies Professor Schäfer dwelt at length on the supra-renal capsules, on which he, with the assistance of Dr. Oliver and Mr. Moore, has been working for some years. He sums up his results, which show conclusively that the medullary portion of the adrenals contains a dialysable organic principle, soluble in water and not destroyed by boiling for a short time, which produces a powerful physiological action upon both striated and unstriated muscular tissue, especially affecting the skeletal muscles and the muscles of the blood-vascular system, causing these contractions to be greatly prolonged, and in this respect resembling the action of veratria. It also has some exciting influence on the cardio-inhibitory centres in the medulla oblongata, causing the heart to slow down; but after section of the vagi it exercises an opposite effect, increasing the force and frequency of the heart's action, and thus leading to a great rise in the blood-pressure, which is enormously increased by its power of inducing contraction of the muscular tissue of the arterioles.

Pastor Kneipp's Medical Practice.—The *Westminster Gazette*, of recent date, contains an account of the way in which Father Kneipp, of cold-water fame, treats his patients at Woerishofen. He could give points, as regards rapidity of diagnosis, to many a dispensary doctor in New York, for the average time which he devotes to each patient is about twenty-four seconds. When receiving patients on a busy day the pastor sits at a long table in a large, plainly furnished room, smoking a huge cigar. He dictates his "prescriptions" to an assistant in a solemn tone, as if he were presiding at a religious ceremonial. Men, women, and children of every station in life file past him. In an hour and a quarter he gets through one hundred and eighty without difficulty. There is no examination, and few questions are asked. Indeed, there is little necessity, for cold-water baths and bandages and walks on wet grass with bare feet exhaust the worthy pastor's pharmacopœia. There is one exception—an ointment composed of honey and medicinal herbs for those who suffer from diseases of the eye. But then the ointment is a sovereign one for everything, and so Pastor Kneipp manages to break the record as an oculist as well.

Experimenting upon Criminals.—The Governor of the Punjab, in India, has ordered that half the prisoners in the jails there be kept on fresh water, and half on boiled, records being kept to see whether the boiled water has any effect in the way of preventing ordinary sickness.

Deaths from Lightning.—During the five years, 1890–1894, lightning caused the death of one thousand one hundred and twenty persons in the United States. The greatest number occurred during June and July, and all, with but few exceptions, between the months of April and September.

A Quartette in Himself.—According to a newspaper paragraph, now going the rounds, Dr. Stuart, of Sydney, N. S. W., has invented an artificial larynx, which has been successfully applied, the mechanism of which can be so regulated as to make the voice bass, soprano, tenor or contralto, at will.

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Original Articles.

SOME OBSERVATIONS UPON THE EFFECTS OF HORSE-SERUM INJECTIONS.[1]

BY HENRY DWIGHT CHAPIN, M.D.,

NEW YORK.

THE special appeal that serum therapy makes to all thoughtful physicians is the fact of its not being empiric, but based upon a long and laborious study conducted on scientific principles. At last we seem to have reached a therapy that is directly founded upon a knowledge of the natural history of the disease it is intended to combat. The products of the diseased process in one animal may be employed to check the ravages of the same disease in another animal. Experimenters have not been slow in following up this new field, and protective or curative inoculations of serum have been tried in many diseases. Diphtheria, cholera, hydrophobia, influenza, pneumonia, small-pox, tetanus, tuberculosis, typhoid fever, and syphilis may be mentioned as diseases in which serum therapy has been proposed, and, in some, given a more or less extensive trial. The serum from various animals has been tried. Thus, Tommasoli treated six syphilitic patients with intra-muscular injections of sheep blood-serum, and the same author used dog-serum upon five cases of lupus. Kollman tried sheep, calf, dog, and rabbit serum in syphilis, some of the patients remaining under treatment for eight and a half months. In all the studies that have been made, comparatively little attention seems to have been given to the action of blood-serum itself upon the economy, entirely apart from any curative effects upon certain diseases or the development of antitoxins. The new works on serum-therapy do not, as a rule, mention any dangers, or contain any warnings as to the limit of its use. In the absence of such caution, last winter the writer experimented with horse-serum injections in a number of children suffering from syphilis and allied diseases. The treatment was continued for about two weeks, and all the cases did badly. It then occurred to me that, in serum, we are dealing with a physiological fluid of great potency and that damage might result from its careless or too prolonged use. A glance at the physiologies shows that serum is described as a transparent, yellowish, alkaline fluid, with a specific gravity of from 1.025 to 1.032, being the liquid part of the blood or of the plasma which remains after the separation of the clot. Serum differs from plasma in that it contains no fibrinogen; it contains paraglobulin and serum-albumin in the same proportion as does the plasma. Thus it appears that these fluids are, above all, highly albuminous solutions, containing nearly as much proteid as is contained in ordinary white of egg.[2]

With reference to the effect of serum, as such, upon other bodies, little is said. Landois and Sterling state that the blood-serum of some mammals dissolves the blood-corpuscles of other mammals. Thus, dog-serum and frog-serum dissolve the blood-corpuscles of the rabbit in a few minutes. They do not say, however, in what manner the serum is applied to the corpuscles. Hermann, under Transfusion, in the "Handbuch der Physiologie," also mentions blood-serum as a destroyer of the red blood-corpuscles. Hayem, upon the same topic, states that autopsies on animals that have received transfusion of blood from one species of animal to another, show that of the lesions resulting, those of kidney congestion and changes in the uropoetic apparatus take first rank. In order to study some of the effects of blood-serum injections various animals were subjected to injections for different lengths of time and then killed. In all of the cases, plain, sterilized horse-serum was employed. The horses had not been inoculated with any toxins, and were apparently healthy. Certain conditions of the blood were noted before and after the injections.

In 1,000 parts of serum there are :[1]

Water	about	900
Proteids :		
a. Serum-albumin		80
β. Serum-globulin		
γ. Fibrin ferment		
Salts.		
Fats, including fatty acids, cholesterin, lecithin, and some soaps		20
Grape sugar in small amount		
Extractives—creatin, creatinin, urea, etc.		
Yellow pigment, which is independent of hæmoglobin		
Gases—small amounts of oxygen, nitrogen, and carbonic acid		
		1,000

July 2, 1895.—Large rabbit; two months; count of the red blood-corpuscles, 8,316,666; hæmoglobin, 105; 5 c.c. serum injected. In three hours: corpuscles, 7,170,000; hæmoglobin, 90. July 10th, after daily injecting 5 c.c. serum: corpuscles, 8,246,666; hæmoglobin, 95. Autopsy: Spleen enlarged and congested; kidneys showed cloudy swelling.

July 4th.—Sheep, two years old; weight, 60 pounds; healthy; hæmoglobin, 110; 16 c.c. serum injected. In three hours: hæmoglobin, 110; 12 c.c. serum injected daily until July 16th; temperature varied from 104° F. to 105° F. (normal, about 101° F.); respiration and pulse increased, but the animal ate well; no œdema nor infiltration around points of injection. July 16th, temperature 105⅘° F.; hæmoglobin, 100. The animal was killed by being bled to death. Autopsy: Kidneys enlarged, soft, and congested, with all evidences of cloudy swelling; glomeruli prominent, with granular prominences marked over the cortex; very marked congestion at base of pyramids; infarction in one kidney; spleen enlarged.

July 5th.—Guinea-pig; corpuscles, 9,253,333; hæmoglobin, 105; 2 c.c. serum injected. In three hours: corpuscles, 8,453,333; hæmoglobin, 100. More white blood-corpuscles, and quite a number of blood-plaques to be seen. July 11th, after daily injecting 2 c.c. serum: corpuscles, 7,783,000; hæmoglobin, 105. Autopsy: Spleen enlarged and congested; kidneys, congestion and cloudy swelling.

July 11th.—Large dog; hæmoglobin, 120; 8 c.c. serum injected. In three hours: hæmoglobin, 118. Daily injections were given, increasing each dose by 2 c.c. until, on July 19th, 24 c.c. was injected, and the animal killed; hæmoglobin, 118. Autopsy: Spleen enlarged, with Malpighian tufts greatly congested; kidneys, capsule adherent; cortex shows cloudy swell-

[1] Read before the New York Academy of Medicine November 7, 1895.

[2] Waller's Physiology.

[1] Kirke's Hand-book of Physiology.

ing; medullary rays very prominent; pyramids show very marked congestion.

July 18th.—Guinea-pig; corpuscles, 9,320,000; hæmoglobin, 112; 2 c.c. serum injected, and in three hours: corpuscles, 8,970,000; hæmoglobin, 110; 2 c.c. injected daily until July 25th; corpuscles, 10,983,333; hæmoglobin, 106. Autopsy: Spleen enlarged and congested, with Malpighian tufts prominent; kidneys, congestion and cloudy swelling.

August 3d.—Large rabbit; corpuscles, 7,436,666; hæmoglobin, 105; 2½ c.c. serum injected, and in three hours: corpuscles, 7,343,333; hæmoglobin, 105; 2½ c.c. injected daily until August 9th; corpuscles, 6,983,333; hæmoglobin, 105. Autopsy: Spleen enlarged and congested; kidneys, cloudy swelling.

In the remaining experiments only three injections were given, in place of the repeated injections of the first experiments. The speedy recuperative powers of the blood are well known, hence the tests were made a few hours after the first injection and repeated at the end of a goodly number of injections in the first experiments.

October 14th.—Small rabbit; corpuscles, 8,036,666; hæmoglobin, 98; 2 c.c. of serum were daily injected on October 14th, 15th, and 16th.

October 17th—Corpuscles, 6,656,666; hæmoglobin, 95. Autopsy: Spleen not enlarged. Microscopical examination of frozen sections of the kidneys showed cloudy swelling and numerous small areas of fatty degeneration.

October 21st.—White rabbit, 1 pound, 5½ ounces in weight; corpuscles, 11,716,666; hæmoglobin, 85; 1½ c.c. serum injected on October 21st, 22d, and 23d. October 24th, weight, 1 pound, 6 ounces; corpuscles, 10,196,666; hæmoglobin, 85. Autopsy: Microscopical examination of kidneys showed cloudy swelling and a few small areas of fatty degeneration; spleen not enlarged.

October 21st.—White rabbit, weight, 1 pound 5½ ounces; control, uninjected; corpuscles, 12,040,000; hæmoglobin, 90. Kept under same conditions as former rabbit.

October 24th:—Corpuscles, 11,023,333; hæmoglobin, 85; weight 1 pound 6½ ounces. Autopsy: Kidneys normal; microscopical examination.

October 30th.—Rabbit, 1 pound 15 ounces; corpuscles, 9,686,666; hæmoglobin, 95; 1½ c.c. serum injected on October 30th, 31st, and November 1st. November 2d: Urine had specific gravity, 1.015, with a trace of albumin. Under the microscope, a large number of abnormal blood-corpuscles and a few fine granular cells; corpuscles, 8,083,533; hæmoglobin, 85; weight, 1 pound, 15 ounces. Autopsy: Kidneys showed cloudy swelling and some fatty degeneration.

October 30th.—Rabbit, 1 pound 7½ ounces; control, uninjected; corpuscles, 9,206,666; hæmoglobin, 105. November 2d: Microscopical examination of the urine showed a number of abnormal corpuscles and one fine granular cast; no albumin; corpuscles 7,233,333; hæmoglobin, 105. Autopsy: Microscopical examination showed cloudy swelling of the kidneys and some fatty degeneration.

November 4th.—One per cent. of egg albumin was mixed with a six-tenths per cent. salt solution; 2 c.c. of this was injected into a guinea-pig on November 4th, 5th, and 6th. November 7th the urine contained a faint trace of albumin, a few abnormal blood-corpuscles, and two or three fine granular cells; no casts. Autopsy: Kidney, slight amount of cloudy swelling; liver, marked cloudy swelling and fatty infiltration.

As a control, another guinea-pig was injected on November 4th, 5th, and 6th with 2 c.c. of a simple six-tenths per cent. salt solution. November 7th: Urine, specific gravity, 1.018, and trace of albumin; a large number of abnormal blood-corpuscles and several fine granular cells. Autopsy: Kidney, simple cloudy swelling; no fat; liver, cloudy swelling and fatty infiltration.

In attempting to draw conclusions from experiments upon animals, especially rabbits and guinea pigs, two considerations must be borne in mind. The worry and annoyance to which they are subjected by repeated handling and opening of vessels, with a certain loss of blood, has an unfavorable effect upon their health. Again, these animals that have been kept cooped up for experiments are often in an unsound condition to begin with. Thus, two of my controls had about as bad a state of the kidneys as the animals experimented on. In Dr. Vissman's experiments with rabbits, however, the injection of antitoxin serum invariably produced nephritis, which was not found in the controls. In summing up the experiments here narrated, they are to a certain extent inconclusive, except that the injections of the serum do not appear to have produced any very marked effect in these animals, save upon the kidneys. Serum injections, as ordinarily employed in therapeutics, probably have little effect upon the blood-corpuscles. The kidneys are the vulnerable point, and must always be carefully watched when injections are employed. Another possible danger is noted in the June number of the London *Veterinary Journal*. It is here stated that M. Nocard recently reported to the Society of Biology of Paris the results of some experiments that he has been conducting, from which it appears that the blood sometimes contains microbes, although no germs could be found by microscopic study of the blood. Cultures made from the serum of blood, collected with such precautions as to prevent the possibility of infection, indicate that microbes are sometimes present, and especially during digestion. The latter has led M. Nocard to believe that microbes find their way into the blood through the intestinal wall. Examinations made upon dogs recently fed, and upon fasting dogs, have shown that the blood of fasting dogs is always sterile.

In conclusion, the final verdict upon serum injections and serum therapy must rest upon clinical, rather than laboratory, evidence. Studies in the laboratory thus far made, warn us to use this powerful agent carefully. If prolonged and careful clinical observations made under varying conditions and by different observers prove its utility, serum therapy, in spite of possible dangers, will have a brilliant future. Research in the line of separating the antitoxins, so that they may be given in an innocuous vehicle, or highly concentrating them in small quantities of serum, seems to be the next step desirable. I am indebted to Dr. Gill for supplying me with serum, and to Drs. Brooks, Wyman, Lewright, and Wilson for aid in the experiments.

When May Gonorrhœics Marry?—The question when may syphilitics marry has been often discussed and answered. The inquiry now is turned toward the victims of chronic gonorrhœa. Dr. Lowenhardt asserts that the prospective bridegroom should be subjected to repeated examinations in order to determine the presence or not of the gonococcus. A slight secretion is not sufficient for this purpose, but the urethral mucosa must be irritated in such a manner as to place it in analogous condition (excess in *baccho et venere*) to those which light up an indolent case. The best means to obtain this result is to inject a few drops of a one-fifth per cent. solution of silver nitrate. If, then, the secretion contains no gonococci, but is strictly made up of epithelial cells, marriage can be permitted. The presence of numerous pus corpuscles necessitates renewed examinations and treatment of this pseudo-gonorrhœa. Lowenhardt insists upon the fact that the gonococcus is alone responsible for the virulence of the exudate and the serious results that follow inoculation with it in the genital apparatus of women.

Antitoxin Treatment of Syphilis.—Dr. Vievorovsky has been employing antitoxin serum in the treatment of syphilis, in the Moscow Military Hospital, and claims to have observed most satisfactory results.

ERYSIPELAS IN ITS ETIOLOGICAL RELATION TO PRECEDING SKIN LESION, AND ITS LOCAL TREATMENT.[1]

By CHARLES W. ALLEN, M.D.,

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GENTLEMEN: In the preparation of the following brief paper I have been influenced:

1. By the belief that originating, as erysipelas so often does, in some skin affection or lesion of the integument, and being in itself so pre-eminently a skin disease, its study should receive greater consideration from dermatologists than has often been accorded it in the past.

2. By the fact that certain suggestions as to treatment, made in a paper read by me at our Fifteenth Annual Meeting, have in a further test given results which warrant their being reported.

3. By the statement from no less an authority than one of our honorary members, Professor Kaposi (English translation of last edition of his "Handbook," p. 289), that the plan of surrounding the parts with adhesive plaster has not acted as a preventive of the spread of erysipelas.

In defence of my first reason I may state that in Mr. Crocker's excellent "Handbook" of recent date, the subject of erysipelas is omitted. Jamieson likewise excludes it from his work on skin diseases. Other authors show the same inclination to ignore this disease in their dermatological writings. It was only recently, and on my motion, that the erysipelas wards of the New York City Hospital were made a part of the dermatological service—a change which I feel sure has proven advantageous to all concerned. It seems to me that if there is any one disease which should be in every way disconnected from the surgeon and his work, it is erysipelas; and this is equally true of the gynecologist and obstetrician. There is still much to be learned about erysipelas in its migrating and erratic forms, and as a recurrent affection in such dermatological conditions as are presented by elephantiasis. It should also receive further study as a causative agent in the production of pseudo-elephantiasis, and it is probable that much could still be found out about the relation which true erysipelas bears to certain attacks of pseudo-erysipelas observed after vaccination. In the realm of diagnosis as well, the specialist for the skin should find an interest and a field of usefulness, for it must be the experience of all that numerous affections of inflammatory nature—dermatitis, poison ivy, and drug eruptions, certain erythemas, and even occasional rarer forms of eczema, have at times been wrongly diagnosticated as erysipelas by the unwary.

The etiological relationship of erysipelas to dermatoses and to certain lesions of the skin, is likewise of interest, and I have been impressed with the frequency with which some cutaneous *porte d'entrée* for the infection can be discovered if sufficient attention is given to the examination. Thus in 100 cases, which include 50 reported to this Association four years ago, just one-half were clearly traceable to pre-existing skin lesion. Of these, vaccination furnished 12 instances; varicella, 5; ulcer, 5; impetigo, 4; ulceration of the skin following circumcision, 4; syphilis of the scalp, 3; ecthyma, 2; ulcerating nævus, 2; fissure, 2; dermic abscess, 2; elephantiasis, 2; pediculosis, 1; pustular eruption upon the legs, 1; excoriation, 1; eczema, 1; dermatitis from kerosene, 1; dermatitis calorica, 1; rosacea, 1; total, 50.

Of the remaining 50 cases, in 29 the origin is either not accounted for or is not put down in the notes. Throat disease is made accountable for 9 instances; trauma has 5 to its credit; catarrh, 3; lachrymal fistula, 2; salivation, 1; and ulcerating tooth, 1.

The frequency with which soreness of the throat precedes the earliest manifestations of erysipelas upon the skin surface, has led me to look upon the former region, and especially that of the tonsil, as one furnishing in many instances the conditions necessary for the entrance of streptococci. I have already stated my belief that in the proximity of the faucial and nasal mucous membranes, and their liability to present denuded, excoriated, or granulating surfaces, and especially in the peculiar anatomical conformation of the tonsil itself, is to be found the explanation of the relatively great frequency of erysipelas of the face.

This frequency is indicated in the following table, which, so far as the facial cases are concerned, agrees closely with the statistics given by various authors, as well as with my own made up from a large number of cases. Of these fifty cases now to be considered:

25	involved	the face (fifty per cent.).
12	"	" arm.
8	"	" leg.
3	"	" genitals.
1	"	" hand.
1	"	" scalp.

The treatment of erysipelas has been an ever-changing one, but in recent years it must be admitted that the modifications of the methods have been influenced by Fehleisen's discovery. The reason that so many different drugs have had their warm advocates at various times, lies partly in the fact that scarcely any one remedy had been found which exerted a decided influence upon the course of the affection, and partly in the self-limited nature of the disease, which, in most instances, tends to spontaneous resolution in about a fortnight, when uncomplicated, and occurring in middle life.

The claim of any plan of management must therefore be based upon its powers to jugulate the process, or to confine it to a period of a few days. The statement sometimes made by authors, that there is no treatment which arrests the march of erysipelas, will not stand at the present day, nor can I accept the statement of those who would include the plan of adhesive bandaging among the useless devices for checking its spread.

The plan of treatment which I have for the most part employed during the past few years, aims to accomplish its purpose, first by preventing extension of the disease process into new territory; and then to restore the skin to its normal state by making compression, excluding the atmospheric oxygen, and exerting an antiseptic and reducing action upon the already inflamed and infiltrated area. While perfectly well aware that there is nothing new either in the theory or in the employment of the particular agents for the practical accomplishment of the desired end, still I have been forced to the belief that in the following procedure, which I have termed the "combined method," we possess an effectual means of preventing the extensive invasion of new territory, as well as of cutting short the existing process in a very large proportion of cases.

The plan consists simply in the application of bands of rubber adhesive plaster, as advocated by Wölfler, in such a way as to entirely shut in the region implicated, and then in covering over the whole of the enclosed area, including the apparently healthy skin, with ichthyol in collodion varying in strength from ten to fifty per cent. The bands, one inch wide for a child and one and a half inch for an adult, are applied in such a manner about the limb, trunk, or head, that a decided pressure is exerted upon the skin against the underlying bony or softer parts. The bands are applied at a distance of from one to three inches from the visible margin of the advancing patch, varying with the region, rapidity of the advance, and degree of intensity of the inflammation. The theory of action is that the lymphatic vessels and channels, in which the streptococci

[1] Read at the Nineteenth Annual Meeting of the Medical Association, Montreal, September 17, 1895.

are believed to circulate, are compressed in such a way as to prevent the penetration of the latter to the parts beyond. Upon a limb I apply the bands, if possible, both above and below the patch of erysipelas; upon the trunk I surround the part, laying the bands in a direction where the best points for counter-pressure are to be found; upon the head I apply them tightly about the forehead, and, if required, across the vertex or any portion of the scalp after a swath of hair has been cut close for its reception.

In my former paper I advised the application of the method to head cases, and my subsequent experience has shown that it acts here quite as well as elsewhere. A lotion or ointment of ichthyol, or possibly the substitution of some other local dressing, is here advisable, though, upon the face, I have found little opposition to the disfiguring nature of the paint. Ichthyol has been experimentally shown to possess decided antibacterial properties, and to be fatal to erysipelas cocci in cultures even in weak solution. Its action as a reducing agent is also known. When these qualities are combined with those which collodion furnishes for making compression and excluding air from a part, we possess a local dressing which is not alone theoretically admirable, but one which has been practically demonstrated to possess decided merit.

The results of treatment by the combination of the adhesive strips and the ichthyol varnish, so applied as to include the still healthy-appearing skin, making one continuous occlusive dressing, have been very satisfactory. My notes were not made at the time with the view of incorporating them in a paper, and are fragmentary and lacking in detail. It is shown by them, however, that at least 30 cases were treated by the restricting band; 22 of them in conjunction with the ichthyol varnish; 2 with solutions of ichthyol; 2 with aristol in collodion; and in 4 the form of local dressing is not recorded.

In 11 instances ichthyol varnish was alone applied without the band, or at least no mention is made of the latter; 6 received ichthyol ointment or solution, and in the 3 others the treatment employed is not in evidence.

In the 30 cases treated by the combined method, 14 are recorded as showing no extension beyond the barriers. In 9 the result is not put down. In 3 extension of the erysipelas beyond the band is noted. In 3 the result is marked "recovery;" 1 of them being entered as "prompt," 1 as "well in three days," and 1 "in a few days." In 1 the patch ceased spreading before the margin reached the band. In 1 a recurrence is noted after some days, and this in turn was recovered from in eight days. In 2 of the 11 cases treated without the band no spreading occurred beyond the limits of the ichthyol varnish.

The dates do not show, as a rule, just how long the cases were treated before being considered well, but many were seen only a few times, and several were practically well after one application of the ichthyol. It was frequently observed that the painful sensations subsided, the fever fell, and general improvement in the patient's condition set in promptly after the dressings had been applied. In scarcely any of the cases was internal treatment employed, and then drugs were given only symptomatically. Alcoholic stimulation was, however, usually advised. With few exceptions the cases were seen quite early in the course of the disease, usually upon the first day. They were mostly treated at their homes, but some, especially those following vaccination in children, at the dispensary. Under such conditions I think the results of treatment can be better judged than in hospital cases, which, as a rule, enter the wards only after the disease has existed for some time, and probably without any preceding treatment to speak of.

Local foci of pus, or sources of purulent secretion, must always be sought out and, by the use of peroxide of hydrogen or other agent, eliminated so far as possible from the problem while the attempts are being made to check the advance. Open surfaces must be included in the antiseptic dressings. In a number of instances where the erysipelas originated in skin lesions, the happiest results have followed their inclusion in the ichthyol applied. This benefit was especially noticeable in the vaccination ulcer. An important point, which has already been pointed out, is the necessity of leaving the plaster bands a long time *in situ*, and in applying a second, when the erysipelas has passed the first, of not removing the first at once. There seems often to be an intensity of the inflammation either at the margin of the band or sometimes beneath it, and bullæ are often large in this situation. After recovery, too, there should be no haste in removing the dressings.

The advantages of this treatment over the Kraske-Riedel scarification method, which often necessitates the use of an anæsthetic, rises to the importance of a surgical operation, and, after all, frequently fails of its object, need scarcely be dwelt upon.

Even if the process most often oversteps the bounds, as many authors claim, this is no argument against the method; for even if a much smaller proportion are cut short than is indicated by my results, there is no plan which offers as much. In cases originating in patients the subjects of grave disorder, and where the lesions occur in remote regions simultaneously, or where rapid migration is observed, it is probable that the infection is more deeply seated, perhaps in the blood, and in such cases our method must of necessity fail. In the present series I have applied it in none such.

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ON FUNCTIONAL DISORDERS OF THE STOMACH ACCOMPANIED WITH HYPERSECRETION.[1]

1. Hyperchlorhydria.
2. Gastro-succorrhœa Continua Periodica.
3. Gastro-succorrhœa Continua Chronica.

By MAX EINHORN, M.D.,

New York.

1. Hyperchlorhydria. — By the term "Hyperchlorhydria" ("Hyperacidity," "Hypersecretion") is designated a condition in which the stomach secretes a juice that is more acid than normally and richer in the ferments. While the quantity of the juice is very often likewise increased, its secretion, however, takes place only during the digestive period.

Although disturbances of digestion associated with an hyperacid gastric juice were vaguely known to the old writers (Pemberton, Copland, and others), it is only in recent years that these forms have been thoroughly studied and placed on an exact scientific basis. Formerly it was thought that in most disturbances of the stomach the gastric secretion was deficient. Nowadays, since the publications of Riegel, Reichmann, Jaworsky, Glusinsky, Ewald, and others, we know that in almost one-half of all the patients suffering with digestive disorders, the gastric juice is rather increased.

According to my own experience, the gastric disorders accompanied with hyperchlorhydria form more than one-half of the number of patients troubled with digestive affections. With reference to this point the following table may be of interest. Among 564 patients whose gastric contents I have analyzed during the years 1889–95, 286 showed a hyperacid state of the gastric juice. In all these patients the degree of acidity one hour after the test-breakfast was above 60, and in more than half of them above 80.

[1] Read before the New York State Medical Association, October 16, 1895.

TABLE OF PRIVATE PATIENTS WHOSE GASTRIC CONTENTS HAVE BEEN ANALYZED DURING 1889–95.

Number of patients with hypochlorhydria, 187.	in 89 : HCl = 0,	acidity = 2 to 40
	in 31 : HCl = 0,	acidity = 40 to 80
	in 67 : HCl + ,	acidity = 15 to 40
Number of patients with eu-chlorhydria, 91.	in 91 : HCl + ,	acidity = 40 to 60
Number of patients with hyperchlorhydria, 286.	in 286 : HCl + ,	acidity = 60 to 140

Total number of patients, 564.

Whether hyperacidity should be considered as a disease *sui generis* or not, is difficult to decide. Hyperacidity certainly describes only one symptom, showing that the secretory function is increased without pointing to any definite anatomical lesion; but this symptom may be of the greatest importance, and very often covers the whole ground upon which is based the subjective suffering of the patient and the rational treatment at our command. That is the reason why we think it best to discuss hyperchlorhydria as a separate disease.

Does hyperchlorhydria always give rise to digestive disturbances and other symptoms? In order to answer this question it will be best to determine more exactly where hyperchlorhydria begins, *i.e.*, to what degree of acidity we may apply this term. According to the experience of Ewald and others, to which I add my own, the degree of acidity of the gastric contents, about one hour after Ewald's test-breakfast varies, as a rule, in healthy people between 40 and 60. A degree of acidity of 70 and above is therefore considered as hyperacidity. The above question will now be put in the following way: Must people with an acidity of their gastric contents of 70 and above, always present morbid phenomena? To this I must answer in the negative. From a very large experience I must assert that we occasionally meet with persons whose degree of acidity of the gastric contents is as high as 100, and even more, without producing any disturbance whatever. This condition need not even be a transient one, but may last for years and still cause no discomfort. This, however, is not the rule, and the greater number of persons with an hyperacid juice are not free from disturbances, and rather present a very characteristic train of symptoms. We speak of a pathological hyperchlorhydria whenever this condition is associated with subjective complaints.

Etiology. — Hyperchlorhydria is, as we have just stated, of very frequent occurrence. It is met with chiefly in adults, although neither the young nor the old are exempt. In the majority of cases the origin may be traced to either a psychological cause, such as grief or worry, or to mental overwork. It is, as a rule, more frequent among the wealthier and more educated class of people, as lawyers, bankers, etc., although hyperchlorhydria may be met with also among the poor. But in addition to this so-called reflex action of the brain as an etiological factor of the disease, there may also be direct causes; thus, for instance, the habit of taking highly spiced dishes, much ice-water, and strong alcoholic drinks is liable to produce this trouble.

Symptomatology.—The development of this disorder is usually gradual. The patient at first begins to feel uneasy about two or three hours after dinner. Afterward this uneasy feeling changes into a somewhat painful sensation experienced in the gastric region, and instead of appearing after dinner, it occurs about two hours after each meal. The pain lasts for about an hour or two, or even three, and then disappears. Very often pyrosis accompanies the pain, and occasionally regurgitation or water-brash takes place. The patients, as a rule, can ease their pain by taking some nourishment, especially one that is rich in albumin; thus the white of an egg, milk, meat is capable of dispersing the pain. It also disappears after the ingestion of some alkali, as Vichy water, or bicarbonate of soda. The appetite is ordinarily not diminished, but frequently rather increased. Thirst is generally enhanced. The bowels in most cases are constipated.

The composition of food is frequently of significance with reference to the character of the pains, which are less intense in people partaking of large quantities of meat and eggs, while they are much more severe in persons living chiefly on vegetable diet.

Besides the attacks of pain, patients affected with hyperchlorhydria very often suffer from severe headache, or attacks of dizziness, which may appear either independently or accompanied by gastric pains. The patients, as a rule, do not lose in weight except in some rare instances, in which a faulty and insufficient diet has been instituted for quite a long time.

Objective Symptoms.—On palpation the gastric region is frequently found tender to pressure, although not actually painful, this tenderness not being limited to one circumscribed spot, but to a larger area covering the greater part of the gastric region. The contours and the size of the stomach are frequently found enlarged, although this condition is by no means characteristic of the affection in question. A splashing sound can be produced after the ingestion of water into the stomach, or after meals, but not in the fasting condition.

On examination of the stomach with a tube in the fasting condition it is found to be empty, or only a few c.c. (5–10) of gastric juice can be obtained. One hour after Ewald's test-breakfast, or two to four hours after Leube-Riegel's test-dinner, the gastric contents contain an abundance of hydrochloric acid and of the ferments, the acidity being, as a rule, much higher than normally (twice or three times as high). A disk of egg-albumin becomes digested in the filtrate of the contents in a very short time (sometimes in half an hour). The gastric contents obtained three to four hours after the test-dinner show microscopically that the meat has been perfectly digested, while starchy substances are yet either unchanged or very little altered. The filtrate of the gastric contents, either after the test-dinner or after the breakfast, will reveal the presence of either starch or large quantities of erythro-dextrine. The addition of a few drops of Lugol's solution to the filtrate will produce either a blue color or an intense dark red.

The high degree of acidity is most commonly caused by free hydrochloric acid. The difference between the amount of free hydrochloric acid (as determined by Mintz's method) and the total acidity is not great, the figure very frequently being from 10 to 20.

The motor faculty of the stomach is usually not impaired; in a few instances it is rather increased. Thus, two hours after the test-breakfast, or six to seven hours after the test-dinner, the stomach is found to be either empty, or contains but very little food. The salol-test likewise shows salicyluric acid in the urine as early as an hour after the ingestion of the salol.

The degree of acidity of the urine is frequently diminished during the digestive period. This, however, is not always the case, for occasionally the degree of acidity of the urine and of the gastric contents may be found increased at the same time.

Course of the Disease.—At the beginning hyperchlorhydria is most frequently intermittent. The patient may suffer from this affection for several days, weeks, or even months, becoming free from this ailment for periods of time which vary from several weeks to months, or even years. After this interval the trouble recurs, either spontaneously without any apparent cause, or is evoked by a severe mental shock or worry. Later, the periods of hyperchlorhydria become longer, and at last this condition may become permanent.

Prognosis.—The prognosis in hyperchlorhydria is, as a rule, quite good, except in some cases of a very protracted and severe nature, in which the prognosis regarding the complete disappearance of this condition is bad, although even then there is no danger of a fatal issue.

Diagnosis.—The diagnosis of hyperchlorhydria is made either by the subjective symptoms alone, or in connection with the results of chemical examination of the gastric contents. The subjective symptoms characteristic of hyperchlorhydria are: 1. Pains, appearing constantly about two to three hours after meals. The relief from the pains felt immediately after the ingestion of an alkali, or a little while after the partaking of some food, especially albuminous. 2. Appetite and thirst are either in a healthy condition or increased. 3. No marked cachexia. 4. Constipation.

Although all the symptoms mentioned make the diagnosis of hyperchlorhydria probable, it can be made with certainty only after a repeated examination of the gastric juices. 1. On examination of the stomach in the fasting condition the organ is either found empty, or contains only a few c.c. of juice. 2. One hour after Ewald's test-breakfast the degree of acidity is found highly increased, due to the great amount of free hydrochloric acid.

Differential Diagnosis.—In making the diagnosis of hyperchlorhydria we shall have to exclude all conditions which are liable to give similar symptoms—thus, for instance, gastric ulcer, permanent hypersecretion, and biliary colic. The characteristic symptoms of ulcer are too well known to necessitate their perusal. We shall limit ourselves to the remark that the pains of an ulcer, even if this is accompanied by hyperchlorhydria, do not disappear entirely after the ingestion of large doses of alkalies. Permanent hypersecretion is very frequently accompanied by vomiting, and the most intense attacks of gastric pain appear, as a rule, in the middle of the night or early in the morning. On examination with the tube, the stomach in the fasting condition is found to contain considerable quantities of gastric juice (80 c.c. to 100). Biliary colic, not accompanied by jaundice nor by considerable palpable swelling of the gall-bladder, may give rise to errors as to the real cause of the pain. In biliary colic, however, the pains, as a rule, appear later than in hyperchlorhydria (four to five hours after a meal), and are not eased by the ingestion of food or by alkalies. Another means of differential diagnosis is, that the pains in biliary colic most commonly extend over the right epigastric and hypochondriac regions, whereas the pains of hyperchlorhydria are felt more in the middle of the epigastrium, although sometimes radiating further to the right.

Treatment: Hygienic Regimen.—As hyperchlorhydria is most frequently caused by too much mental work, the daily life of the patient as to amount of work, bodily exercise, mental rest, and pleasure, will have to be regulated. With regard to this point the same rules will not apply to all, but it will be necessary to individualize each case for itself. Thus, business men with a great deal of responsibility resting upon them, lawyers, politicians, and physicians must be sent away from their work to some country place, so as to relieve their brains temporarily from the strain. Ladies moving in high social circles, and participating in all manners of festivities, will have to be reduced to a more quiet life. Again, there are people with large fortunes and without any occupation whatever, who become sick from paying too much attention to their own bodily functions. Here it will be necessary to occupy the mind of these patients with some kind of work.

Cold sponge-baths in the morning, bodily exercise of about eight to ten minutes during every morning, are in most instances of value. Walking once or twice a day for half an hour to an hour, horseback riding, driving, bicycle riding, should be highly recommended.

Diet.—All substances that are liable to intensely excite the glands of the stomach must be excluded from the dietary of such patients. Therefore all kinds of acids, including organic acids (citric, tartaric, acetic acid), all kinds of spices, such as pepper, mustard, horse-radish, and the like must be forbidden. The food should consist of nourishments rich in albumin, while the quantity of starchy substances should be diminished. Thus, all kinds of meat (even game), fish, oysters, eggs, milk, should be taken in large quantities. Bread and butter is permitted. Potatoes, spinach, asparagus, green peas, farina, and rice should, as a rule, be given in only small quantities. Cocoa, weak tea, weak coffee, and beer can be given in moderate quantities.

As a rule it is advisable to have the patient partake of five meals daily, three larger and two smaller. The larger meals should not deviate much from the ordinary bill of fare, while the two smaller ones should consist either of a glassful of milk or matzoon, with bread and butter, or a cup of cocoa and a few crackers, or occasionally a cup of bouillon with an egg beaten up in it, and some bread, or half a dozen oysters, a few crackers, and a glass of beer. The patient must be impressed with the importance of masticating the food thoroughly, and eating slowly, besides resting fifteen or twenty minutes after each meal.

Medicaments.—All kinds of alkalies can be applied in the treatment of this affection. Where hyperchlorhydria is not complicated with constipation, bicarbonate of soda may be given, either alone or in combination with sugar of milk or peppermint sugar (German Pharmac.) in doses of half a teaspoonful to about one teaspoonful three times a day, two hours after meals. In cases which are accompanied by constipation, magnesia usta and some rhubarb can be added, and here I frequently prescribe the following:

℞. Magnes. ust.,
Pulv. rad. rhei ..... āā 7.5
Natr. carbon. exsiccat.,
Natr. bibarbon.,
Elaeosacch. menth. pip ..... āā 15.0
M. Exactissim, f. pulv.
D. Ad scatulam.
S.: One-half teaspoonful to a teaspoonful three times daily, two hours after meals. To be taken in plain water or in Vichy water.

Bouveret uses sodium bicarbonate in two-gramme doses, to be taken two hours after lunch and supper, and to be repeated after an hour's interval. The alkaline treatment can be continued for very long periods without any ill effects whatever. In cases in which the nervous element is more disturbed (sleeplessness, headaches, over-excitability, etc.), we should give a good dose of a bromide salt. I am in the habit of prescribing strontium bromate:

℞. Stront. bromat. puriss 12.0
Aq. menth. pip. 60.0
D. S. One teaspoonful twice daily in milk, at meal-time.

Sodium bromide and ammonium bromide can be employed in the same way. The bromides should, however, be given only for a week or two, and their use then discontinued for a short time, after which they may be resumed for the same length of time. Boas advises the administration of small doses of morphia or codeine. He frequently prescribes the following:

℞. Magnes. ust. 15.0
Morphii hydrochlorici. 0.1
M. f. pulv. d. in scat.
D. S.—A point of a knife to a teaspoonful three times daily.

I have very seldom seen the necessity of prescribing either morphia or codeine in this affection.

Of the watering-places, Vichy and Neuenahr are to be highly recommended. For the treatment of these patients at home these mineral waters are taken most advantageously in small quantities.

Electricity.—In cases of a protracted nature, the direct application of the electric current to the inside of the stomach is frequently of the greatest benefit. In most instances the faradic current should be applied, but in cases in which the pains are very severe, galvanization should be employed.

As to the mode of application of the current, and the length of time required for this treatment, see my

papers on intra-gastric electrization. The electric current applied in this manner exerts a stimulating tonic influence, not only upon the stomach but also upon the small and large intestines. I have frequently seen cases of hyperchlorhydria, accompanied by the most obstinate constipation, perfectly cured by means of the current, even when no medicament whatever has been given.

II. Gastro-succorrhœa Continua Periodica (Reichmann), Gastro-xynsis (Rossbach).—By "gastro-succorrhœa continua periodica" (or "periodic continuous flow of gastric juice") is designated an affection which is characterized by a constant secretion of gastric juice giving rise to spells of vomiting and severe pains and lasting only several days.

General Remarks.—The affection is met with either in persons suffering from some organic lesion of the peripheral or central nervous system, or in persons whose nerves appear to be in a normal state. The periodic continuous flow of gastric juice was first described by Reichmann;[1] a few years later Rossbach[2] had described, under the name of gastro-xynsis, a nervous affection of the stomach, which consists in a sudden appearance of severe headaches accompanied by gastric pains, and vomiting of very acid chyme or gastric juice. In accordance with Boas, I consider gastro-xynsis and gastro-succorrhœa continua periodica, as one and the same affection, and I do not think they should be treated under different headings.

Symptomatology.—In the midst of perfect health a sensation of discomfort is experienced in the gastric region, which is associated with restlessness. Soon afterward the discomfort changes into a rather painful sensation, and a feeling of nausea appears. The patient is compelled to occupy a recumbent position. The symptoms just described continue, or rather increase in severity, and in about an hour or two the nausea ends in vomiting of a large quantity of gastric contents. The patient may now feel a little relieved for a short time, but soon the same symptoms return. The appetite is entirely lost, and instead there is extreme thirst. The more the patient drinks, the more, as a rule, he has to vomit. If he abstains from drinking the vomiting is less frequent, but persists nevertheless. Thus, as a rule, in the middle of the night or early in the morning, the patient has to vomit a large quantity of a watery liquid which is very acid in character, and either quite clear or greenish from the admixture of bile. If this liquid be examined, it will be found that free hydrochloric acid is present in large quantities, as well as the ferments (rennet and pepsine). No food particles can be discovered in the fluid. It consists of either clear gastric juice or gastric juice with admixture of a little bile. After such an attack frequently a constant desire to vomit persists, and the patient suffers from very violent and painful retching. Often, a quarter of an hour after the last paroxysm of vomiting, the patient's efforts to vomit cause a small quantity of clear yellow bile to be ejected. Even if the patient absolutely abstains from all kinds of food and drink, a few hours later a large quantity of gastric juice may again be vomited. The patient in this condition is hardly able to sleep for any length of time, as the pains awake him soon after he has fallen asleep. The abdomen, as a rule, is sunken. The patient looks extremely pale and his extremities are frequently cold. Severe headaches often accompany this train of symptoms, and constipation is almost a constant concomitant. After this condition has lasted for about two or three days, or sometimes even longer, the nauseous feeling begins to disappear, the pains subside, and the patient experiences for the first time a desire for food. He is now able to eat without vomiting, and in a day or two feels himself again. It is characteristic of this affection that the symptoms disappear almost suddenly, and that the patient, who seemed to be in a wretched state a few hours before, may now appear nearly well. After a period of perfect euphoria, varying from several weeks to a few months or a year, or even longer, a similar attack may occur. The attacks may then recur either after the same period of time, or the intermission of health may become gradually shorter, so that at last the patient has hardly recuperated from his last attack before a new one supervenes. The latter condition forms the intermediary stage between periodic and chronic gastro-succorrhœa. During the free intervals the gastric secretion takes place either in a perfectly normal manner, or hyperchlorhydria may exist. In both instances, however, the stomach remains free from secretions in its empty state.

The following case, which I observed recently, may serve as a good illustration of this affection. R. B. I. ——, aged thirty-seven, business man. During 1890 and 1891 patient had several attacks of the then prevailing grippe. In December, 1892, after the third attack of the grippe he was taken ill with a stomach trouble, the nature of which patient described as follows: "I was taken suddenly by a fit of vomiting, entirely emptying the stomach apparently, but followed by successive spells, at an interval of one to two hours, accompanied by the most intense pain. This would last from twenty-four to thirty-six hours, and sometimes forty-eight, after which the stomach would gradually quiet down so that nourishment in the form of milk—either hot milk or kumyss—could be taken in small quantities at intervals of about two hours, until a normal condition was restored, which usually took from two to three days to accomplish.

"The character of the vomit was, first, that of undigested food, followed by a strong and very acid nature of a whitish color, and finally that of a greenish color, consisting principally of bile. After each of the spells mentioned the intense pain would subside, and I would fall to sleep—to be awakened again by a recurrence of the pain—the intervals of sleep and suffering varying from an hour to three as I became better, and continuing until vomiting had ceased.

"During all these spells I was exceedingly nervous—the slightest noise or vibration causing pain and sometimes causing the vomiting. General condition after becoming able to sit up was one of extreme weakness—having lost from ten to twenty pounds, as the attacks were longer or shorter.

"During 1893 I was ill four or five times, in 1894 as often, and in 1895 four times. Weight previous to grippe averaged 135 to 138 pounds; since these attacks it has varied from 125 to 133."

Present Condition.—July 22, 1895.—Chest organs normal. The palpation of the abdomen does not reveal any pathological condition. The splashing sound can be easily produced in the gastric region, and extends downward to about two fingers' width below the navel. Knee-reflex present. Urine does not contain any sugar or albumin. Besides the above-described attacks of vomiting, patient complains of a feeling of heaviness in his gastric region about one hour after meals, and of slight constipation.

July 23d.—Examination of the gastric contents one hour after Ewald's test-breakfast: HCl + Acidity = 100; free HCl = 86.

October 8th.—Patient is in bed suffering from one of the attacks mentioned; he had vomited several times during the day and is suffering from intense pain. On inspection the abdomen is slightly sunken; on palpation the whole gastric region is found extremely sensitive and painful to pressure. The hands and also the face (particularly nose and forehead) are somewhat cold; pulse, 110; temperature, 98° F. The vomited matter consists of a pretty clear fluid with an abundant admixture of mucus; no food particles can be discovered in the liquid. On chemical examination free HCl as well as pepsin and rennet are found present in large amount. Patient complains of intense thirst. Under

[1] Reichmann: Berl. klin. Wochenschrift, 1882. N. 40.
[2] Rossbach: Deutsch. Arch. f. klin. Med., 1885, Bd. 35.

the administration of opiates the patient grew better and was able to leave his bed after three days.

Diagnosis. — The diagnosis of gastro-succorrhœa continua periodica can be made by the above-described symptoms, in connection with the examination of the vomited matter (which is found to consist principally of clear gastric juice without admixture of much food), or the examination of the stomach in the fasting condi tion by means of the tube (which results in the withdrawal of a considerable quantity of clear gastric juice). Inasmuch as similar attacks of gastro-succorrhœa may occur as a consequence of either an open ulcer or a cicatrix within the stomach, the pylorus, or the duodenum, it will be necessary to exclude such organic affections before making a diagnosis of continuous periodic gastric flow, which we consider as a nervous affection. It will also be of importance to exclude organic, spinal, or cerebral troubles, which may cause a similar disorder of reflex origin.

Prognosis.—The prognosis of pure cases of gastro-succorrhœa continua periodica is, as a rule, not bad. In many instances, it is possible either to make the attacks less severe, or in some instances to effect a cure by rational treatment.

Treatment.—It will always be advisable to analyze the gastric juice of the patient during the free intervals. If hyperchlorhydria is found, this will have to be treated as such, even if there should be no subjective complaints; for hyperchlorhydria is frequently, although not always, the cause of such attacks. At any rate, a hygienic way of living should be inaugurated by the physician. I am in the habit of prescribing a good-sized dose of bromide, as soon as the patient feels an attack coming on, and find that occasionally it may be cut short from the very beginning In some instances the attack, although not interrupted in its progress, is thereby rendered less severe. When the attack has appeared the patient must be kept in bed. A hot-water bag is placed over the gastric region, and if the pains are severe an opiate, either alone or in combination with belladonna, is administered. During the first day of the attack no nourishment whatever should be given. A teaspoonful of cold water, or a small ice-pill, can be administered from time to time, especially if the patient is very thirsty and dry. The next day small quantities of milk, matzoon, or egg-water, one or two tablespoonfuls, are given every hour. On the third day the quantity of nourishment may be increased to half a cupful at a time, administered every two hours, and besides the above liquid food, the white of a hard-boiled egg, chopped up fine, may also be given (one or two eggs a day). On the fourth day meat (scraped, raw, or broiled) may be tried, and afterward the diet gradually arranged as for cases of hyperchlorhydria. The system of diet as laid down here for every day from the beginning of the attack will certainly depend upon the condition of the patient, and will have to be modified accordingly. As there is always constipation during the attack, it will be best to move the bowels on the second or third day, either by a glycerin suppository, or by a large injection of water (a quart of water and a teaspoonful of salt), or an injection of sweet oil (one pint).

III. Gastro-succorrhœa Continua Chronica ("Chronic continuous flow of gastric juice," or "Reichmann's disease"). — Under the above name Reichmann,[1] in 1882, described a pathogenic condition which is characterized by a constant secretion of gastric juice, even when there is no food whatever in the stomach. The stomach is found to contain considerable quantities of gastric juice in the morning, even in the fasting condition.

General Remarks.—In describing this new disease, Reichmann, in 1887, mentioned that he had observed sixteen cases. An exact scientific diagnosis had been made, however, only in six of them. "In the remaining cases," says Reichmann, "I was unable to find in the stomach in the morning, in the fasting condition, a large quantity of a liquid containing hydrochloric acid and pepsin, and exhibiting digestive properties, but containing also much peptone and remnants of amylaceous food."

Among the six cases which Reichmann considered as typical of gastro-succorrhœa chronica, I think that only one (Case 3) deserves this name, for the remaining five, aside from the constant secretion of gastric juice, presented other important lesions of the stomach, which in all probability were rather the cause than the effect of the constant gastric flow. In all the cases described by Reichmann (except in Case 3) the stomach in the fasting condition contained a considerable quantity of liquid, consisting of gastric juice, and containing amylaceous food remnants. When the stomach had been washed out on the previous night, and the patient had abstained from food or drink, the stomach in the morning nevertheless contained clear gastric juice. These cases are then undoubtedly cases of dilatation of the stomach, or more correctly speaking, of stenosis of the pylorus, in which hypersecretion must be considered as a concomitant factor. Reichmann, and following him, especially the French writers Bouveret,[1] Debove, and Rémond,[2] and among the Germans, Riegel,[3] have laid too little stress upon the distinction between the constant flow of gastric juice and dilatation of the stomach due to stenosis of the pylorus. On this account the picture given by these authors of the true gastro-succorrhœa chronica bears a closer resemblance in many points to that of dilatation of the stomach, than to the picture of the affection in question. Inasmuch as the treatment of cases of stenosis of the pylorus in most essential points differs from the treatment of cases of gastro-succorrhœa (I need only mention that the most rational treatment for the former is a surgical one), it is absolutely necessary to strictly differentiate between these two conditions.

About two years ago Schreiber,[4] of Koenigsberg, published an extensive paper in which he doubted the existence of the new disease, and considered all the cases described by Reichmann as cases of dilatation of the stomach with stagnation of food. Shortly afterward, two other important papers appeared with reference to this question: Riegel[5] defended Reichmann's views, while Martius[6] was inclined to favor Schreiber's opinion. Whether Schreiber's view, that the stomach normally secretes gastric juice even while in its empty state, is correct or not, is a question that is quite difficult to decide, although I am personally of the opinion that when there is no food in the stomach there is no secretion. But leaving aside this question about the physiology of the stomach, there is no doubt that, as a rule, the stomach in the fasting condition does not contain any considerable quantity of gastric juice. Whenever considerable quantities are found, the stomach must be considered as affected. In this respect I agree with Reichmann, as to the existence of a pathological continuous gastric succorrhœa, although I shall restrict this name only to cases not presenting any organic lesions of the stomach. Whenever the latter exist I deem it best to look upon the accompanying gastric succorrhœa as a consequence of the main trouble, but not as a primary affection. According to my experience, which coincides with that of Ewald, cases of genuine gastro-succorrhœa chronica are quite rare. They are less frequent than the gastro-succorrhœa periodica. During the last seven years I have met with six cases of this affection, one of which I[7] pubilshed in 1887.

[1] Reichmann: Berl. klin. Wochenschrift, 1882, N. 40; 1884, N. 48, and 1887, N. 12.

[1] Bouveret: Traité des Maladies de l'Estomac.
[2] Debove et Rémond: Les Maladies de l'Estomac.
[3] Riegel: Deutsche med. Wochenschrift, 1893, N. 31 and 32.
[4] Schreiber: Deutsche med. Wochenschrift, 1893, N. 29 and 30.
[5] Riegel: l. c. [6] Martius: Deutsche med. Wochenschrift, 1894.
[7] Max Einhorn: New Yorker Medic. Presse, 1887, and Dietetic Gazette, December, 1889.

Before entering into the discussion of the pathology of this disease, it might be best to briefly describe one of my recently observed typical cases of gastro-succorrhœa.

A. S——, twenty-one years of age, has suffered since early youth from digestive troubles. As far back as he can remember, he has felt hungry very soon after meals (one hour). The bowels, although regular, were occasionally very constipated. Patient was always weakly, but in the last three years had been troubled in a higher degree. He felt extremely weak, became dizzy after meals, and was overcome by a feeling of sleepiness. The bowels became constipated all the time. During the last six or seven months there was a sensation of extreme weakness in the hands and feet. The appetite was constantly increased, and a hungry feeling appeared very frequently. Since three months there had been present a burning sensation in the gastric region, which increased in severity about an hour or two after meals. From that time on, patient began to vomit frequently. The vomiting, as a rule, occurred very soon after a meal, although occasionally it took place either in the middle of the night or in the morning before breakfast. Patient had lost lately in weight (about ten pounds).

Present Condition.—Chest organs intact. On palpation, the gastric region is somewhat sensitive to pressure. There is, however, no circumscribed painful area. A splashing sound can be produced, extending to about one finger's width above the navel. Tongue is thickly coated. Color of lips and cheeks quite good, and the patient does not look emaciated. The knee-reflex is present, and the urine does not contain anything abnormal. The examination of the stomach one hour after a test-breakfast, showed the quantity of chyme to be small (about thirty cubic centimetres); hydrochloric acid + ; acidity = 100.

The examination of the stomach in the fasting condition revealed that the organ contained a considerable quantity of pure gastric juice ; 120 c.c. of a somewhat turbid liquid, not containing any food remnants whatever, were withdrawn with the tube. This fluid contained free hydrochloric acid, had an acidity of 80, gave only weak biuret reaction, while erythro-dextrine, dextrine, and sugar were totally absent. During the first three months of treatment the condition of the stomach in reference to its secretion of juice did not change in any way. Repeated examinations which had been made in the fasting condition of the patient always gave the same result: presence of about one hundred cubic centimetres or more of pure gastric juice.

The treatment consisted at first in regulation of the diet and in the administration of large doses of alkalies. Later on, washing of the stomach and spraying of the organ with a 1 to 2 pro mille solution of nitrate of silver was instituted. The latter means proved more effective than the above treatment, and after about two weeks it was noticed that the stomach in the fasting condition contained considerably smaller quantities of juice. Thus, thirty or twenty cubic centimetres of juice were frequently found. The spraying was continued for two months, after which time the stomach in the fasting condition was usually found empty. This objective improvement was connected with a subjective amelioration of all the symptoms: the vomiting ceased, the hunger was much less marked, the dizziness subsided, and the patient felt stronger and could do his work much better. The examination of the stomach one hour after the test-breakfast, however, showed that the hyperchlorhydria still persisted. In this case we frequently tried to determine the motor (or transportation) faculty of the stomach ; one and a half hour after the test-breakfast, as a rule, the stomach was found empty, showing that this faculty was rather increased. This is of interest, inasmuch as it shows that continuous hypersecretion need not be associated with sluggishness in the muscular action of the organ, a theory which is accepted by most investigators who have written on the subject.

Etiology.—Gastro-succorrhœa chronica is met with much more frequently in men than in women. In some instances there is present, besides this affection, some other functional neurotic disturbance. In three of my cases the latter was very marked. Thus one of these patients complained of a burning sensation all over his limbs, which lasted for three months and then suddenly disappeared. Like hyperchlorhydria, the gastro-succhorrhœa seems to arise from great mental worry or strain.

Symptomatology.—After a more or less prolonged period of different dyspeptic disturbances, which are similar in character to those caused by hyperchlorhydria, there appears a pronounced sensation of pain several hours after and shortly before meals. Very soon vomiting supervenes as a new symptom. At first it occurs only occasionally, but constantly grows more frequent, until at last there is either one or several vomiting spells every day. The vomiting appears most frequently soon after breakfast, sometimes also after supper. In only a few cases does it occur at night, about two or three o'clock, preceded by long and severe attacks of pain. The vomited matter is always very acid, and more or less liquid. The night vomit especially consists, as a rule, of a clear liquid containing hardly any food.

The appetite is generally increased, although there are exceptions to this rule. In some cases periods of extreme hunger alternate with periods of severe anorexia. In most cases the sensation of thirst is greatly increased. In all of my cases constipation was marked. In some there was present loss of weight, but none of my patients was emaciated in any great degree.

Diagnosis.—Although the symptoms described might suggest the presence of gastro-succorrhœa in certain cases, the exact diagnosis can be made only by a repeated examination of the stomach in the fasting condition. By inserting the tube into the stomach, and telling the patient to exert some pressure with his abdominal muscles, a more or less large quantity of liquid (60–100 c.c.) is obtained from the stomach. This contains no food particles, but exhibits all the properties of the gastric juice. It may look greenish from the admixture of bile, but this is not an important sign. The filtrate, as a rule, shows a somewhat increased degree of acidity. It never contains any starchy products (absence of erythro-dextrine, achroo-dextrine, and sugar). Microscopically no sarcinæ or other signs of decomposition are found. Frequently cell-nuclei are met with in large numbers. In examining the patient one hour after Ewald's test-breakfast the gastric contents will be found to contain more liquid than usually, and the degree of acidity will be quite high (80–100). As a rule, the degree of acidity of the gastric contents is higher than that of the gastric juice when withdrawn from the stomach in the fasting condition. In examining the filtrate of the gastric contents as regards the starchy products, it will be found that the lugol solution will produce a deep violet or even blue color, showing that the starch has not been much changed. A thin disk of a hard-boiled egg will be digested in the filtrate at blood temperature in about half an hour to an hour. The difference as to the degrees of digestion of the albuminates and starches (the former being quicker, the latter much more slowly digested) can be best studied after Leube-Riegel's test-dinner. Three to four hours after such a dinner, the obtained gastric contents contain hardly any meat particles (all being digested), whereas particles of starchy food form the principal part of the mixture. In this way the difference between the digestion of meats and starchy foods existing in this affection is seen at once.

Differential Diagnosis.—In making the diagnosis of gastro-succorrhœa, all organic lesions of the stomach (ulcer and stenosis of the pylorus) which are liable to

be accompanied with gastro-succorhœa, will have to be excluded. According to my experience, it is easy to exclude stenosis of the pylorus, but not an ulcer. In stenosis of the pylorus the stomach in the fasting condition is also found to contain a liquid, but this is mixed with food ("ischochymia"), and the filtrate always shows the presence of starch or sugar products. But the main thing is that food particles can be seen even with the naked eye, whereas the liquid found in the stomach in case of genuine gastro-succorhœa does not contain any food particles, as described above. The presence of an ulcer will be suspected if there has been a preceding hæmatemesis or melæna, or a circumscribed spot (in the gastric region) very painful to the slightest pressure. The absence of these symptoms will tend to justify the diagnosis of gastro-succorhœa.

Prognosis.—According to my experience, the prognosis of gastro-succorhœa is not bad. As a rule, most patients improve under rational treatment. Frequently, however, there are relapses. Some very obstinate cases are occasionally met with, and the trouble, although yielding somewhat to treatment, may persist for years. There is, however, no danger of a fatal issue resulting from this disease alone.

Treatment.—As we have seen, gastro-succorhœa is always associated with hyperchlorhydria. The treatment of the latter condition in reference to diet, medicaments, and mode of living, will have to be resorted to here also. With reference to diet, I have only to add that it is of great importance not to permit the patient to partake of any large quantities of liquid. In this affection more stress must be laid upon this point than in hyperchlorhydria. The treatment of gastro-succorrhœa must be directed toward decreasing the undue amount of gastric secretion.

1. Medicaments: With this end in view, Voinovitch [1] recommends the use of atropia in doses of two milligrammes daily. Bouveret prefers morphia to atropia. Following the advice of Leubuscher and Schaeffer,[2] he administered two to three centigrammes of sulphate of morphia three times daily, in subcutaneous injections. This author doubts, however, whether this treatment, which seems to be effective in the initial state of the affection, will prove useful in cases that have progressed further. The use of either atropia or morphia may be tried for a short time, but they should never be administered for a long period. The subcutaneous injections of morphia especially should be avoided, as the patient runs the risk of becoming an habitué of this drug.

2. Lavage: Reichmann, and latter Riegel, recommend the use of lavage of the stomach as the best means of improving its condition. While Riegel washes out the stomach in the evening, six to seven hours after the last meal, Reichmann and most writers administer the lavage in the fasting condition. The latter way is also employed by myself; it has the following advantages:

a. That by emptying the stomach in the fasting condition we are better enabled to judge the quantity of juice present at a time when normally there should be none.

b. That no food whatever is removed from the stomach.

Instead of lavage Boas recommends emptying the stomach by means of a tube in the fasting condition (expression method). In order to more effectually combat the undue secretion, Reichmann recommends adding nitrate of silver to the water used in washing out the stomach. After it has been washed out with plain water, 300 c.c. of a 1 to 2 per 1,000 solution of nitrate of silver are poured into the organ, and left there for about five minutes, when it is withdrawn by siphonage.

3. Spraying the stomach: Instead of the latter proceeding I have sprayed out the stomach after the washing with a 1 to 2 per 1,000 nitrate of silver solution. In two cases I found this method of treatment of great benefit.

4. Direct galvanization of the stomach: The first of my observed cases of gastro-succorrhœa chronica was a very obstinate one, and the affection did not yield much to the medicinal treatment or to the use of lavage. I empirically tried direct galvanization of the organ, and after a treatment of a few weeks the stomach began to be empty in the morning, and has remained so for several years. Since then it has been my custom to make use of this method in this affection, and I must say that the result has been very gratifying. Very often I employ both spraying with nitrate of silver and direct galvanization, applying them alternately.

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[1] Voinovitch: Semaine médicale, April 6, 1892.

[2] Leubuscher and Schaeffer: Deutsche med. Wochenschr., 1892.

EXTINCTION OF TUBERCULOSIS IN HERDS.[1]

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In dealing with diseases of the lower animals there are various possibilities and limitations which do not enter the field of medicine as applied to man. These must ever be borne in mind if the veterinary sanitarian would have his work prove a success. As applied to tuberculosis these considerations must largely influence us in the choice of methods, and in their application in the sanitary field. Prominent among such considerations are:

1. The facility with which the contagion may be checked by the death of all infected animals.

2. The possibility of arresting the career of contagion by breeding only from insusceptible strains of blood.

3. The impossibility of applying effective methods because of the financial ruin which would be entailed.

1. Destruction of the Infected.—Under the first head—the checking of the contagion by the killing of the infected—the principle being altogether inapplicable to dealing with man, the physician naturally thinks first of segregation, disinfection, and a police control of the sick. With the veterinarian, on the other hand, free from any sense of the sacredness of the life of the sick, the first thought is a purely economical one, namely: Will the cost of the seclusion and care of this animal, and of the probable infection of others, outvalue the prospect of its recovery, and the actual value of the animal when well again? With any virulent and dangerous disease there can only be one answer to this question, namely, that economy demands the extinction of the contagion at the expense of the first victim, before ten or a hundred more shall contract the disease. With a subject, the actual sound value of which may have been anywhere between $10 and $100, the administration of such police control as would guarantee the prevention of the extension of the infection, through man, beast, bird, or inanimate object, would, as a rule, more than use up the actual price of the first victim. Every day of delay in shutting up these living factories of contagion places a greater balance on the wrong side. The economical soundness of this position has been now so often illustrated on a large scale and in regard to so many different diseases, as rinderpest, lung plague, sheep-pox, glanders, and rabies, that for those who have made a special study of it, it has passed from the field of discussion to that of established truths.

2. Insusceptible Families.—In regard to the second question, that of propagating insusceptible families only, while it is equally, with our first proposition, impossible of adoption in the human family, as interfering

[1] Presented to the Academy of Medicine, New York, November 8, 1895.

with personal rights, it is certainly available for the lower animals over which the State can exercise the right of eminent domain and enforce a police control for the common good. In animals, as in man, there are certain families which show a strong susceptibility to given infections, and others that show an equally potent resistance, and if it can be shown that no more serious interest is threatened by such a course, it is quite within the power of the State to exclude the first-named class from reproduction, and to breed only the animals that show the comparative immunity. A principle of this kind is already in force in certain countries, in which all stallions are licensed, and those are excluded from stud uses which are calculated to deteriorate the breed of the district. The same principle is in force in the Channel Islands, where no cattle except those of the native breed are ever allowed to enter a herd.

3. Economic Limitations.—In the third place, we are confronted with the question of economic limitations. It may be said that where human health and life are concerned no question of mere economy should be allowed to enter. But the economic question may be so far-reaching that the evil to humanity would be greater in the end, and our boasted liberality for sanitary needs would itself finally defeat the much-coveted sanitary object.

Deferring for a moment the question of the immediate influence on human health, let us glance at the national wealth in farm animals. The United States own, in round numbers, $1,500,000,000 worth of farm stock, and in this are included 16,000,000 head of milch cows, and 20,000,000 head of other cattle. The cows produce yearly 5,209,125,567 gallons of milk, or 315 gallons per head. Of the other cattle, probably 5,000,000 are killed yearly for human food, representing 1,000,000 tons of beef. This cannot be materially restricted without dealing a serious blow at our national prosperity.

While it must be conceded that animals would acquire a greater power of resistance to tuberculosis if kept in the open air and in a condition more nearly approximating the natural one, yet if we let the milch cow revert to the condition of the native Texan cow, which can only scantily support its calf, and if we remand the beef animal to its native state, in which it took four years to reach maturity, in place of putting him on the market as prime beef at two years old, we render the whole cattle business unprofitable. Under such conditions our stockowners can no longer compete in the markets of the world, and this branch of live stock must be abandoned. But if abandoned, the exhaustion of our soils is a necessary consequence, and in due time agriculture, in its turn, must become unprofitable, and with its decay we shall reach the end of our whole national prosperity, built upon our abundant agricultural products.

Whatever we do with our domestic animals we dare not cause them to revert to a state of nature. This would be to throw away the achievements of the labor and the skill of centuries, and would entail the most serious retrogression of the nineteenth-century civilization. As well propose to abandon the modern triumphs in steam and electrical engineering.

The abnormal productiveness of the present farm animal is one of the most substantial foundations of modern prosperity, and it would be an economical blunder, and finally a sanitary one, to seek its abandonment or limitation. So far as we can secure an innate immunity within the productive families, our work will be sound, and so far as we can produce an acquired immunity by hygienic measures we are laboring in the right line; but the line must be drawn wherever these protective measures tend to seriously impair the capacity of the breed for profitable uses.

These considerations serve to clear up our field of veterinary sanitary police, and to narrow it to the limits which are at once the most indispensable and the most effective. One measure stands out above all others as the one which must never be lost sight of, and to which all others must be held as accessory and subservient. This measure is the extinction of the disease germ.

Feeding from Separate Troughs.—Where from any cause the immediate extinction of the germ is impracticable, an all-important precaution is to teach each animal to use its own stall only, and to have the stall so separated in front that no two cattle can feed from the same trough. For the same reason no common feeding-trough should be used in yard or field, and there may be danger in using a common drinking-trough or bucket.

Salting Troughs and Front of Stalls.—In view of the fact that tuberculosis is largely propagated by the dried-up virulent expectorations which are raised and diffused in the form of dust, the daily sprinkling with a strong brine, of the front of the stall, the manger, and the passage in front, proves an important protective measure. Condensing the moisture of the air, the salt keeps the surface constantly damp, and prevents the sputa from drying up and rising as an impalpable powder. The salt is not only harmless, but wholesome, and has, besides, a very slight bactericidal action. In a cold barn, below freezing, a weak solution of sulphuric acid may be substituted.

Open-air Life.—So far as possible a free, open-air life should be secured for the stock. In city and suburban stables the infected may reach anywhere from six to ninety per cent., whereas among 2,250,000 of our fat range cattle the tuberculous did not exceed 0.02 per cent. The comparative absence of viable bacteria in the air of the pastures, and the operation of full sunshine in devitalizing the bacillus tuberculosis in a few hours, while it may live for months in an ordinary room, are sufficiently instructive in this connection. In the Northern States, where cattle must be sheltered indoors for five or six months of the year, too great care cannot be taken to secure ample windows and sunshine, as well as free air in the stables. Darkness in the stalls reduces the quality and number of the red globules, and the vitality and power of resistance of the animal; so that it virtually burns the candle at both ends, preserving and multiplying the germ and increasing the susceptibility of the animal.

These considerations strongly condemn the city and suburban dairy. Other things being equal, the larger the city the greater the number of floating bacilli and the greater the susceptibility of the animal system. In French towns of five thousand inhabitants the ratio of tuberculous persons is only half as much as it is in towns of one hundred thousand to five hundred thousand. In German abattoirs the ratio of tuberculous cattle is about five per cent. of all slaughtered, yet Ostertag gives the ratio for old cows in the Berlin slaughter-houses as seventy-five per cent. The ratio is greater in our city and suburban dairies to-day than it was years ago, when a large proportion of the fresh cows were killed off by lung plague within three months of their purchase. There remains, however, this redeeming element, that the city dairyman finds it unprofitable to keep the same cows from year to year, and as a slow disease like tuberculosis finds insufficient time for abundant development, the result is better for the city dairy than it otherwise would be. The case is worse with a thoroughbred herd kept in the city or suburbs as long as the cows will breed, as there are here the combined evils of a generally contaminated atmosphere of indoor life in a barn too often infected, and in too many cases a bodily constitution rendered increasingly susceptible by inbreeding. Once start the infection under such conditions and the affection is liable to become concentrated by a number of successive reinfections in the same animal, so that not only are cases multiplied, but generalized cases soon come to prove the rule rather than the exception. Everything considered, the city and suburban dairies are surrounded by greater

dangers than the country ones, and this should be taken into account alike by the dairyman himself and by the sanitarian who would protect humanity against the bovine source of infection.

Precautions.—Among the further precautions which are within the control of the stockowner himself are the following:

Avoid Breeding too Young.—The immature system is easily debilitated.

Don't unduly Stimulate the Milk Secretion.—Let the diet be always sufficient to fully sustain the vital powers as well as lactation.

When the Cow goes Dry don't Allow Her to Suffer from Insufficiency nor Unsuitability of the Food.

Correct all Conditions of Ill health.—Debility is an urgent invitation to the bacillus. On the other hand, the most phenomenal powers of digestion, assimilation, and rapid growth and fattening give no guarantee of protection when the germ is implanted.

Bang tells us that the disease was virtually unknown in Danish cattle until 1840, when it was introduced in some purchases from Schleswig, and later, in 1850, by large importations of English short-horns, and now the Copenhagen abattoirs show seventeen per cent. of the cattle tuberculous, and the tuberculin test on 19,462 cattle showed 61.6 per cent. tuberculous.

Old and Unthrifty Cows should be Excluded from the Herd.—Twice to six times as many old cows as of young ones are tuberculous. The first sign of unthriftiness should be a warrant for separation from the rest of the herd, and especially in the case of the aged. Better still to use the tuberculin test to decide whether the animal should be promptly slaughtered.

Don't Buy from a Herd that has Furnished Cases of Tuberculosis in Recent Years.—Here, again, the safe course is to admit only such as have stood the test with tuberculin.

Let no Tuberculous Person Care for the Herd.—The tuberculous person is a source of greater danger to the herd than is even the tuberculous animal. The latter can be confined to one place and the virulent sputa can be prevented from drying and rising as dust, but for the attendant there is no such limitation, and his discharges are all the more dangerous. In one herd where three of the family in charge had died of tuberculosis, I found nineteen of the twenty-six cows badly affected.

By attending to such precautions, by killing all tuberculous animals and safely disposing of the carcases, and by thoroughly disinfecting all the products, the stockowner may reasonably hope to purify his herd of the infection and to keep it sound.

I have purposely omitted all reference to methods of treatment, as these, however good for a human patient whose life must be spared, necessarily entail a long-continued administration, and are attended by too great expenses and uncertainty of result to warrant their recommendation for animals when the object is to stamp out the disease.

Sanitary Police for Tuberculosis in Herds.—In considering police methods for tuberculosis in herds, our past experience in dealing with plagues of animals does not furnish an exact counterpart. The absolutely successful results in different parts of the world with rinderpest, lung plague, sheep-pox, rabies, and glanders, were obtained with diseases which confined their ravages to animals, or which, in attacking man, entailed an acute and fatal disorder, so that the agency of man in propagating the contagium could be practically eliminated. In tuberculosis, on the other hand, we confront a disease which, even in man, often follows a tardy and occult course, and which is, at all events, habitually chronic, so that the contagium must be preserved so long as the phthisical man is allowed to go at large. It is not, however, so diffusive as the contagia of rinderpest, lung plague, or sheep-pox, and hence the same absolute seclusion is not necessary to prevent its propagation.

If we could exclude dairy herds from cities and other dense aggregations of humanity, and see to it that consumptive persons were debarred from caring for, or mingling with, cattle and other susceptible animals elsewhere, we could proceed with the extinction of bovine tuberculosis with the same confident expectation of success as we have in the past undertaken the extinction of the plagues of animals already referred to.

So long, however, as such separation is unattainable, we must be content to be satisfied with less perfect results, and must stand ready to repeat the process of extinction in the same herd as often as it may become necessary. Even with this drawback, however, we can promise a practical extinction of the affection in our herds, and a reasonable guarantee of the soundness of our dairy and butcher products.

For the Speedy Extinction of Tuberculosis in Herds.—In this direction I cannot do better than to repeat my suggestion in the report of the Tuberculosis Commission for 1894: "All herds of the State would be examined and tested with tuberculin as speedily as possible, the diseased animals would be condemned, appraised, killed, and safely disposed of, the premises disinfected, other genera of animals that have lived with the diseased" (cattle) "would be examined, and, if necessary, safely disposed of, vermin would be killed, and all consumptive persons would be advised" (enjoined) "against attending on the purified herd or preparing their food. Finally, all new purchases would be kept apart from the herd until they had been tested with tuberculin. In this way every step would be so much clear gain, and what had been once accomplished could be looked upon with reasonable confidence as a permanent success."

The continued testing of new purchases and the repeated examination of the herds at long intervals would be required, as, at first, isolated cases would appear from bacilli that had lodged on the digestive or respiratory mucosæ, but which had not colonized the tissues prior to the tuberculin test, and also from other accidental outside sources. Necropsies of all animals dying or killed would also be requisite, so as to insure that no seeds of the disease should be overlooked in the herd, so as to break out later. The most serious objection to this prompt and effectual method is the lack of a sufficient appropriation. For indemnities alone, at $25 per head, four per cent. of our 2,500,000 head of cattle (100,000) would demand $2,500,000. If we add to this the cost of the inspection of the whole bovine race in the State, and of animals kept with them, of appraisements and of administration generally, we could not calculate on less than $3,000,000 as a working fund. Another drawback is the lack of professional men sufficiently acquainted with the use of tuberculin, and with the diseases of animals generally, to satisfactorily fill the *rôle* of inspectors. It would take a length of time to organize a satisfactory sanitary force for the entire State, so that, even if the money were forthcoming, the inauguration of the enterprise would be necessarily slow.

Registration of Herds and Necropsies as a Means of Tracing Tuberculosis.—A most effective but less speedy means of dealing with tuberculosis in herds would be based on an universal registration of the bovine animals. To each county or district could be assigned one or more trustworthy veterinarians who should keep an accurate record of bovine animals, and of all additions and removals, and who should examine all cattle killed or that died. On the discovery of a case of tuberculosis, the disease would be identified by the chief veterinarian, and the whole herd would be subjected to the tuberculin test, and those found tuberculous would be condemned, appraised, killed, and safely disposed of, and the premises disinfected. Similar precautions as under the speedy method would be adopted toward other domestic animals on the same place, toward ver-

min, and toward tubercular attendants, and new purchases.

In this way every tuberculous herd would be discovered and purified without serious delay, and at the same time the expensive tuberculin test would be reserved for herds in which tuberculosis was known to exist. The unfounded stock objection to the tuberculin test, that it might introduce disease, would in this way be rendered absurd even to the objector himself.

This work could probably be accomplished by one hundred inspectors at a cost of $150,000 or $200,000 a year. Indemnities also would be lessened, as many of the occult cases would be detected only at the butchers, and at least the demand for values would be more gradual and more easily met.

Abattoir Inspections to Trace Tuberculosis.—A third method of tracing tuberculosis is to provide municipal or other official abattoirs in which alone farm animals designed to be marketed as human food can be killed. This has long been in use in Europe, and must one day be adopted in America, as a purely sanitary measure, no matter how it may interfere with the vested interests and monopolies of individuals. Inspection in private abattoirs can never be made as satisfactory as in public institutions in which everything is done according to rule. Incidentally the government stamp and endorsement furnished with all sound meats would open to all competitors interstate and foreign trade, which is now the monopoly of the packers in certain large cities. Its effect in tracing the centres of animal tuberculosis may be inferred from the reports of the Berlin abattoirs, where seventy-five per cent. of the old cows are tuberculous; of Leipzig, where twenty-eight per cent. prove affected; of Schwerin, where thirty-five per cent. are diseased; of Paris, London, and Edinburgh, where twenty-two per cent. prove consumptive.

With such data it is easy to follow each animal back to its herd and subject that to the tuberculin test. If we were to combine this restricting of slaughter to the inspected government abattoirs, with a careful record of the herds and their individual animals, it would prove easy and certain to discover every centre of disease and to speedily eradicate the contagium.

The desideratum in our present methods is a definite and effective system. Our tuberculosis commissions are in a sense free lances, with power to rove about the State and test a herd here and a herd there, as the urgency of the demand or their own judgment may dictate. And in the preliminary inquiry into the existence and relative prevalence of tuberculosis in different districts this has served a good purpose. But now that this purpose has been accomplished, this should give place to a system which will look toward something more definite in the way of the extinction of the disease. When a herd or district is purified of the infection, due precautions should be taken to prevent its reinfection, so that the same work will not be demanded again and again in the same district, and above all, that the purified herd shall not be exposed to diseased herds on all sides of it.

Let herds be excluded from cities and suburbs, or let the herds in such localities, as are the most dangerous to themselves and to humanity, be the first to be put under a rigid system for the suppression of the contagium. Next to this, the dairy counties, in which the bovine population is the densest, should be systematically attacked. When these shall have been purified, the herds of the State at large, where the danger of the concentration of infection is least, should be taken in hand. Every step, however, should be subordinated to the maintaining of the ground that has been already gained, and the advance of the work in such lines as will make it possible or easy to hold all newly acquired territory. The general plan must therefore yield in many cases, so as to clear up a whole district—the less densely peopled with cattle, as well as the more densely populated—so that the conquered territory shall be kept compact and easily defensible from first to last. The time for the sporadic dealing with individual herds, remote from each other, is past. The knowledge and the needs of to-day unite in demanding such an appropriation and such supervision as will secure a systematic and progressive advance over the whole State, and which will look toward the purifying of our herds in every locality.

A STUDY OF HYSTERIA AND HYPOCHONDRIASIS.[1]

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The period in which we live seems to be peculiarly fruitful in the production of malnutrition, degeneration, and diseases of the great nerve-centres, which has been variously ascribed to different factors. The fact that the census of 1890 showed that eighty-seven per cent. of the total population, over ten years of age, could read and write, would seem to be of interest in this connection; as one writer remarks, "it may be fearlessly asserted that in the history of the human race, no nation ever before possessed forty-one million instructed citizens." Then, in this age and in this country, the problems of human existence have been rapidly growing more vast and complicated, and the rapid succession of events, which are now daily reported to us from all quarters of the globe, together with the great strain on the higher cerebral centres incidental to the great struggle for wealth and existence, combined with the absence of proper periods of rest, and the lack of general systematic cultivation of out-door games and sports, and means of mental diversion, are hardly calculated to favor healthy cerebral nutrition.

It may also be reasonably asked whether the human brain is not passing through a period of great strain and readjustment to a new environment, and is suffering as a consequence until such time as advanced ideas shall indicate the proper methods of meeting the new conditions, and here it seems proper to call attention to the tendency to centralization, specialism, and the increased interest in athletics as a step in the right direction. However this may be, rich and poor seem to be equally affected, and in the field of my observation, the Out-door Department of Bellevue Hospital, New York, I have been surprised to observe the great prevalence of such conditions of the higher nerve-centres among the poorer laboring classes, embracing such occupations as are not usually thought to be attended with excessive mental strain, and on investigation one finds that they are all men and women of like passions with us, and that the unsettled intellectual convictions of the present century, ancestral tendencies, individual environment, all the various causes which tend to excite or depress the emotional nature, alcoholic excesses, absorption of nicotine and lead among workers in tobacco and lead, self-abuse, sexual excess, and syphilis, all play their *rôle* here, as well as elsewhere, in producing vital depression and favoring malnutrition and degeneration and abnormal mental states. In the study of the causes of hysteria and hypochondriasis we have to do with mental and physical factors, and largely with mental disturbance; it seems, therefore, fit to inquire carefully as to what favors healthy brain action and its opposite.

The human body may be compared to a kingdom inhabited by a large number of different denizens and visited by many intruders, who, having effected an entrance, gain control and work mischief. The thinking brain is the ruling monarch, and should be most

[1] Read before the Twelfth Annual Meeting of the New York State Medical Association, held in New York October 17, 1895.

carefully guarded and kept in the most perfectly healthy condition, and should reign supreme, choosing its code of principles and carrying them out inflexibly through its prime minister, the will. Anything which interferes with the healthy tone or working of the brain or its powerful agent, the will, affects the whole body unfavorably, and each reacts on the other, hence the maxim, "Mens sana in sano corpore." Now, what are some of the mental and physical conditions which are needed to secure healthy tone and action for the thinking portion of the human brain.

1. Hereditary transmission.

2. Proper mental and physical training, combined with a suitable environment, based on a careful study of the mental and physical conditions of the ancestry and the individual.

3. The correction of all physical defects calculated to interfere with the general nutrition. "If the brain is not well supplied with an abundance of nourishing and pure blood, its functions cannot be well performed.

4. The adoption of the most reasonable, convincing, and soul-satisfying theory of man's place in nature, his origin, mission, and destination.

5. The recognition of the animal propensities in the man, and the importance of their control by educated higher centres.

6. The adoption of a code of principles best adapted to promote the securing of the highest development, mental and physical.

7. The selection of some line of mental or physical work, based on a careful study of mental and physical peculiarities of the individual and ancestry, which shall give a definite and useful aim to life.

8. The keeping out of the mind all influences, ideas, and habits calculated to defeat the end in view, or cause mental or physical deterioration.

9. The keeping out of the mind all superstitious imaginations and unrealities which are calculated to weaken reason and self-control.

This is an age of materialism run riot. Every one seems to be looking for some cause which can be appreciated by the five senses, not laying enough emphasis upon the thoughts which are allowed to enter the human brain and which are just as powerful to produce disease as germs. We come into the world with powerful appetites and special centres for their functional exercise, and above them a higher centre, the seat of the reason and will, weak in many cases and not fit to rule, through inexperience, without the help of the most able and far-sighted advisers—is it any wonder that with a certain hereditary predisposition and environment the lower centres in many cases gain control while the higher centre sleeps, and mind and body are deteriorated by force of evil habit and malnutrition until there seems to be no hope of healthy mental action, and every variety of morbid thought and morbid impulse runs through the poor, weak, unresisting brain, until all mental control is lost and the poor sufferer is like a ship which has lost its rudder, at the mercy of the winds, storms, and waves of evil and unrestrained passions, appetites, and morbid thoughts and impulses.

10. The early training of the young in the habit of self-control, as here parents most frequently lay the foundation for future hysteria and hypochondriasis.

11. The careful avoidance of alcoholic excess, especially in hereditarily predisposed individuals, and drug habits.

12. The selection of proper forms of mental diversion and recreative physical exercise, and the cultivation of such social relations as will stimulate the higher faculties and emotions.

13. The forming of habits of self-reliance and individual thought and action, regardless of external influences, so as to increase the power of each individual factor.

14. Submission to destiny.

Having enumerated some of the conditions necessary to promote healthy brain action, without claiming to have exhausted the subject, let us look for a moment at some of the causes which are productive of unhealthy brain action, and again we must mention :

1. Hereditary transmission.

2. Improper mental and physical training, combined with unsuitable environment.

3. Physical defects, which interfere with general healthy nutrition.

4. The lack of adoption of definite principles, looking toward uniformity of thought and action and formation of fixed habits, which tend to the making of a well-balanced mind.

5. The constant indulgence of the animal appetites against the voice of conviction, involving the weakening of self-control.

6. The lack of occupation and motive in life, allowing of too much introspection.

7. The harboring of beliefs based on superstitions and imaginations, involving the stifling of reason.

8. The excessive use of alcoholic stimulants, opium, or tobacco.

9. The lack of proper mental diversion and physical exercise.

10. The effect of low states of health, due to some poison in the system, involving continuous watching for outbreaks, or of chronic diseases, especially of the sexual organs, so that the mind is almost constantly pervaded by the same train of thought.

11. Climatic changes, especially when sudden and of extensive range, involving a frequent readjustment of the system, with consequent vital depression.

12. The circulation in the blood of poisonous germs, metals, or toxic matters, the result of malassimilation or indigestion, as happens in malarial poisoning, syphilis, lead and mercurial poisoning, alcoholic excess, uræmia, or uric-acidæmia, rendering the circulating fluid unfit for healthy nutrition, and predisposing to degeneration.

13. The tendency of the thought and practice of the present age, among young men and women, seems to be antagonistic to the consummation of marriage and the assumption of the duties of motherhood and fatherhood. Young men, discouraged by the extravagant demands of the other sex and their longing for luxury, idleness, and excitement, are led to lead isolated lives, finding their social pleasures in various ways, which lead, in any case, to unsettled convictions, a lack of definite aim, selfishness and introspection, and many deserving young women are driven to seek employment in various occupations or lead lives devoid of the incentives which tend to the highest development of the female nature.

14. The influence of a degenerate literature and art inculcating the following of the lead of the emotions, and the consequent stimulation of the lower centres and lowering of the influence of reason and self-control.

To sum up, anything which favors healthy ratiocination and increases the habit of self-control, or favors the conservation of that mysterious something which we call vital force, together with favorable hereditary transmission, or the use of proper measures looking toward the correction of hereditary defects, or unhealthy conditions peculiar to the individual, these tend to favor healthy brain action, and the opposite conditions unhealthy brain action.

There are two affections to which humanity is liable —hysteria and hypochondriasis—which, in my opinion, are peculiarly the result, in great measure, of defective action of the higher centres, the reason and will, in their inhibitory action on the lower centres ; in other words, long weakening of reason and will and defective training of the higher centres, the seat of these faculties, is followed by undue and unrestrained action

of the lower centres, producing diseased conditions, mental and physical, and this result is naturally favored by any cause which interferes with healthy nutrition.

Hysteria is a yielding of the mind to any morbid impulse that enters it.

Hypochondriasis is a mind habit of dwelling on bodily functions until it becomes second nature, and the mind becomes in this way sensible to impressions which, in health, are unperceived, and are now misinterpreted; or, in other words, it is a morbid concentration of the mind on the various bodily organs, functions, and sensations, to which the subject attributes false pathological significance.

The causes of the two conditions are partly physical, but largely mental; any physical condition which interferes with healthy nutrition, such as indigestion, malassimilation, reflex irritation, the circulation of toxic matters in the blood, may be a potent initial factor, but the habit of mental non-resistance, self-concentration, the paralysis of will, and the neglect to use the reasoning faculties in the interpretation of symptoms presented, are largely responsible for the phenomena presented by these two affections. The class of persons most liable to these affections are those of neurotic ancestry, and possessing a neurotic or mercurial temperament, with strong imagination and emotions, easily elated or depressed, and rather moved by impulse than reason, deficient in self-control, and without definite aim in life and mental occupation.

Following Dr. G. L. Walton's classification in Wood's "Reference Handbook of the Medical Sciences," the symptoms may be briefly classified under Disturbances of Sensation, Disturbances of Motion, Circulatory, Secretory, and Excretory Disorders, and Disturbed Mental Conditions.

As illustrative of disturbances of sensation, I refer briefly to the following cases, which have come under my observation.

Mrs. R——, a widow, had a sensation as though all the blood in the body was flowing into a space about the size of the hand, on the right side, accompanied with pain, a sense of tightness, and suffocation. She was suffering from fatigue at the time I saw her, and had been told that one lung was diseased. She also had a sensation as though the house was moving. She was completely relieved by teaspoonful doses of elixir of valerianate of ammonia, given every hour or two during the entire night.

Mrs. H——, while taking lunch with some friends, had a sensation as though a corkscrew was being bored up through her brain, and was told by her friends that her face was turning purple. I was asked by her husband to see her, as he feared apoplexy. Under the elixir of valerianate of ammonia, in drachm doses, when needed to combat symptoms of nervousness, and a course of Fellow's hypophosphites, there were no further attacks.

Mr. S. S——, never ill, except having had the grippe two years ago, followed by neuralgia, which was cured by galvanism and tonic treatment. He complains of a peculiar sensation when he gets run down and tired, as of something rushing from below the right clavicle and spreading over him; can bring on these attacks by thinking of them.

The following case well illustrates disorders of motion and circulation. Dr. T——, aged forty-three, unmarried, practised self-abuse excessively when young, having gotten into the habit while climbing a tree. Six months ago, while studying assiduously, had nervous tremor or excitement, and discovered on left side of the face, over the malar bone, a decided flushing, extending to the median line in front, and the face was hot and red on that side; a hissing or buzzing was noticed in the ears, and subsultus tendinum in different parts of the body was discovered, legs jerked and hands jumped in bed, and there was sighing respiration.

As illustrating disorders of secretion and excretion, Mr. T. D——, aged thirty-one, in November, 1891, had slight attacks characterized by a feeling of apprehension and as though the heart was quivering from side to side, like jelly. After these attacks the stomach was distended with wind, and he passed about two quarts of straw-colored urine. In this case there was also a disturbed mental condition. In April, 1892, he complained that his brain felt like a ball surrounded by a rind, and the brain wanted to work, but the rind remained passive.

A diagnosis of hypochondriasis or hysteria should be made only after most careful examination and interrogation of the different organs of the body, as organic disease is often masked by these two affections. The following history of a case which came under my care will illustrate this point:

Mrs. M. W——, aged fifty-three, consulted me in 1894, complaining of intermittent action of the heart, burning sensation in the region of the left ovary, tender spot over the seventh cervical vertebra, which aches and burns when she is tired, and great exhaustion after exertion, with mental depression and crying spells. She had undergone considerable treatment, for two years, at the hands of different physicians, with indifferent results. A careful examination of the urine showed a slight trace of albumin (specific gravity, 1.024), and mucous and hyaline casts, one with a renal epithelial cell attached. Treatment was conducted on the lines of a diet to restrict the intaking of nitrogenous matters, elimination and dilution of the urine, keeping the skin and bowels open to promote the elimination of waste and relieve the kidneys, but two months after I first saw her nausea and vomiting set in; with symptoms of uræmic poisoning, and in spite of careful treatment the patient died.

As regards the prognosis of these cases, all depends, it seems to me, as to whether we can so change the mental condition as to reinstate reason and self-control and divert the mind from self and introspection, to outside subjects and objects, and this can only be accomplished by supreme confidence of the patient in the correct interpretation of his condition and the methods employed, and unwavering perseverance until the mind regains a healthy equilibrium.

The pathology of these cases is obscure, but probably consists in a disturbance of the balance of nutrition, either through mental influence or otherwise.

Treatment.—Treatment may be considered under the heads preventive and curative. Prevention of the conditions under consideration may not always be possible owing to inherited predisposition, individual environment, and physical states; but in the line of preventive or modifying measures we may mention the cultivation of reason and self-control, the maintenance of healthy nutrition, the adoption of definite principles of living, based on the ambition to reach the highest mental and physical development, and the giving to life a definite aim and purpose by pursuing some line of work beneficent to others and self, the avoidance of all unnatural methods of stimulation of the animal appetites, a careful study of the individual and his ancestry, and so ordering his life as not to bring excessive strain on the great nerve-centres, but by careful cultivation of the higher centres to bring about that mental equilibrium characteristic of a well-balanced mind, in which the emotions are held in check by reason and will. A doctor must be, in the interests of health, a moralist, a close student of human nature and life in general, and not a mere giver of drugs.

In the way of curative treatment it must first be well established that there is no underlying organic disease, and all physical disorders, such as are due to functional derangement of different organs or the circulation of toxic matters in the blood, must be attended to, together with proper directions as to diet, mental diversion, physical exercise, and the cultivation of cheerful social surroundings, which, having been accomplished,

the mental condition most urgently claims our attention, and here the words of M. Paul Bourget, in his masterly address before the French Academy, on June 13, 1895, seem most pertinent. In speaking of the life of his eminent predecessor, M. Du Camp, he points to his youth as a time of emotional and intellectual confusion and revolt, when he wrote what he called "sad books," and he goes on to say, "To me the most singular and least agreeable fact is that I have suffered horribly from this condition of mind. Indeed, when I turn back to judge myself impartially, I perceive that I found my equilibrium only when near my fortieth year. Vague aspirations, hours of gloominess without a cause, motions without object, all these bordered close on hypochondria, and if any one should show me to-day that I have been somewhat insane, I should be neither indignant nor astonished." M. Bourget then says, "You recognize the very definition of that which was long called 'the disease of the century.' Call it by whatever name you please, it is an incapacity for accepting life, and the advice given by the English essayist 'that man's great work is to carve for himself in the hard marble of life the white statue of serenity.'"

Finally, M. Bourget sums up as follows: "Having commenced by considering life like a true child of the century, as a matter of emotions to be hated when it was not conformed to our desires, he arrived at a recognition of the fact that the whole worth in this life is in work, in submission to destiny, in the accomplishment of a beneficent task;" and here, it seems to me, we find the prevention and the remedy for all hypochondriacal states—the occupation of the mind by employment useful to others and ourselves, and serene submission to destiny. Such a plan will, I believe, bring about a larger percentage of good results, in the way of prevention and cure, than Christian science, treatment by suggestion, faith cure, etc., without the damaging effects produced in the minds of subjects by those unscientific theories.

As regards drug medication, it is a good rule not to use them unless the indications are very well marked, as they serve more or less to fix the patient's attention on self. The drugs useful in these conditions and accompanying functional derangements of different organs, which, when they include those of digestion and circulation, interfere seriously with the general nutrition, may be classed under the heads of sedatives, antispasmodics, excito-motors, anti-ferments, artificial digesters, and tonics. The sedative that I have found most generally useful is a combination of bromide of ammonium and tincture of cannabis indica in the proportion of fifteen grains of bromide ammonium and ten minims of tincture of cannabis indica to one teaspoonful of mucilage of acacia, flavored with essence of peppermint; this being given in teaspoonful doses every four hours for ten days. In cases where it seems advisable to administer the sedative in pill form, I have used a tablet made by the Fraser Manufacturing Company, which contains two and a half grains each of bromide of soda, bromide of potash, and bromide of ammonium, with five drops each of tincture of hyoscyamus and tincture of cannabis indica, giving one tablet three or four times a day. The elixir of the valerianate of ammonia, containing about one to two grains of the salt to the teaspoonful, has given me much satisfaction as an anti spasmodic. As an excito-motor in cases of sluggish action of the nerve-centres, attended with symptoms of slow digestion and general atony, I have found strychnia, in doses of one-fortieth to one-tenth of a grain, most efficient. As an anti-ferment in cases of nervous dyspepsia, so called, subgallate of bismuth, in doses of five to ten grains after meals, has given me most excellent results. The artificial digesters which I have found most helpful, have been preparations representing the different digestive ferments and an extract of malt rich in diastase. In the line of tonics I may mention sirup of hypophosphites, with small cases of strychnia, combinations of strychnine, quinine, pyrophosphate of iron, and dilute phosphoric acid, as in the Hammond mixture in use at the Outdoor Department, Bellevue Hospital, and another of the tincture of the citrio-chloride of iron, quinine, strychnine, and arsenite of soda, the formula of which is as follows:

℞. Tr. ferri citro-chlor. ..... ʒ j.
Quiniæ sulphat. ..... gr. lxiv.
Strychnine ..... gr. ss.
Sodii arsenite ..... gr. 1½.
Alcohol ..... ʒ ij.
Elix. aurant., N. F. ..... ʒ viij.
Sig.: One teaspoonful after meals.

Pure cod-liver oil.

As to exercise in these cases, I have found walking in the open air the most useful form when taken in moderation, short of fatigue. Exercise on the bicycle may be of service if carried on with great care, but in many cases the nerve-strain incidental to this form of exercise has seemed to be great and attended with unpleasant after-effects. Frequent change of air and scene, and mental diversion, so as to fill the mind with new ideas, is most helpful.

In giving directions as to diet, our aim should be to secure the taking of as much digestible and nourishing food as possible, and aid its digestion and assimilation by such artificial digesters as are at our command; to avoid taking food when fatigued, and take the heartiest meal in the middle of the day.

In the line of hydropathic treatment the nutrition of the central nervous system may be improved by the proper use of the hot and cold douche.

34 West Thirty-eighth Street.

Failure of the Andrew Clarke Memorial Fund.—Through some bungling on the part of the managers it seems that the attempt to raise a fund for a memorial to the late Sir Andrew Clarke has failed. The responses, in answer to requests for money, did not come as was expected. The reason was that the managers of the fund did not choose the right kind of thing to put the money into. They attempted to organize a new ward or pavilion in the hospital as a memorial. Now, however beneficent an isolation ward may be, and however strongly it may appeal to the well-attuned instincts of the philanthropist, a ward for contagious diseases is not a thing that arouses enthusiasm. One cannot really think of a quarantine pavilion as being a great and inspiring memorial to the life and character of a brilliant and useful man. Furthermore, the sentiment among physicians is not one of extravagant fondness for more hospitals. The charities of this kind have been much abused, and the medical profession has suffered thereby. On the whole, we are not surprised that the Sir Andrew Clarke memorial has been a temporary failure. We hope that those interested in the project, however, will start again, and pick out a better object for their labors, and we are sure they will succeed. After all, a statue or a bust, which stands forever in some public place, and which calls the attention of the public, as well as the profession, to the fact that this man lived a great life, is the form of memorial that cannot be much improved upon, when the sum of money to be raised is rather limited.

The Prize of the French Institute, amounting to 12,000 francs, has been bestowed upon Professor Raoult, of Grenoble, for his researches in chemistry. The award this year was made by a committee of the Academy of Sciences.

Teetotalism in the Indian Army.—Out of seventy thousand English soldiers in India, twenty-four thousand are reported to have joined the Army Temperance Association, and profess to be total abstainers.

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COMPULSORY VACCINATION.

THE verdict for damages recently given in Brooklyn against a medical officer of the Health Department of that city, for the compulsory vaccination of a protesting citizen, carries with it a wide-spread significance as bearing upon the surrender of the personal rights of a citizen to the greater interests of the community at large. In the particular instance in question, it is alleged that the vaccinator used force in compelling the submission of the plaintiff, who at the time was confined to bed by illness. It was also claimed that the sick man stated he had a tumor of the brain, and that he feared the vaccination might injure him. Notwithstanding all this, the vaccination was done, the victim swearing that when the dreadful incision was made in his arm "the blood spurted out" and he "nearly bled to death."

This is certainly a pretty bad case for an ordinary jury, whose intelligence was capable of such credulity as to impossible surgical accidents. Not only was a general verdict rendered in favor of the plaintiff, with money damages fixed at $1,500, but the jury added a supplement, to the effect that the defendant was guilty of assault and battery. As a result of all this, other similar suits against the health authorities in Brooklyn are threatened.

The vaccinator very prudently, and we believe truthfully, denies the use of violence even in language, and avers that he simply reasoned with the man, and then insisted on vaccinating him. No tumor of the brain was manifest, nor were there evidences of anything else within the skull case. The fact that the inspector vaccinated the unwilling victim at all, was, under the circumstances, considered by the jury as a criminal invasion of individual liberty, and an utter disregard of personal privileges.

It is very unfortunate that the oft-asked question concerning the personal rights of individuals as bearing on the regulations of health departments, should be so pointedly and directedly answered as in the present instance. Under a claim of legal damages it establishes a precedent which may tend in many ways to hamper the action of health boards, not only in their efforts to prevent the spread of disease on the one hand, but to arrest its progress on the other. This is to be regretted, more particularly as there is no statutory law providing for compulsory vaccination. Nor can the latter be urged without endangering the sacred rights of personal liberty.

There is, however, a very effectual offset to the aforesaid conditions in the extraordinary powers, advisory and administrative, that are given to departments of health. This is as it should be in view of the great interests at stake. The community at large looks to the health boards for the guarding of its health and life, and there is a tacit understanding that said boards shall be thoroughly defended and protected in the performance of these legitimate duties. Hence not infrequently even personal liberty must be sacrificed to public safety. Although this may not be done directly, the ultimate result is the same in curtailing or temporarily abolishing the privileges of an otherwise morally free agent.

If an individual refuses to be vaccinated, he can be confined in quarantine until it is demonstrated that he can go about with perfect safety to others. The same principle applies to quarantine on shipboard. In both instances no direct bodily harm is done the individual, but the community nevertheless is effectively guarded against contagion. The health authorities do not actually compel the scholar to be vaccinated, but they consistently and wisely prevent attendance at school until such means of protection are taken. While, however, the law gives ample scope for the exercise of due power and discretion on the part of a board as a body corporate, it does not appear that such a function can be delegated to any of its agents. The assumption by a single representative of such authority in a given case, in which also a reasonable protest is made, and especially when a given community is not in extreme peril, was the mistake made under the present circumstances. A great deal of trouble would have been saved if the case had been simply reported to the board and the entire responsibility of enforcing the letter and spirit of the law had been shifted accordingly. The time has gone by for any more arguments in proof of the utility and efficacy of vaccination, but it would seem that more experience is yet needed to teach us the best means of enforcing a provision which every right-minded citizen considers a very necessary one. The charge that the victim was injured by the operation is, of course, too absurd for sober consideration.

Whatever regret may be expressed at the outcome of the unfortunate verdict, there can be no doubt that the inspector acted in perfect good faith, and with a proper motive to do his best under what he supposed were surmountable difficulties, and it is no more than just that the Health Department of Brooklyn should stand by him in his trouble.

Medical Degrees in Russia.—New regulations are about to be made in Russia in relation to the degree in medicine. Doctors of medicine will in the future be regarded as belonging purely to the scientific grades of professional calling. The degree can only be taken after medical men have held the diploma to practise for three years. Within the five years following the examination the candidate must write a thesis on some professional subject, and if he fails to do this he must pass another examination. The new regulations are destined to make the acquisition of a degree harder than before, and tend toward encouraging specialism, which is carried on to a very great extent in Russia.

THE "REFORM" AS APPLIED TO THE NEW YORK MATERNITY HOSPITAL.

Our former editorials in relation to the so-called "reform" of the medical boards connected with the hospitals under the care of the Commissioners of Public Charities have not dealt in a specific manner with the injustice of the act from a specific stand-point. Since we do not propose that the profession shall lose sight of the issue at stake, nor, as too often happens, to allow the apparent victors to exult too freely over the apparent vanquished, we would refer to the honored and honorable record of the Maternity Hospital under the removed Board as glaring evidence of the injustice of the "deal," and of the self-seeking aim of the promoters of the "deal."

For the past ten to twelve years the Maternity Hospital has easily been the peer of any similar institution in the world. It taught the profession how to eradicate sepsis from the lying-in room; it inculcated the fact, by precept and practice, that death from puerperal septicæmia meant fault in technique; it proved the feasibility of saving the fœtus without imperilling the life of the woman through resort to major operation, instead of doing embryotomy; it was instrumental in dealing a death-blow to careless and to dirty obstetrics; its visiting and its consulting staff, irrespective of comfort, health, or money, responded night and day to the call of the pauper—at night crossing the river in a row-boat, deferred neither by ice nor fog; its roster carried the names of men recognized by the world as experts; up to January, 1895, its record was 1,601 consecutive deliveries without a death from sepsis; it had ever been kept free from political influence as regards appointments—when lo! at the instigation and dictation of a small number of professional men the Commissioners, without hearing the other side, acting as blind tools insensible to justice, remove this Board without trial, without cause! A new Board is substituted. Whatever the future promise of this Board—doubtless brilliant, for the budding ability is obvious—the dower of obstetric renown, or even experience, is not yet theirs!

The removed Board, we are informed, have no grievance as far as loss of official position is concerned, but naturally enough think it a poor reward for duty well done and unselfishly done, particularly since, if the instigators of this deal needed professors they were there in full maturity and therefore superior to the embryo.

Acts such as this tend to make pessimists of medical men—for the blow came from within the house, the fable of the cuckoo being again exemplified!

WILL THERE BE A CONGRESS IN MOSCOW NEXT YEAR?

The cable brings word that cholera still prevails to an alarming extent in many parts of Russia, as extensively, indeed, as it did during the heats of midsummer. During the two weeks ending October 26th, there were 1,490 cases of cholera, with 616 deaths, in the province of Volhynia, and 38 cases, with 12 deaths, in the province of Kieff. There have been persistent rumors of cholera in St. Petersburg, but they are as persistently denied by the authorities, so it is an even chance that there is no cholera there. The fact of the continued prevalence of the disease in Russia for several years past, and of the probability that it will still be there next summer, renders the holding of the proposed International Congress in Moscow during the coming August somewhat doubtful. It is true that it is some time from now to August, and also that it is a long distance from Kieff to Moscow, so that the presence of cholera in Kieff and the adjoining province now may seem to have a remote bearing upon the question of a meeting in Moscow in August. Nevertheless, if we are to credit the published reports, there has been more or less cholera in Moscow each summer during the past three years—much more than there was in Rome and its neighborhood when the assembling of the Congress in that city was postponed from October to April. We hope there will be no postponement from that cause, for, not to speak of the disappointment of many who are already beginning to plan for a visit to the ancient capital of the Tsars, it would be humiliating for an assemblage of physicians to run away a second time from a preventable disease.

But there is another event, the forerunning shadow of which seems to be deepening over Europe, which would more certainly postpone the Congress than would the most wide-spread epidemic. If the seemingly inevitable partition of Turkey should lead to a European war, as is possible, if not probable, there would be no chance for a peaceful assemblage of doctors in any of the large countries of Europe. For, even if the place of meeting could be changed to Madrid or some Swiss city, the difficulties of travel on the Continent would be too great to make the attempt to hold a Congress at all practicable.

However, war and disease do not always come when they are most expected, and we trust that the Congress will be held at the appointed time in the appointed city; and if it is, the readers of the Medical Record will, as usual, have the earliest, most complete, and best reports of the proceedings.

THE COMMISSIONER OF LUNACY AS AN EXPERT.

Attention has been called more than once to the reprehensible conduct of the medical member of the State Commission in going upon the witness-stand for pay. That he has no right to do so in this State cannot be disputed, for his testimony in court, when it is given by him as an "expert," may send the prisoner to a lunatic asylum or a prison. As the doctor and his associates are bound by law to recommend the discharge of improper subjects from the former, it can be seen how dangerous must be his position if he has given testimony in a particular case. If he has held on the witness-stand that a certain criminal is sane and the jury disagree with him, so that the prisoner is committed to Matteawan or elsewhere, the position of medical commissioner must be anything but pleasant, if he is consistent in his opinion, or possessed with an especially nice sense of honor. The law which gives the three members of the commission unbridled liberty

to make their own regulations and exercise a species of petty tyranny, if not something worse, in the way of exaction regarding dismissals and appointments of physicians, does not curtail their power in any way to do what they choose, so there is no existing law to prevent them accepting retainers. To those who are familiar with the Field and other cases, the necessity for some restriction must be apparent, and the section which legalizes their actions should be amended at Albany during the coming winter.

News of the Week.

Hospital Reformer to the Colleges.—I was a commissioner and ye took me in.

Better than Cannon-balls.—Some years ago Dr. Sahli, of Berne, advised the use of a cannon-ball, weighing about five pounds, for constipation. This cannon-ball was not to be taken internally, but rolled for some ten minutes every morning over the abdomen. Dr. Douglas Graham says, in the *Boston Medical and Surgical Journal*, that a much more effectual mechanical means, for the relief of constipation, is for the patients to percuss and pound their abdomens for a few minutes, morning and evening, with the inner border of their fists. It is well, he says, to do this in the direction of the ascending transverse and descending colon. Along with the percussion, friction and deep kneading may also be of use, but these are less effectual and more tiresome.

The Bulletin of the American Publishers' Association has come to us. It is a monthly publication, issued in the interests of medical publishers and advertisers.

The Texas Sanitarian has changed its name to *The Texas Medical News.*

Dentistry in Nebraska.—Nebraska has a new law regulating the practice of dentistry. It requires the registration of dentists, and their examination, unless they are graduates from a reputable dental college.

Tragedies of the Medical Profession.—The wife and daughter of a Vienna physician committed suicide, and a few days later the doctor shot himself. A French doctor, who had once held a good position, and who received the much-coveted ribbon of the Legion of Honor for his devoted service during a cholera epidemic, and his wife, recently committed suicide to save themselves from starvation.

Medical Portraits.—The *Journal of the American Medical Association* is energetically urging that the members of the Association send in their photographs. It thinks that in later years, when the post-historic Fiji Islander wanders over the ruins of the cities by the lakes and seas, he will find great pleasure and comfort in looking over the portraits of the medical men of bygone years. The American Medical Association numbers several thousand members, and our descendants will have to have abundant leisure if they expect to study appreciatively the faces of the deceased doctors of the nineteenth century. We suggest that it might be better for the *Journal* to collect only portraits of men who have arrived at a certain age limit, or who have reached some definite distinction. These are times when a man is very inconspicuous indeed if he does not get his picture printed, in the public press or the medical press, several times during his professional career. The swan is supposed to sing before he dies, but the doctor gets his photograph reproduced.

Dr. J. W. Carhart has written a novel, which is called "Norma Trist," a story of inversion of the sexes, based upon the Alice Mitchell episode.

Anarcotine.—This substance is one of the alkaloids of opium, and possesses no narcotic properties. Dr. William Roberts calls attention to it, and says that it ranks next in value, as an antiperiodic, to quinine. A dose ranges from 1 to 3 grains.

Took the Wrong Drug.—A death occurred recently in New Haven, Conn., caused by the carelessness of a drug clerk. The facts in the case were, according to the *Yale Medical Journal*, that the man asked for what was essentially a harmless medicine, of which he took, as he thought, a proper dose, and death resulted. The *Journal* very naturally suggests it is high time that legislative action be taken in regard to this matter, not only for the security of the physician who prescribes, but for the safety of the public.

A Thanksgiving Mistake. — An eighteen-year-old boy, living in Lilly, Pa., was shot, in mistake for a turkey, in the woods near his home. His friends waited fifty hours for him to die, and then sent for Dr. T. L. Armitage, who describes (*Medical Standard*) how he dressed the wound and cured the boy. We trust that the patient will yet get square with the turkey.

Legacy to a Surgeon.—It is stated that Sir Henry Thompson has received a legacy of $500,000 from a grateful patient. The heirs are contesting the will.

Queer Experiences by Doctors.—A doctor of Brenham, Tex., was recently horsewhipped by a young lady because he was so unpleasant.—A doctor living in Amsterdam, Mo., has been threatened with tar and feathers if he doesn't leave the town. This just at the beginning of the cold season.—Two doctors of Paris, Tex., had a fight, characterized by the local press as "bitter." One used a knife; but the other a fence rail. To the latter we should say, "*Ne sutor ultra crepidam.*"—A doctor in Petrona, Ind., was shot by one of his patients, because he, the doctor, would—or would not—(the account is vague) give the patient a hypodermic injection. The gun is sometimes mightier than the hypodermic.—The South African press advertises that there is a good opening for "a sober, steady, and handsome bachelor doctor" in one of the Transvaal towns. Send photo. This news is likely to cause a flutter among the younger members of the Academy of Medicine.

Iowa State Association of Railway Surgeons.—The annual meeting of the Iowa State Association of Railway Surgeons was convened at Des Moines, October 10th. A report on accidents to railway employees showed one employee killed for every six hundred and eight employed, and one injured for every seventy-nine. The election of officers resulted as follows: *President*, C. W. Coyt, of Missouri Valley; *Vice-President*, B. H.

Criley, of Dallas Center; *Secretary*, A. A. Deering, of Boone; *Treasurer*, D. S. Fairchild, of Clinton; *Judicial Committee*, J. M. Warren, of Sioux City; C. H. Philpott, of Ottumwa; V. B. Knott, of Sioux City.—*Medical Standard.*

The Late Dr. Edward R. Palmer.—A meeting in memory of the late Dr. Edward R. Palmer was held by the Louisville Surgical Society on October 26th. Letters of sympathy and regret were read, and eloquent tributes to the deceased were paid by Drs. Joseph M. Mathews, L. S. McMurtry, and T. L. McDermott.

Utah State Medical Society.—The first annual meeting of the Utah State Medical Society convened at Salt Lake, on October 3d, with about fifty members of the profession present. A number of interesting papers were presented. Several new members were admitted. The following resolution was adopted:

Resolved, That it be the sense of this Society that every member of it interest himself personally in securing the election of men for the next legislature who favor the maintenance of a high standard of medical excellence in the State of Utah, and that he continue to use his influence.

The election of officers resulted in the selection of: *President*, Walter R. Pike, of Provo; *First Vice-President*, G. W. Perkins, of Ogden; *Second Vice-President*, J. S. Richards, of Salt Lake; *Treasurer*, C. M. Wilson, of Park City; *Secretary*, J. N. Harrison, of Salt Lake; *Board of Censors*, Drs. Bower, Gregor, Ewing, Beatty, and Jones. Salt Lake was chosen as the next place of meeting.—*Medical Standard.*

The Character of Dr. William MacLure.—There has never been portrayed in fiction a more beautiful character than Dr. William MacLure, the hero of some of the "Bonnie Brier Bush" stories by Ian Maclaren, or in real life Rev. John Watson. At a recent dinner given by the Liverpool Medical Institute, the novelist was asked to make a speech, and he paid a tribute to the medical profession which we hope and believe is deserved. We publish it because it should be read—as should the story of Dr. MacLure. "One is to answer a question that has been often and fairly asked—was there ever any doctor so self-forgetful and so utterly Christian as William MacLure! To which I am proud to reply—on my conscience, not one man but many in Scotland and in the south country—I will dare to prophecy also across the sea. It has been one man's good fortune to know four country doctors, not one of whom was without his faults—Weelum was not perfect—but who each one might have sat for my hero. Three are now resting from their labors, and the fourth, if he ever should see these lines, would never have identified himself. Then I desire to thank my readers, and chiefly the medical profession, for the reception given to the doctor of Drumtochty. For many years I have desired to pay some tribute to a class whose service to the community is known to every country man, but after the tale had gone forth my heart failed. For it might have been despised for the little grace of letters in the style, and because of the outward roughness of the man. But neither his biographer nor his circumstances have been able to obscure MacLure, who has himself won all honest hearts and received afresh the recognition of his more distinguished brethren. From all parts of the English-speaking world letters have come in commendation of William MacLure, and many were from doctors who have received new courage. It is surely more honor than a new writer could ever have deserved, to receive the approbation of a profession whose charity puts us all to shame."

Medical Reform in Germany.—In future the State diploma, which alone confers the right to practise medicine and surgery, will not be granted to students until they have fulfilled ten half-year periods of study, instead of nine as at present. The degree of doctor in medicine will only be bestowed upon candidates who have successfully surmounted the State examination; and after passing that test it will be necessary to attend the practice of a large hospital during twelve months.

A Medical Tariff.—The German Government has issued a regulation fixing the amount of fees for medical men. A practitioner in that happy land can claim 20 marks for an ordinary visit, and if it be necessary for him to make a profound investigation into the state of any organ he may increase his demand to 22 or 23 marks. In the event of a prolonged visit his time is valued at 3 marks for every half-hour commenced. Night visits may be charged for at double, or even triple, the foregoing rates; and a visit of urgency costs twice as much as an ordinary visit.

An Austrian Innovation.—A medical woman has been appointed house physician to a Vienna hospital—Officierstöchter Institute. This innovation has made much talk in Vienna medical circles.

"℞. for A Hors."—A Western veterinarian sent the following to be filled:

Send this by this Boy
Tinker of Asfetty 1 ounc
— Campher 1 ounc
Cappicom 1 — —
Lodman 1 — —
Mix

Anknite 10c

Cloraform 1 ounc

do not think this is spelt wright
but you will know what it is
it is for a hors. dock———M D

—*Louisville Medical News.*

Overdose of Medical Charities.—Dublin, too, has an overdose of medical charities. In a population of 356,240 there are 27 dispensaries which treat annually 100,216 persons, and 24 hospitals which treat 36,412. There are also 4,674 women annually who receive free attendance during confinement.

New York and the Mortality from Phthisis.—The State of New York has the largest absolute mortality from consumption, viz.: 14,894 deaths in the year 1890. Boston has the largest relative death-rate from this disease, viz.: 164.88 per 1,000 deaths. Out of the total 102,199 deaths from phthisis in the whole country, New York has about one-seventh. This is due chiefly to the denser population.

Clinical Department.

A CASE SHOWING THE ANTIDOTAL EFFECT OF ALCOHOL IN CARBOLIC-ACID POISONING.

By DONALD B. FRASER, M.B., M.R.C.S. Eng.,
STRATFORD, ONTARIO.

On May 4, 1893, about 1.30 P.M., Mrs. X——, while dining, quarrelled with her husband, rushed upstairs, and swallowed an ounce of liquid carbolic acid with suicidal intent. Mr. X—— followed his wife in less than fifteen minutes, to find her lying on the floor in a deep sleep, from which he could not rouse her. He noticed an empty bottle on the bureau, labelled carbolic acid, and felt its odor through the room.

Medical aid was immediately summoned, when two physicians promptly responded, made a hurried examination of the condition and surroundings of the patient, who was in a profound stupor, with pupils contracted to pin-points, injected atropine to antagonize the poison supposed to have been taken, and then used the stomach-pump.

Arriving on the scene half an hour later, I made a hasty investigation of the circumstances of the case, recognizing the characteristic odor of carbolic acid in the breath and evacuations from the stomach, and directed attention to the quiet, normal breathing.

After a brief consultation, although there was no staining or other evidence of the corrosive action of carbolic acid on the lips, tongue, or about the mouth, throat, etc., we diagnosed carbolic-acid poisoning, and decided to use the stomach-pump until the disappearance of the carbolic-acid odor in the water evacuated after washing the stomach. This odor was easily perceived three hours after the accident by a physician who then called, but it disappeared in the course of the next hour.

The physical condition of the patient four hours after swallowing the poison was as follows: The pulse was strong, regular, and not much accelerated; respirations undisturbed; temperature slightly under 98° F.; arms and legs occasionally jerking; and no sensations were elicited on pricking ends of fingers or toes.

Demulcents—such as olive-oil, glycerine, etc.—and lime-water and sulphuric acid were also administered with the stomach-pump about this time, and an effort was made to waken the patient with the faradic current, but without result. Mrs. X—— was now allowed to remain undisturbed until 9.30 P.M., when an attempt to restore her to consciousness succeeded. On first awakening she was dazed, rambled, and was unable to realize her position for a few minutes, but soon rallied and answered questions readily. When asked what she had used, without hesitation she replied carbolic acid in whiskey; and that she experienced but little pain or burning sensation, and declared she slept soundly, having pleasant dreams.

Vomiting soon set in, and continued almost without interruption twenty-four hours, when it suddenly ceased; and, with the exception of slight nausea and depression of spirits for a few days, she suffered little or no more inconvenience, and made a rapid and satisfactory convalescence, enjoying robust health ever since.

Mrs. X—— gave the following explanation for mixing the carbolic acid in whiskey. It appears she had previously seen a young woman take it in water, when the victim was severely burned about the mouth, throat, etc., and suffered excruciating pain. This incident dissuaded Mrs. X—— from taking a similar dose.

From subsequent events, however, Mrs. X—— appears to have had a fascination for carbolic acid as a poison, for she first mixed it in beer and cautiously drank a small quantity, when she suffered but little pain or burning sensation. Next she took it in whiskey, when she felt less pain or burning, and determined to try the last combination if she ever took poison.

The slight corrosive action and freedom from pain experienced on the present occasion proved the value of her experiments, and suggests a new and efficient plan of treatment in carbolic-acid poisoning. A mixture of equal parts of carbolic acid and alcohol may be poured over the back of the hand, leaving scarcely a trace of corrosive action if promptly washed off with alcohol. The white stain caused by the liquid carbolic acid can be removed by the immediate and continued application of alcohol. In the case of a young man who came to my office suffering from intense itching caused by a spider bite I applied liquid carbolic acid, which stained the skin white. This application was left on the affected part until it caused severe pain, when it was thoroughly removed with alcohol, followed by the application of a pad of absorbent cotton saturated with alcohol.

By this means the stain was removed and pain relieved until heat was felt in the pad, when both stain and pain reappeared. The heated pad was now discarded and replaced by one of a similar kind freshly prepared, when stain and pain vanished a second time, to return with heat in the pad. This phenomenon continued as long as heat developed in the pad, and ceased when it was no longer evolved. The only result of this treatment, besides relieving the itching, was an intense redness of the skin over the affected area, which disappeared in a few days, attended by desquamation of the cuticle.

This case also affords a striking illustration of the resembance in the symptoms produced to carbolic-acid and opium poisoning. The diagnostic feature in the present case was the quiet and regular breathing.

Alcohol, apart from its power as an antidote, is required as a stimulant in the majority of cases of carbolic-acid poisoning, to combat the intense depression usually experienced; and it would therefore appear as if alcohol were a true antidote in carbolic-acid poisoning.

A CASE OF GUNSHOT WOUND OF THE ABDOMEN FOLLOWED BY PURULENT PERITONITIS, OPERATION, AND RECOVERY.

By JOHN RUHRÄH, M.D.,
RESIDENT PHYSICIAN, BALTIMORE CITY HOSPITAL.

C. S——, white, male, aged thirteen, family history negative. Previous history good. Brought into the City Hospital June 3, 1895, suffering from a gunshot wound of the abdomen.

The wound was inflicted accidentally, with a twenty-two calibre revolver, held only a few inches away from the abdomen.

The ball entered about the middle of a line drawn from the umbilicus to the anterior superior spinous process of the ilium. When seen by the visiting surgeon, Dr. John W. Chambers, it was seventeen hours after the reception of the injury. The abdomen was distended and tympanitic, very tender. Boy was suffering considerable pain and was very restless. He was placed on the operating-table immediately, and under chloroform anæsthesia and the usual aseptic precautions, the abdomen was opened. An incision six inches long was made in the median line and the viscera exposed. There was evidence of an inflammation of considerable intensity. The visceral layer of the peritoneum was reddened, and covered in many places with flaky lymph. In the cavity of the abdomen there was about five hundred cubic centimetres of thin reddish pus. The cæcum was perforated in two places by the bullet, and the intestinal contents had escaped from the gut. There was a gangrenous patch three

centimetres long by one and a half broad, evidently caused by the bullet. The bullet-wounds were closed with the Lembert suture, the gangrenous patch turned in, and the edges of the gut stitched together. The cavity of the abdomen was well irrigated with hot, normal salt solution. The bullet was not found. The bullet-wound was enlarged, and a gauze drain inserted. The surgical incision was closed with silkworm-gut sutures.

Patient rallied from the anæsthetic very nicely, and sustained but little shock from the operation. Nothing was given the patient the day of the operation except cracked ice. There was considerable nausea after the patient rallied, and when teaspoonful doses of iced milk and lime-water were given they were rejected.

The nausea continued on the following day, and the stomach rejected all food. Sulphate of magnesia, two drachms, with ac. sulphuric. dil., five drops, was given every hour. After the administration of this the vomiting ceased, and there was no return of the nausea or vomiting. This medication was continued during the day and an enema given in the evening, but the patient had no stool.

The following day the same doses were continued and another enema given, and there was a free passage from the bowels.

June 8th.—Dressings were removed and the drain partially withdrawn. There had not been very much discharge, though there was sufficient to stain the dressings.

June 10th.—Wound was redressed; drainage entirely removed.

June 11th.—Retention of urine; catheterized. From this date until the 19th he was catheterized three times a day.

June 13th.—Stitches removed.

June 19th.—Tenderness about the rectum; some swelling and redness. This increased until on June 26th, when an abscess had formed. This was opened, and about two hundred c.c. of pus evacuated. This came from high up in the pelvic cavity. Patient experienced great relief and was able to pass his urine voluntarily. Abscess cavity packed with iodoform gauze. This healed rapidly, and patient made a rapid recovery.

November 5th.—Patient was seen yesterday. Perfectly healthy; suffers no inconvenience.

A PECULIAR CASE OF TRISMUS.

By R. C. MATHENY, M.D.,

SPRINGFIELD, ILL.

Mrs. R——, aged thirty, the mother of four children, has for a number of years suffered from recurring attacks of intense headache. The attacks were of varying duration and severity, lasting from twelve to forty-eight hours, seldom accompanied by nausea. On August 13, 1895, she suffered an unusually severe attack, during the course of which she noticed that her jaws had become locked and she was unable to open them; neither could they be forcibly separated. This condition lasted for seven weeks, the jaws remaining absolutely closed, and all nourishment was taken through the interstices between the teeth. This condition occurred during pregnancy, and continued until October 1, 1895, when she was delivered of a female child. The mother fell asleep shortly after the delivery, and when after a few hours she awoke, to her surprise the jaws readily opened. At first there was some stiffness of the muscles, but the condition gradually disappeared, and she has been entirely free from the lock-jaw ever since.

Dr. Duclaux, it is said, will be appointed to the head of the Pasteur Institute, in place of the late Dr. Pasteur.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON PUBLIC HEALTH.

Stated Meeting, November 8, 1895.

HENRY D. CHAPIN, M.D., CHAIRMAN.

The Relation of Bovine to Human Tuberculosis.—Several authors read papers on subdivisions of this subject.

Tuberculosis as Viewed by a Veterinarian.—PROFESSOR H. D. GILL, of the New York College of Veterinary Surgeons, read an introductory paper bearing this title. The danger of meat conveying disease had been recognized since Moses forbade the use of certain meats. But it was only of recent years that the subject had become of special interest to the public and veterinarians. Several causes had contributed to this, chiefly the discovery of the tubercle bacillus by Koch. The extent of the live-stock industry in the United States caused the subject to be of special interest here.

Veterinarians had discovered that herds of cattle chosen with the greatest care, and considered from appearances to be in absolutely perfect health, were in many instances riddled with tuberculosis. On taking the milk and flesh of these animals to the laboratory he found disease germs ready for transmission to man. Tuberculosis in man and cattle was caused by the same germ. In New York City there were over five thousand deaths annually from this disease in man. Some herds of cattle in the vicinity of this city showed tuberculosis in as high a percentage as sixty or even seventy per hundred. In many instances the diseased animal was to all outward appearances in perfect health. The disease could be transmitted from animal to animal, from animal to man, man to animal, or from without. The infection could come through the respiration, through the food, through objects licked by the animal. The infectious agent, when derived from without, had come from the discharges from the nose, mouth, bowels, milk, rarely from the uterus or vagina. The milk, especially, was liable to transmit tuberculosis when the udder was diseased, or possibly when it came from an animal with generalized tuberculosis, the udder being free. Of infected cattle, probably one-half had been infected by inhaling bacilli in the air, and a large proportion from taking bacilli in the food. Very rarely calves from the cows with advanced tuberculosis were born with the disease. Dr. Gill thought there was more danger of transmission from man to animals than from animals to man. The only safeguard for New York was to get milk from herds which had been tested. While recognizing that the tubercle bacillus was the chief agent, it should not be forgotten that a favorable soil added greatly to the risks. By inbreeding animals not predisposed to tuberculosis and already healthy, we might hope to get a stock capable of combating this dread disease.

The Work of Foreign Veterinarians in Tuberculosis.—PROF. LEONARD PEARSON, of the University of Pennsylvania, read a paper on this subject. Tuberculosis had been a live topic many years in Europe. Most European countries had a more or less perfect system of meat inspection which was carried out in great centres of population, and usually insured the consumer against harmful flesh. The method in Germany consisted in erecting municipal abattoirs, in which all slaughtering must be done and the flesh examined. The question of what must be done with the tuberculous carcass had excited much discussion.

The author gave the following summary, based on resolutions passed by representative bodies, or the views of distinguished veterinarians, in Europe. The system of compulsory meat inspection should be general. The flesh of tuberculous animals should be sub-

jected to special regulation. A part of this flesh must be destroyed, but some of it may safely be used for food. The milk from cows with tuberculous udders is extremely dangerous. Milk from tuberculous cows with healthy udders may be dangerous, and is always suspicious. Tuberculin is a reliable diagnostic agent. There need be no fear that tuberculin, properly used, will cause generalization of pre-existing disease. All herds should be tested with tuberculin, and tuberculous and healthy animals separated. Since tuberculosis is of importance in relation to public health as well as in relation to the live-stock industry, it is of interest to everyone that the disease should be restricted as far as possible. Hence, when it becomes necessary to condemn tuberculous animals and carcasses, the public should share the loss with the owner.

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But the first point having been settled, the next one of interest to us as physicians was, how much this infectious element in milk threatened the human being. As bearing on this question, Dr. Ernst quoted several letters received by him in response to interrogatories sent out five years ago, and while the evidence was not absolutely positive, yet in a number of instances it was highly probable that tuberculosis had been contracted from taking milk from the tuberculous mother or animal. Dr. Ernst said that all milk from tuberculous cows, whether with or without disease of the udder, should be condemned for food.

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centimetres long by one and a half broad, evidently caused by the bullet. The bullet-wounds were closed with the Lembert suture, the gangrenous patch turned in, and the edges of the gut stitched together. The cavity of the abdomen was well irrigated with hot, normal salt solution. The bullet was not found. The bullet-wound was enlarged, and a gauze drain inserted. The surgical incision was closed with silkworm-gut sutures.

Patient rallied from the anæsthetic very nicely, and sustained but little shock from the operation. Nothing was given the patient the day of the operation except cracked ice. There was considerable nausea after the patient rallied, and when teaspoonful doses of iced milk and lime-water were given they were rejected.

The nausea continued on the following day, and the stomach rejected all food. Sulphate of magnesia, two drachms, with ac. sulphuric. dil., five drops, was given every hour. After the administration of this the vomiting ceased, and there was no return of the nausea or vomiting. This medication was continued during the day and an enema given in the evening, but the patient had no stool.

The following day the same doses were continued and another enema given, and there was a free passage from the bowels.

June 8th.—Dressings were removed and the drain partially withdrawn. There had not been very much discharge, though there was sufficient to stain the dressings.

June 10th.—Wound was redressed; drainage entirely removed.

June 11th.—Retention of urine; catheterized. From this date until the 19th he was catheterized three times a day.

June 13th.—Stitches removed.

June 19th.—Tenderness about the rectum; some swelling and redness. This increased until on June 26th, when an abscess had formed. This was opened, and about two hundred c.c. of pus evacuated. This came from high up in the pelvic cavity. Patient experienced great relief and was able to pass his urine voluntarily. Abscess cavity packed with iodoform gauze. This healed rapidly, and patient made a rapid recovery.

November 5th.—Patient was seen yesterday. Perfectly healthy; suffers no inconvenience.

A PECULIAR CASE OF TRISMUS.

By R. C. MATHENY, M.D.,

SPRINGFIELD, ILL.

Mrs. R——, aged thirty, the mother of four children, has for a number of years suffered from recurring attacks of intense headache. The attacks were of varying duration and severity, lasting from twelve to forty-eight hours, seldom accompanied by nausea. On August 13, 1895, she suffered an unusually severe attack, during the course of which she noticed that her jaws had become locked and she was unable to open them; neither could they be forcibly separated. This condition lasted for seven weeks, the jaws remaining absolutely closed, and all nourishment was taken through the interstices between the teeth. This condition occurred during pregnancy, and continued until October 1, 1895, when she was delivered of a female child. The mother fell asleep shortly after the delivery, and when after a few hours she awoke, to her surprise the jaws readily opened. At first there was some stiffness of the muscles, but the condition gradually disappeared, and she has been entirely free from the lock-jaw ever since.

Dr. Duclaux, it is said, will be appointed to the head of the Pasteur Institute, in place of the late Dr. Pasteur.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON PUBLIC HEALTH.

Stated Meeting, November 8, 1895.

HENRY D. CHAPIN, M.D., CHAIRMAN.

The Relation of Bovine to Human Tuberculosis.—Several authors read papers on subdivisions of this subject.

Tuberculosis as Viewed by a Veterinarian.—PROFESSOR H. D. GILL, of the New York College of Veterinary Surgeons, read an introductory paper bearing this title. The danger of meat conveying disease had been recognized since Moses forbade the use of certain meats. But it was only of recent years that the subject had become of special interest to the public and veterinarians. Several causes had contributed to this, chiefly the discovery of the tubercle bacillus by Koch. The extent of the live-stock industry in the United States caused the subject to be of special interest here.

Veterinarians had discovered that herds of cattle chosen with the greatest care, and considered from appearances to be in absolutely perfect health, were in many instances riddled with tuberculosis. On taking the milk and flesh of these animals to the laboratory he found disease germs ready for transmission to man. Tuberculosis in man and cattle was caused by the same germ. In New York City there were over five thousand deaths annually from this disease in man. Some herds of cattle in the vicinity of this city showed tuberculosis in as high a percentage as sixty or even seventy per hundred. In many instances the diseased animal was to all outward appearances in perfect health. The disease could be transmitted from animal to animal, from animal to man, man to animal, or from without. The infection could come through the respiration, through the food, through objects licked by the animal. The infectious agent, when derived from without, had come from the discharges from the nose, mouth, bowels, milk, rarely from the uterus or vagina. The milk, especially, was liable to transmit tuberculosis when the udder was diseased, or possibly when it came from an animal with generalized tuberculosis, the udder being free. Of infected cattle, probably one-half had been infected by inhaling bacilli in the air, and a large proportion from taking bacilli in the food. Very rarely calves from the cows with advanced tuberculosis were born with the disease. Dr. Gill thought there was more danger of transmission from man to animals than from animals to man. The only safeguard for New York was to get milk from herds which had been tested. While recognizing that the tubercle bacillus was the chief agent, it should not be forgotten that a favorable soil added greatly to the risks. By inbreeding animals not predisposed to tuberculosis and already healthy, we might hope to get a stock capable of combating this dread disease.

The Work of Foreign Veterinarians in Tuberculosis.—PROF. LEONARD PEARSON, of the University of Pennsylvania, read a paper on this subject. Tuberculosis had been a live topic many years in Europe. Most European countries had a more or less perfect system of meat inspection which was carried out in great centres of population, and usually insured the consumer against harmful flesh. The method in Germany consisted in erecting municipal abattoirs, in which all slaughtering must be done and the flesh examined. The question of what must be done with the tuberculous carcass had excited much discussion.

The author gave the following summary, based on resolutions passed by representative bodies, or the views of distinguished veterinarians, in Europe. The system of compulsory meat inspection should be general. The flesh of tuberculous animals should be sub-

jected to special regulation. A part of this flesh must be destroyed, but some of it may safely be used for food. The milk from cows with tuberculous udders is extremely dangerous. Milk from tuberculous cows with healthy udders may be dangerous, and is always suspicious. Tuberculin is a reliable diagnostic agent. There need be no fear that tuberculin, properly used, will cause generalization of pre-existing disease. All herds should be tested with tuberculin, and tuberculous and healthy animals separated. Since tuberculosis is of importance in relation to public health as well as in relation to the live-stock industry, it is of interest to everyone that the disease should be restricted as far as possible. Hence, when it becomes necessary to condemn tuberculous animals and carcasses, the public should share the loss with the owner.

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mucous membrane of the fauces were often sore or abraded, food became lodged there, and fatty foods especially were difficult of removal. Lesions in the intestinal tract were also a source of infection. Dr. Thomson said one practical lesson was to keep the mouth clean and disinfected. Asking pardon for a personal allusion, he said that formerly he had been subject to sore throat, but during the past four years he had not had an attack, and he attributed it to washing the mouth after every meal with a mixture of eucalyptus, benzoic acid, and peppermint water.

Dr. Joseph D. Bryant hoped that through the Board of Health, so ably represented by Dr. Fowler, the consumers of milk in New York would soon have the positive assurance that their milk came from cows which were free from tuberculosis. He thought this could be accomplished without any great difficulty, provided the Board of Health applied the screws in such a way as to touch the pockets of those who wished to sell milk in this city.

SECTION ON GENERAL SURGERY.

Stated Meeting, November 11, 1895.

B. Farquhar Curtis, M.D., Chairman.

Aluminium Corset.—Dr. A. M. Phelps showed an aluminium corset, and also a Hessing corset for use in cases of crooked spine, especially lateral curvature without disease of the vertebræ. The Hessing corset was much used in Germany, was made of steel bands riveted together and covered by cloth, and differed entirely from putting on a brace and turning up a screw in order to keep the patient in corrected position. It was fairly light, and useful in mild cases in women. There were two or three varieties of it. Plaster-of-Paris was rather thick, heavy, and hardly porous enough, yet it was the best jacket we had for Pott's disease of the spine, and it was also serviceable in lateral curvature; but in the latter class of cases aluminium was, so far as he had tested it, freer from objections than the others, but it was somewhat expensive, costing fifty dollars or more. A plaster corset was first made, the patient being suspended; this was filled with plaster, and over the latter the aluminium corset was hammered into shape. It had numerous perforations smaller than a dime.

Answering Dr. Gallant, he said that if the patient changed much in shape and size, it would be necessary to make a new corset. The weight of the instrument, aluminium, was about two pounds.

Epithelioma of the Roof of the Mouth.—Dr. C. N. Dowd presented a man, near fifty years of age, on whom he had operated, removing the teeth, alveolar processes, and considerable of the roof of the mouth on the upper right jaw for extensive epithelioma of these parts. The operation was performed fifteen months ago, and the patient had since been in excellent health. The operation left a slight perforation into the nostril, which the patient stuffed with cotton. It caused no annoyance.

Cure of Flat-foot.—Dr. Royal Whitman presented a young man on whom, a number of months before, he had done forcible osteotomy on the right foot for a marked degree of flat-foot. The left foot showed the same deformity, less marked and uncorrected. In this instance, and in others when necessary, he performed tenotomy on the tendo-Achilles, in addition to forcing the foot into position. Plaster-of-Paris bandage was put on for a while, and the patient was still wearing what was called the Whitman splint, consisting of a broad piece of metal fitting the sole and sides of the corrected foot, worn in the shoe. Patients submitting to this treatment and carrying out instructions subsequently, attained a physiological cure of their flat or weak foot, and could be assured that there would be no return of it. Four weeks was frequently long enough in the hospital, and even during most of this time they could walk about. This patient now stood about sixteen hours a day at his work, without pain.

Dr. Willy Meyer thought surgeons had usually done cutting operations in hospitals for flat-foot because other treatment required too long a time. If by the method mentioned by Dr. Whitman the patient could go out in six weeks, the method would become a practical one in general hospitals.

Dr. A. M. Phelps said that spasm of the muscles prevented many of his patients from returning to work so soon—within a month.

Dr. Whitman said he would not advise heavy lifting so soon, but it was better for the patient to walk about, since it tended to keep the foot in correct position.

Casper's Ureter-cystoscope.—Dr. Willy Meyer showed this instrument, and mentioned two cases in which he had, with its aid, successfully catheterized the ureters, one patient being a man, the other a woman. The instrument differed from Nitzer's cystoscope, being more especially adapted to illuminating the site of the urethral orifices and introduction into them of a small catheter connected with the instrument, and directed at an angle of forty-five degrees, corresponding to that of entrance of the ureters into the bladder walls. Nitzer had accused Casper of copying his instrument, but Casper claimed originality, and Dr. Meyer thought he certainly deserved credit for presenting a very ingenious and practical instrument to the profession. By its aid Casper had succeeded in catheterizing the ureter thirty times, in twenty-two patients, with only one failure. Dr. Meyer had used it in three cases, catheterizing the ureters six times in all. To catheterize the other ureter in the male it was necessary to withdraw and reintroduce the ureter-cystoscope, in the female it was not. In the female he would prefer Kelly's method of urethral work, for his instruments, though more numerous, could be boiled, while the ureter-cystoscope could not be disinfected in this manner.

Dr. Frederic E. Sondern said that six cubic centimetres of urine was sufficient for analysis if one used economy, which was necessary in connection with catheterization of the ureters. The ordinary urinometer, or any modification of it, could not be employed for taking the specific gravity of this small amount, but for this purpose he used Westphal's specific-gravity balance. The whole amount was then put into a tube and a centrifugal apparatus was employed to precipitate sediment for examination for tubercle bacilli, etc. The urine was then filtered through filter-paper, and about five cubic centimetres remained. The reaction was taken. One cubic centimetre was sufficient to determine the percentage of urea, 1 for sugar, 1 for albumin, the remaining 2 for chlorides or other chemical tests.

Dr. Bangs and Dr. F. Tilden Brown thought it likely the mouth of the ureter could be found more easily with the ureter-cystoscope presented by Dr. Meyer than with others which they had tried.

Disadvantages of Non-absorbable Sutures in Hernia Operations.—Dr. W. B. Coley reported a number of cases of abscess, sinus, and recurrence of hernia after "radical" operations in which non-absorbable sutures had been used, the cases having been operated upon by various surgeons, and subsequently appearing at the Hospital for the Ruptured and Crippled. Four cases had been reported by him on a former occasion. To this number he added thirteen others.

In the first case silk had been used; sinus remained; sutures came out at different times; relapse after four months. Case 2: Silkworm gut; sinuses followed; two months in healing; several sutures came out; relapse in a few months. Case 3: Modified Macewen operation; silver-wire suture; patient in hospital several weeks; two months afterward sinus; relapse a few

months later. Case 4: Operation in April, 1888; under treatment for sinus until October, 1888; hernia a few months later. Case 5: Double hernia; operations at separate periods; silk; recurrence on both sides. Case 6: Buried silk; sinus followed; four sutures extruded; sinus scraped out; two more sutures were removed; second operation for recurrence, silkworm gut being used; same year a second relapse occurred. The other seven cases were more or less similar, sinuses following non-absorbable suture; recurrence of hernia.

Dr. Coley said his personal experience with non-absorbable suture in hernia was limited to three cases, silk being used; one case refused to heal until the sutures were cast off, and relapse occurred after three months. The second patient was well three years after the operation.

Out of two hundred and fifty cases of hernia operations, in which he had used tendon suture, there had not been trouble with the suture in a single instance.

Non-absorbable suture acting as a foreign body, must be held responsible for the bad result in the other cases. The suppuration and weakening of the walls caused relapse, and in Dr. Coley's opinion non-absorbable suture material should be entirely abandoned, unless for special conditions.

The Chairman, Dr. Curtis, thought Dr. Coley may have exaggerated the disadvantages of non-absorbable suture, for surgeons who performed a good many operations for hernia seldom saw the suture suppurate its way out. Dr. Coley was unusually well situated to see many of these cases, as far as they occurred in the hands of various surgeons, yet it would be observed that he had really seen comparatively few.

Dr. Crary had seen no trouble arise from cases in which silver wire had been used.

Dr. Cole thought a strong point in Dr. Coley's paper was the fact that, in a few cases in which he had used non-absorbable suture material suppuration had occurred, while in two hundred and fifty cases in which absorbable suture was used, no trouble had arisen. Dr. Cole said they had given up non-absorbable suture in tenotomy, because of its acting as a foreign body and causing trouble, even when primary union had been obtained.

Dr. Dowd remarked that, theoretically, non-absorbable suture ought to be all right, but we were dealing with a practical question. In practice there was a good percentage of cases in which trouble did arise. Therefore he thought we should use absorbable suture.

Dr. Coley referred again to some of the cases reported in his paper, to show that it was not a question alone of primary union, for even when this had been obtained the non-absorbable suture had at times caused trouble subsequently as a foreign body, working its way out and establishing a sinus, thus weakening the walls and leading to secondary hernia.

Medical Fees in Russia.—The Russian Government is nothing if it is not parental. How wisely the "Czar of all the Russias" looks after his "children" has been aptly illustrated by his government taking in hand the question of medical fees. Medical men in Russia have now to charge according to a fixed scale, of which the following are the chief details. The towns are divided into three classes: those having more than fifty thousand inhabitants, those having between that number and five thousand, and those having fewer than five thousand. Patients are also divided into three classes, the first including capitalists, landowners, manufacturers, bankers, merchants, and superior government officials, the third the rest of the population. The fees for the first class have been fixed at five roubles; for the second, three roubles; and for the third, thirty kopecks.—*The Sanitarian.*

NEW YORK NEUROLOGICAL SOCIETY.

Stated Meeting, November 5, 1895.

Edward D. Fisher, M.D., President.

Traumatic Neurasthenia.—Dr. C. E. Nammack presented a policeman who, on October 12, 1892, had attempted to stop three runaway horses attached to a steam fire-engine in the Centennial Parade. He was successful in this, but although not physically injured he received a profound psychical shock. One week later it became necessary for him to seek medical advice for the relief of pains in his chest. On the advice of Dr. C. L. Dana, he went abroad, and remained there from June, 1894, to October, 1895. He had been perfectly well up to the time of this accident, and his family and personal history were excellent. He remained on police duty for some time, but found himself unable to attend to his work, even though his promotion to the rank of roundsman had rendered this less monotonous than formerly. The first symptoms noticed were diminished power of persistent application and nervous irritability. Mental exaltation then became marked, and insomnia became most distressing. Hyperæsthesia and paræsthesia were not noticed. The principal subjective symptoms were pain over the heart and dyspnœa on exertion, profuse sweating, and insomnia. Examination recently showed the pain and temperature senses normal, tactile sensibility impaired, and hyperæsthesia wanting. Both visual fields showed the shifting type of contraction. Color perception was fairly good. There was no motor weakness of the eyes, and no abnormal pupillary reaction. Smell and taste were not affected; station and gait were good; there was some tremor of the hand. The knee-jerks were slightly exaggerated. The heart action was weak and greatly accelerated by walking; there was no enlargement of the heart or valvular disease. Slight irritation of the skin led to persistent redness. His weight had fallen from two hundred and twenty to one hundred and seventy-five pounds. Micturition was not vigorously performed. The urine was normal. The sexual desire was weak, although the power was good. The diagnosis in this case, the speaker said, lay between traumatic neurasthenia, traumatic hysteria, and simulation. The last was excluded by the absence of motive, of striking symptoms, and of efforts to exaggerate slight symptoms. Hysteria was excluded by the absence of anæsthesia, contractures, spasms, etc., and of paroxysmal phenomena. The patient had had the benefit of skilful treatment, and improvement had been slow but steady. Apparently hydrotherapy had benefited the patient the most. The case was interesting as being free from the usual complications arising from prospective lawsuits.

Dr. C. L. Dana said that when he saw this case he made the diagnosis of traumatic neurasthenia. The case was an interesting and typical one, and was chiefly of importance on account of the absence of the complications referred to.

Dr. Nammack, in closing, said that formerly considerable stress had been laid upon the condition of the visual fields as a differential point between traumatic neurasthenia and hysteria, but that now this had been pretty much abandoned.

A Case for Diagnosis.—Dr. Pearce Bailey presented a man, sixty years of age, a carpenter by occupation. There was no hereditary taint except that the father had had tic convulsif. The patient had been healthy up to forty years of age, at which time the symptoms referable to the nervous system first appeared. The first symptoms followed a severe shock from falling into water, and were, slight headache, dizziness, impairment of memory, and nausea. Twelve years ago his left leg became numb and paralyzed, and this lasted for two weeks, when it temporarily disappeared. Six years ago the right leg became similarly affected, and now one leg was as bad as the other. Two years ago

his hands became so uncertain in their movements that he could no longer use his hammer. At this time he noticed that when he accidentally struck his fingers with the hammer it did not cause him pain. He was also obliged to use a cane when walking. At the present time there is no active pain, no trophic disturbance, and no bladder or rectal affection. There is slight roughening of the first sound of the heart. The left palpebral fissure appears to be smaller than the right, and there is slight inequality of the pupils. There is no paralysis of the ocular muscles; the optic disks are rather pale. The disorders of motion consist in a spastic and ataxic gait. The Romberg symptom is well marked. Fibrillary twitchings are not observed except when the arms are held out from the body for some time. The only sensory symptom of note is an almost absolute insensibility to pain all over the body. The temperature sense is retained.

The speaker said that he had been unable to classify this case.

DR. B. SACHS said he saw no reason why this case should not be considered one of combined sclerosis. The ataxia of both upper and lower extremities, the increase of the deep reflexes, and the marked sensory disturbances all pointed in that direction.

DR. M. ALLEN STARR said he also thought it was probably a case of combined sclerosis, both posterior and lateral columns being affected. It was not usual to have a loss of the pain sense in such cases, but he thought instances of this kind had been reported.

THE PRESIDENT said that in the absence of the pain sense all over the body, including the head, would remove the case from the ordinary class of combined sclerosis.

DR. JOSEPH COLLINS said that while he believed the case was one of combined sclerosis yet it was quite possible that the entire symptom complex in this case was dependent upon a functional condition. It must at least be conceded that the universal analgesia in this case was functional, as no possible anatomical lesion can be postulated to explain it.

DR. FREDERICK PETERSON said that it seemed to him that all the symptoms were those of a typical case of combined sclerosis and ataxic paraplegia. General analgesia was, of course, extraordinary, and could not be explained by combined sclerosis, but must be accounted for in some other way.

DR. SACHS said that admitting that the general analgesia was not common in combined sclerosis, still there might be functional symptoms superimposed on an organic condition. The walk, the increased reflexes, and the moderate amount of ataxia all seemed to point inevitably to a combined sclerosis.

DR. DANA said there could hardly be any doubt that the general analgesia was a functional condition. No such analgesia could be produced by any known organic lesion. It seemed to him to be a hysterical condition superimposed upon the sclerosis.

THE PRESIDENT said that the loss of the pain sense could be explained on its functional character. The ataxia in the hand seemed to be not the ordinary ataxia, but that form seen frequently in hysteria. He had for a long time observed a case of hysterical paraplegia, in which there had been a beautiful ataxia very similar to that shown in the case before the Society.

DR. BAILEY expressed the opinion that in a purely functional case there would be some affection of the sense of touch as well. The left palpebral fissure was certainly smaller than the right, and the left pupil was also considerably smaller than its fellow; hence, there was evidently some organic lesion higher up than an ordinary cord lesion. He had never seen a functional sensory involvement of just that character.

Lumbar Puncture of the Subarachnoid Space.—DR. GEORGE W. JACOBY read a paper with this title. He said that his experience with this comparatively new method dated back only six months, but it had comprised 35 cases, with as many as six punctures in one case. Among the cases treated were 17 of tubercular meningitis, 1 of purulent meningitis, 1 of abscess, and 3 of acute mania. The operation was done between the third and fourth lumbar vertebræ, in the interlaminar space, using preferably the needles measuring 8 ctm. in length and 1 mm. in diameter, with rather broad bases, so as to dispense with the syringe, which is chiefly used as a handle. The depth of the puncture and the amount of force to be used were matters of experience. If the anatomical relations were first carefully studied upon the cadaver, there was no more danger from lumbar puncture than from opening a deep-lying abdominal abscess. In a case of cerebro-spinal meningitis treated by Von Ziemssen, the removal of sixty or seventy cubic centimetres at various intervals gave relief from headache for several days after the puncture. In the experience of the reader of the paper, beyond the relief of headache in cases of brain tumor, no change had been noticed to follow the puncture, except in cases of meningitis. In these general improvement was noted. That the brain pressure was actually reduced could be shown in infants before the closure of the fontanelles. In cases of brain tumor immediately following the operation, the headache became almost unbearable for about fifteen minutes; then it gradually subsided, and there was a comparative freedom from pain for several days. He had also noticed an increase in the pulse-rate after puncture, lasting twenty-four hours. In one case, a child, six years of age, suffering from headache, unable to stand or walk, and having bilateral choked disk, there was marked relief after removal of the fluid. It did not follow, of course, that there was any relation of cause and effect between the puncture and the improvement. In another case, one of meningitis, occurring in a child, four years of age, who was in a semi-comatose condition at the time of the puncture, 60 c.c. of fluid were withdrawn. The next day the temperature was almost down to the normal, and the child completely recovered in a week. It is probable that this was not a true case of meningitis. Practically he had seen little or no benefit from this treatment in cases of tubercular meningitis. In these cases death was due to toxins rather than to brain pressure; hence there was an excellent reason for the removal of the fluid. Reports of cured cases of tubercular meningitis had always been doubted, but one well-observed case was known to have recovered. It had been asserted that inasmuch as ordinarily only twenty cubic centimetres were removed, it was probable that only the spinal fluid was removed, and that the communication between the spinal sac and the brain was obstructed. Puncture in cases of hydrocephalus, and the effect on the fontanelle, show that the fluid can be made to pass from the spinal sac into the brain. The reader of the paper then detailed experiments that he had made upon a rabbit, using considerable pressure and a colored fluid. They showed that the communication between the spinal and subarachnoid cavity was not as free as we had been led to assume. Further experimentation, however, served to confirm what had already been known anatomically and clinically—that a free communication existed. From this consideration it was evident that we were warranted in utilizing lumbar puncture.

The value of the lumbar puncture as a diagnostic aid could not be denied. Attention must be paid to the pressure on the fluid, the presence and amount of albumin and sugar, and the presence or absence of blood or pus, and of micro-organisms, such as bacilli. Normally the fluid comes out drop by drop, but if it is under much pressure it may gush out. The scientific gravity is not of much value, and cannot ordinarily be determined on account of the small quantity of fluid removed. The presence or absence of albumin and sugar is likely in the future to furnish important cor-

roborative information. In brain tumors and brain abscess the albumin is only slightly increased. In the differential diagnosis between meningitis and brain tumor the presence of more than one per mille of albumin in the fluid would be additional testimony in favor of an inflammatory condition. It should be remembered that after repeated punctures the amount of albumin increases very considerably. Examination for pus, blood, and micro-organisms is more important. It is hardly to be expected that tubercle bacilli would be found in the cerebro-spinal fluid, for in sero-fibrinous exudation of pleurisy it was well known that tubercle bacilli were not found. However, in the majority of lumbar punctures in cases of tubercular meningitis, tubercle bacilli have been found in the cerebro-spinal fluid. The fluid should be allowed to stand for twelve hours, and then the coagulum teased out, dried, and prepared for examination in the usual way. As a rule there are but few bacilli present. As the clinical diagnosis is difficult except in well-developed cases, it is highly important to have in this examination of the cerebro-spinal fluid an additional aid to the diagnosis. In tubercular meningitis the fluid is clear and contains tubercle bacilli; in purulent meningitis the fluid is creamy, and contains streptococci or other micro-organisms; in brain abscess the fluid is clear and contains no micro-organisms.

Blood found in the cerebro-spinal fluid, and not due to the accidental puncture of a meningeal vessel, may be found in spinal, meningeal, and in inter-ventricular hemorrhage. The diagnosis of secondary ventricular hemorrhage has been exceedingly unsatisfactory. Blood has been found in the spinal sac in cases of ventricular hemorrhage. We are not justified in all cases in diagnosticating this condition from the presence of a small quantity of blood in the cerebro-spinal fluid, as such contamination is often produced by the puncture. Again, in subdural hemorrhage the passage of blood from the cerebral to the spinal membranes might take place. Two of the author's cases emphasized the importance of lumbar puncture when there was hemorrhage into the spinal canal. The removal of the blood in these cases reduced the local pressure, and so at least placed the patient in a condition more favorable to recovery. In any spinal injury, whatever its nature, lumbar puncture must increase the patient's chances of recovery. In three cases of acute mania lumbar puncture has been done. The fluid was found to be sterile.

In conclusion, the speaker said that by means of lumbar puncture cerebro-spinal fluid might be easily removed from the subarachnoid space, spinal cord, and cavities of the brain. It is only of direct therapeutic value as a palliative in reducing excessive pressure. It is very important in the diagnosis of various inflammatory affections of the different membranes, and in the recognition of hemorrhage into the ventricles, as into the spinal canal.

DR. W. M LESZYNSKY asked if it were necessary to use the syringe.

DR. C. L. DANA said that the Society should express its gratitude to the author for calling attention to this subject, which had been rather neglected in this country. He had himself tried lumbar puncture on a number of cases of alcoholic meningitis, or so-called cerebral œdema, but with a purely negative result. He had also found that in this class of cases lumbar puncture was not very easily carried out on account of the restlessness of the patient, and the tendency to large deposits of adipose tissue in such subjects. The operation was also quite painful. He had seen the fluid gush out in a steady stream in some cases.

DR. STARR asked if there were any difficulty in stopping the flow of fluid. In operations on the spinal cord he had encountered great difficulty in closing the wound and stopping the flow of cerebro-spinal fluid. In two recent operative cases the flow had obstinately continued, and had been associated with an exceedingly severe headache. In both of these cases the gush of fluid had been very considerable.

THE PRESIDENT said that he had not always observed such a great quantity of intra-spinal fluid as had been alluded to by the last speaker. As he recalled autopsies on cases of ventricular hemorrhage it did not seem to him that blood in the spinal canal had been very commonly found.

DR. LESZYNSKY said that since a paper had been read before the American Neurological Society about one year ago, very little had been said in this country regarding the dangers of this method, and he would like to ask the reader of the paper for information on this point.

DR. JACOBY, in closing the discussion, said that the syringe should not be used at all except in those cases in which a very small quantity of fluid was to be withdrawn for purely diagnostic purposes. If the needle were simply introduced, and the fluid allowed to drop away, the pressure in the spinal canal would not be dangerously reduced. The operation is exceedingly simple, but it is not so in the adults. In the latter he preferred to operate under an anæsthetic. Children should be held on the lap with the back arched so as to facilitate the introduction of the needle. A little iodoform collodion over the puncture was all that was necessary to stop the flow of cerebro-spinal fluid. There were no dangers connected with the operation except such incidental ones as breaking of the needle against the vertebræ. If an anæsthetic were not used in an adult, and the patient suddenly straightened out, the needle would snap off.

Deformities of the Hard Palate in Degenerates, with Exhibition of Casts.—DR. FREDERICK PETERSON offered a paper on this subject. (Only a portion of it was read.) He said that his observations in this direction extended over a period of eleven years, and comprised examinations on upward of one thousand persons, one hundred criminals, six hundred idiots, and five hundred neuropaths of other kinds. On account of the frequent mention of the Gothic palate he had adopted an architectural nomenclature in the following classification which he offered:

Pathological Palates.—(*A*) palate with Gothic arch; (*b*) palate with horseshoe arch; (*c*) the dome-shaped palate; (*d*) the flat-roofed palate; (*e*) the hip-roofed palate; (*f*) the asymmetrical palate; and (*g*) the torus palatinus. In illustration of these varieties of abnormal palate, seventeen casts of the hard palate were then presented, mostly selected from among the four hundred and fifty idiots on Randall's Island. The seven varieties are to be looked upon merely as types. Each type presents variations and combinations with other forms. Among the flat-roofed palates would be included all such as are nearly horizontal in outline, as well as those with inclined roof sides but flattened tables. In the hip-roofed palate there is a marked pitch of the palate roof in front and behind. It is usual to find asymmetry of the face and skull in cases with an asymmetrical palate. The torus palatinus (Latin, *torus*, swelling) was first mentioned by Chassaignac as medio-palatine exostosis. It is a projecting ridge of swelling along the palatine suture, sometimes in its whole length. It is always congenital, and varies considerably in both shape and size. But two or three cleft palates were found among the many idiots examined, and as a number of such palates had been found in subjects who were far from being degenerates it was not thought proper to include the cleft palate among the well-marked stigmata of degeneration.

The Committee on the Terminology of the Nerve Cell reported as follows: The term *neuron*, applied by Waldeyer in 1891 to the nerve-cell, with all its ramifications and processes, has been adopted by current writers on neurology, and by such eminent neuro-anatomists as Cajal, Van Gehuchten, Lonhossok, Edinger,

Dejerine, and others, therefore we advise that it continue to be used and understood in Waldeyer's sense, as indicating the nerve-unit. Assuming for the purposes of terminology that this cell-unit be divided into (*a*) cell-body; (*b*) protoplasmic processes, including all processes except (*c*); and (*c*) axis-cylinder process with collaterals and end brushes. The term *neuron* includes *a*, *b*, and *c*.

As a matter of convenience to the members of the Society, and as a justification, if any were needed, of the utility of the committee's work, the following list of synonyms and proposed substitutes for the word *neuron* is given:

To indicate the *cell-unit* or *neuron*:

Neuro-dendron, proposed by Kölliker.
Neura, proposed by Rauber.
Neurocyte, proposed by P. A. Fish.
Neure, proposed by Frank Baker.
The *cell*, the *neuron*, and the *dendrons*, proposed by Schaeffer.

The axis-cylinder process has received the following names:

Neuron, proposed by Schaeffer.
Neuraxon, proposed by Kölliker.
Neurit, proposed by Rauber.
Neurite, proposed by Fish.

The other (protoplasmic, etc.) processes have received the names:

Dendrons, or dendrites, proposed by Schaeffer.
Dendrites, proposed by His and Fish.
Cellulipetal processes, proposed by Cajal and Van Gehuchten.

The committee would recommend that the term axis-cylinder process be still used in its long-accepted sense, to indicate part *c* of the neuron. Without making the recommendation it expresses the opinion that some word like neurite will probably come into use as a synonym for this axis-cylinder process. The committee also recommend that the old term, "protoplasmic processes," continue to have its ordinary and legitimate use, but express the view that the word dendrite will be a useful synonym.

The committee beg to express obligations to Dr. Frank Baker, of Washington; to Professor Burt G. Wilder, and to Dr. Pierre A. Fish, of Utica. Signed: Drs. Charles L. Dana, Edward D. Fisher, William H. Thomson, B. Sachs, Joseph Collins, and J. Arthur Booth.

The Samuel D. Gross Prize.—The second quinquennial prize of one thousand dollars, under the will of the late Samuel D. Gross, M.D., will be awarded January 1, 1900. The conditions annexed by the testator are that the prize "Shall be awarded every five years to the writer of the best original essay, not exceeding one hundred and fifty printed pages, octavo, in length, illustrative of some subject in Surgical Pathology or Surgical Practice, founded upon original investigations, the candidates for the prize to be American citizens. It is expressly stipulated that the successful competitor, who receives the prize, shall publish his essay in book form, and that he shall deposit one copy of the work in the Samuel D. Gross Library of the Philadelphia Academy of Surgery. The essays, which must be written by a single author in the English language, should be sent to Dr. J. Ewing Mears, 1429 Walnut St., Philadelphia, before January 1, 1900. Each essay must be distinguished by a motto, and accompanied by a sealed envelope bearing the same motto, and containing the name and address of the writer. No envelope will be opened except that which accompanies the successful essay. The committee will return the unsuccessful essays if reclaimed by their respective writers, or their agents, within one year. The committee reserves the right to make no award if the essays submitted are not considered worthy of the prize.

Progress of Medical Science.

A Simple Expedient for the Treatment of Nocturnal Enuresis.—Dr. Stumpf has given an account of a simple and apparently rational expedient which he has successfully adopted in the treatment of nocturnal enuresis, especially in older children. He was led to try it on the basis of the fact that the passage of even a few drops of urine through the sphincter vesicæ excites the action of the detrusor to such an extent that the call to urinate becomes almost imperative. It is well known how difficult it is to restrain the act of urination after even a small amount of urine has passed the sphincter vesicæ and entered the urethra. His theory is that during sleep the sphincter of the bladder is apt to become relaxed, so that as the child lies horizontally in bed, a little urine passes the sphincter and enters the deep urethra. The irritation of this urine causes at once strong reflex action of the detrusor, and the bladder is at once emptied in a full, strong stream. It is a well-known fact that in nocturnal enuresis in children the urine does not leak away gradually, but the bladder is emptied at once, a point which is in support of this theory. In order to prevent the passage of the urine into the urethra when the sphincter becomes relaxed during sleep, a simple expedient is adopted, namely, the elevation of the pelvis, so that an accumulation of urine of ordinary amount in the bladder will gravitate back and distend the fundus, and not press against and tend to pass the sphincter. The elevation is secured by allowing the child only a single, small, flat pillow under the head, and placing one or two ordinary pillows under the thighs so that they lie at an angle of 130° to 150° with the horizontal spine. This simple expedient was entirely successful in curing two inveterate cases, one of a boy, aged nine, and one of a girl, aged fifteen. It was then tried in twelve cases and was uniformly successful. It was usually necessary to continue the treatment for three weeks, after which time the children were able to return to their former sleeping position without relapsing. The writer has found it unnecessary to have recourse to the time-honored measures of limiting the amount of liquids, frequent waking up during the night, etc. The chief difficulty about the treatment is to see that the children maintain the position throughout the night. Small children particularly are apt to wiggle and toss about and have to be watched, put back in position, etc. The method is therefore especially adapted to older children, in whom the position can be more easily maintained. This method is certainly so simple and apparently so reasonable as to merit extended trial, especially as the time-honored methods of treating this pernicious habit are in so many cases unsuccessful. It will be rather interesting if the elevation of the pelvis, which Trendelenburg introduced into abdominal surgery, and which has so extended and facilitated work in that field, should also prove of service in preventing children from wetting the bed.—*The Boston Medical and Surgical Journal.*

The Treatment of Acute Rheumatic Endocarditis.—In the *Liverpool Medico-Chirurgical Journal*, July, 1895, Dr. Richard Caton gives the results of a definite inquiry pursued for thirteen years concerning acute rheumatic endocarditis and its treatment. Upward of three hundred cases of acute and subacute rheumatism came under close observation in the hospital ward, a certain proportion, perhaps one in three or four, developing cardiac difficulty. The usual history is that the patient leaves the hospital cured of rheumatism, but with a maimed heart that causes much suffering and shortens life. The great questions are: How can endocarditis be prevented during acute rheumatism? And what treatment during its incipient stage, when it

occurs, best favors recovery? To answer these, the recorded experience of Europe and America was carefully consulted. The opinion of modern writers proved highly conflicting, Niemeyer and Osler holding all measures preventative or curative as practically useless; while Sibson and others pointed out the value of absolute and protracted rest, both as prophylactic and as an aid in the cure of incipient endocarditis.

Treating the rheumatic trouble by salicylates and doing practically nothing for the heart inflammation gave such poor results that in 1885 a definite plan of treatment was adopted in all cases, with a view of preventing endocarditis if possible, and mitigating its severity when present. As the outcome of the new measures, twenty-nine out of thirty-nine cases left the hospital well and with normal heart-sounds. Ten were less fortunate and were discharged with a bruit present. These results are so good that Dr. Caton fears his readers may fail to accept it altogether, thinking that perhaps mistake or error has crept in somehow. Yet such is not the case, to the best of his knowledge and belief. The method in brief is this: Prolonged, absolute rest in bed, the body clothed in flannel garments only, a milk diet, gentle cholagogues, salicylates in such measures as the disease seems to demand, and small blisters followed by poultices in any joint where pain fails to yield. When an abnormal heart-sound is heard, even simple "woolliness" of sound, or what the French call *assourdissement*, ten grains of potassium or sodium iodide are given three times a day in addition to the salicylates, and a blister about the size of a florin is placed over the apex of the heart. As soon as the irritation of this blister is subsiding, a second is applied close to it, then a third, and so on, the patient being kept perfectly quiet and strictly forbidden all exertion and exposure. The blisters occasion little or no discomfort. The heart is examined daily. In a week or ten days there is a gradual subsidence of the murmur; day by day it is less distinct and then is entirely absent. Sometimes several weeks will elapse before this desirable change is established. Prolonged rest is an important factor in bringing it about. The thirty-nine cases thus treated were, on the average, forty-one days in the hospital, and confined to bed thirty-five or thirty-six days.

How does the blister act? Not, surely, on the old-fashioned theory of so called counter-irritation. Organs situated some distance beneath a small blister can be affected solely through the nervous system, and acted upon through reflex centres. If a cutaneous nerve is stimulated, nerve-cells in the spinal and sympathetic centres are influenced and the impression is reflected to the visceral branches. It may be said that this is a mere theory. But it is a theory which explains many things. It explains the fact that a slight chilling of the skin of the thorax may cause pneumonia and bronchitis; that a splash of cold water will excite respiration in the infant, or set agoing the action of the heart during a faint. The nervous system consists of a series of segments arranged in a line, corresponding to the various somites of the body. Each nerve-segment governs, to some extent, the nutrition of its own somite, alike as regards epi-, meso-, and hypo-blastic structures. In a previous paper, read before the Physiological Society at Oxford, the author thinks he proved his theory by demonstrating the fact that stimulation of the surface skin alters the diameter of the arterioles in the lung, and causes variation in the electrical conditions of the thoracic and abdominal organs, as manifested by the galvanometer. Stimulation of the skin of the abdomen by heat, by chemical irritation, by faradism, or by mechanical irritation, produces instantly a variation in the electrical potential. The subject, occupying many months of hard work in the laboratory, is too extensive to be made clear in the space of a few lines. Turning to more familiar evidence, few persons will deny the soothing effect of a poultice in bronchitis, nor can any one explain it satisfactorily in any other manner than the one just stated. Inflammation is impaired vitality. This impaired or perverted vitality exists in the tissues of the heart when rheumatic endocarditis is set up. A temporary stimulus is applied by reflex means to the trophic nerves of the heart, helping nature to overcome the defective action. That is the theory on which this treatment by blistering is based. The assisted natural powers succeed, where, if unstimulated, they would fail.

Senile Epilepsy and Griesinger's Symptom of Basilar Thrombosis.—In the *Zeitschrift f. klinische Med.*, Bd. 28, Dr. Naunyn reports some interesting cases of senile epilepsy. Epileptic attacks are especially common at three periods of life: during dentition, at puberty (from ten to twenty), and after the sixtieth year. In each of the author's three cases compression of the carotids induced an attack of epilepsy similar to the spontaneous attack. In one instance respiration stopped when the carotids were compressed, necessitating artificial respiration, but without bad after-effects. Compression was also tried in six persons, about thirty years old, not suffering from either epilepsy, cerebral disease, or circulatory disturbances. Slight temporary vertigo was the only symptom noticed. In two persons, over fifty, with slight circulatory disturbances and a mild grade of arterio-sclerosis, compression of the carotids was followed by loss of consciousness, slowing of the pulse, and slight general convulsions. Whenever epileptiform seizures were produced by this compression, there was present an arterio-sclerosis. Concato earlier found that compression of the carotids in an epileptic subject thus affected would produce loss of consciousness and tremor of the arms. In ten others compression caused heaviness in the head, fainting, and epileptiform attacks. But in ten persons of ages from twenty-three to twenty-five no symptoms were produced. This leads Concato to regard compression of the carotids as valuable in the diagnosis of arterio-sclerosis of cerebral vessels. Griesinger believes it will be of service in the diagnosis of basilar artery obstruction. Naunyn thinks the spontaneous attacks in his three patients were due to cerebral anæmia, occurring from the deficient supply of blood to the brain that is caused by arterial sclerosis and weak heart-action. Senile epilepsy, he believes, as a rule, due to cerebral circulatory disturbances that have their origin in disease of the heart or blood-vessels. Such cases do not improve under bromides. Small doses of digitalis are to be preferred.

Appendicitis and Rheumatism.—In *The Lancet*, August 24, 1895, Dr. G. A. Sutherland advances a theory which, if true, may perhaps prove that the constitutional treatment of appendicitis is as important as local and surgical measures. The vermiform appendix is rich in lymphoid or adenoid tissue, which suggests the possibility of its being the centre for the production of leucocytes or lymphocytes. Elsewhere in the alimentary canal the importance of adenoid tissue is fully recognized, and the action of the lymphocytes produced there has been fully explained. According to Berry's researches, the function of the appendix is, (1) leucocyte producing, and (2) secretory. Leucocytes he considers useful in the destruction of micro-organisms and the absorption of proteids. Such protective power would be of great service, for processes of decomposition going on unchecked in the cæcal region would probably result in symptoms of auto-intoxication that would be extremely common. Usually regarded (appendicitis) as a purely local condition, due to such local causes as catarrh, concretion, cystic dilatation, etc., the author thinks it also quite possible that the vermiform appendix may be acted upon by poison circulating in the blood and thus become acutely or chronically inflamed. Rheumatism may be such a poison. The term "abdominal tonsil" has been ap-

plied to the appendix; and there are in reality many points of resemblance, both anatomical and pathological, between the tonsils and the vermiform appendix. If the former constitute the "first line of defence for the alimentary canal," the latter may be regarded as the second line of defence. Rheumatism afflicts adenoid tissue elsewhere. Why not here? While purely local or mechanical causes of appendicitis do exist, there may be others. And, in certain cases, the pathology may be this: The presence of a constitutional poison producing inflammation of the lymphoid tissue in the appendix, depriving it of its normal protective functions, and thus inducing a condition that permits the entrance of micro-organisms and a resulting septic peritonitis or appendicitis.

Nitro-glycerine in Sciatica.—Mikhalkine reports three cases of obstinate sciatica which were greatly benefited by nitro-glycerine given in the form of the official solution in one-drop doses, three times a day. In one case, a patient, aged forty-four, in whom salicylates, acetanilid, phenacetine, quinine, antipyrine, bromides, chloral, massage, sedative ointments, and blisters failed to give relief, the following combination was entirely successful: Nitro-glycerine (one per cent. solution), three to thirty minims; tincture of capsicum, ninety minims; peppermint water, three drachms. Three drops three times a day, for three days, and then ten drops three times a day. In another patient, a nervous woman, aged forty-five, with atheromatous arteries and sciatica, associated with atrophy of the muscles and hyperæsthesia, the same combination, in conjunction with bromides, also afforded speedy relief. The third case was a man, aged forty, who suffered with fever and severe pain in the right leg. A blister over the trochanter, with sodium salicylate and valerian, lowered the temperature, but failed to relieve the pain. After the lapse of four days the nitro-glycerine treatment was substituted, and this promptly lessened the pain and effected a cure within six weeks, the trouble not having returned after six months.—*University Medical Magazine.*

Post-diphtheritic Cardiac Paralysis.—Dr. Veronese says that no case has yet appeared in literature where death occurred entirely without warning, some suspicious symptoms having always been present for twenty-four hours at least. It attacks boys more frequent than girls, and is most common between the ages of six and fourteen. Children under six are almost never attacked, probably because in severe cases they usually succumb early in the disease; but adults are not altogether exempt. It varies in different epidemics, but occurs also among sporadic cases. Puny children, especially the tubercular and nervous, are more apt to be affected than the strong, yet in all cases it is preceded by severe general or local symptoms. The latent stage, that is, the period between recovery from the local process and the appearance of cardiac symptoms, lasts usually from two to eight days, but may cover from four to six weeks, although in the latter case the cardiac paralysis is the termination of a severe general post-diphtheritic paralysis. The reason that the cardiac appears so much earlier than other forms of paralysis is due to the fact that, owing to the delicate mechanism of the heart, a tiny lesion, by affecting important nerve-centres, may produce most serious results on an organism already weakened or degenerated by the diphthiretic process. In the so-called latent period a series of suggestive symptoms will not escape close observation, of which the most important are great prostration, apathy, somnolence by day, sleeplessness and restlessness at night, increasing dilatation of the heart with corresponding changes in the sounds, alterations in the character and rhythm of the pulse, increased frequency of respiration and signs of pulmonary œdema, nausea, more or less constant pain in the epigastrium and increasing albuminuria. Fever is never present, at least as a result of the cardiac affection. An attack of syncope announces that the disease has reached its height, but the first one is rarely fatal. In cases which recover after two or three anxious days, the symptoms of stasis due to cardiac weakness begin to pass off, œdema rarely lasting more than two weeks; but convalescence is very slow, requiring from two weeks to six or more months. Permanent lesions, apart from a mild grade of hypertrophy, do not seem to follow post-diphtheritic paralysis. The prognosis is very doubtful, though not always fatal; the milder the symptoms and the slower their development the better the outlook. The anatomical lesion may be a parenchymatous degeneration of the heart with interstitial changes, fatty degeneration of the myocardium, parenchymatous and interstitial degeneration of the vagi and the nerves and ganglia of the heart, or degeneration of the sympathetic, especially the ganglion and plexus cœliacus. It is probable that death is due less to degeneration of the heart than of its nerves and ganglia, and reflexly to degeneration of the sympathetic, especially the cœliac plexus.—*The Boston Medical and Surgical Journal.*

Recent Advances in Cerebral Surgery.—According to Professor von Bergmann, in cases of tumor of the brain surgery has of late done very little beyond facilitating a correct diagnosis, and rendering operative interference less dangerous. In Jacksonian epilepsy surgical treatment is usually followed by relapse, and can effect a certain cure only in those cases in which the convulsions are due to the compression of a circumscribed cortical motor centre by a tumor, as for instance, a cyst of traumatic origin. On the other hand, very decided progress has been made in the operative treatment of different forms of intra-cranial suppuration of otitic origin, such as cerebral abscess, epidural suppuration, ineffective thrombosis of the lateral sinus, and leptomeningitis. The most dangerous forms of chronic aural suppuration, which is usually excited by a collection of cholesteatoma in the interior of the ear, are indicated by intercurrent acute and subacute attacks, with fetid discharge, and by the presence of polypoid granulations on the tympanic cavity and the auditory meatus. The extension of the inflammation through the thin and carious tegmen tympani sets up pachymeningitis, which in its turn gives rise to an extra-dural or epitympanic abscess, or to an intra-dural cerebral abscess. The cerebral abscess, when small and in an early stage of development, is situated at the surface of the brain, but as it enlarges it sinks into the substance of the affected lobe. As the diagnosis between a superficial and epitympanic abscess on the one hand, and a cerebral abscess on the other, is attended with much difficulty, von Bergmann holds that it is necessary in performing an operation to expose to view both the extra-dural abscess and the part of the temporal lobe most likely to be involved in the extension of suppurative process. An operation is described by which the upper and anterior surfaces of the petrosal bone are exposed through a quadrangular opening made in the squamous portion of the temporal bone, just above the line of the zygoma, and between a line in front drawn directly upward to the sagittal suture from the tragus and a parallel line behind carried upward from the posterior border of the mastoid process. By this wound the mastoid antrum and cells may be opened if necessary, and the sigmoid fossa be reached. In conclusion Bergmann alludes to the successful results of the surgical treatment of infective thrombosis of the lateral sinus. Exposure and incision of the sinus, with ligature of the internal jugular vein, proved successful in 6 out of 13 cases treated by Jansen, of Berlin. These cases, added to those of Macewen and other surgeons, show that the operative treatment resulted in recovery in 27 out of 45 patients. Thrombosis of the lateral sinus, it is pointed out, is often associated with extra-

dural abscess on the roof of the tympanic cavity, and in most cases of cerebellar abscess forms a communication between this collection of pus and the suppuration in the middle ear. In exposing the outer surface of the mastoid process and the bone lying behind this, search should be made for the mastoid emissary vein. Not only is the orifice a good guide to the sinus, but in addition the state of the vessel may help the diagnosis. If it contains pus, suppuration in and about the lateral sinus is indicated; if it be blocked by a thrombus, this will be a sure sign of thrombosis extending to the cavernous sinus.—*Centralblatt für Chirurgie.*

Extract of Supra-renal Gland.—The attention paid to tissue extracts lends some interest to the recent physiological researches of Dr. D. Gourfein made a series of experiments in the therapeutic laboratory of Professor Provost. The experiments were made upon frogs, guinea-pigs, rabbits and cats. The investigators showed that one could extract from the supra-renal capsule a toxic substance which is soluble in alcohol and is not destroyed by heat. This substance injected under the skin of animals produces a constant series of symptoms. In mammals it consists in a progressive weakness and dyspnœa, which continues until death. If respiration is kept up artificially, death ensues from paralysis of the heart. Animals that can vomit do so rapidly after the injection. The sensorium is not affected. The principal action of this substance is exercised upon the central nervous system. The special point of interest in connection with the investigations of Dr. Gourfein is the determination of the fact that the supra-renal capsule possesses a powerful poison which acts upon the nervous system, rather than upon any of the glandular or muscular tissues. In this connection we may refer to the results of the studies made in the same direction by Dr. Oliver and Professor Shäfer, of London. They found that the supra-renal capsules were glands, which, like the thyroid, were strictly secreting organs. The material which they secrete was an active principle, which increases the tone of all muscular tissue, and especially produces this effect upon the heart and arteries. On the other hand, they found that the removal of the capsule produces extreme weakness of the heart and muscular system generally, and a great loss of tone in the vascular system—a similar condition to that found in Addison's disease. Their experiments have been confirmed by Szymonowicz and Cybulsky. Their results, however, seem to be almost identically opposite to those obtained by the experimenter above referred to. Dr. Gourfein, however, used a substance obtained by a special process from the gland, and it is possible that the method he employed had something to do with the difference in the results secured.

A Case of Recovery after Trephining in Tuberculous Meningitis.—Dr. James Kerr, of Bradford, England, reports in *The Lancet* the history of a tuberculous meningitis, occurring in a boy of ten. The disease having progressed to the stage of coma in the course of the third week he was trephined. An opening was made one inch and a quarter above, and the same distance behind, the left auditory meatus; a half-inch button was removed, and the dura-mater opened. Very little fluid was removed. The patient made a recovery.

Tobacco Insomnia.—Among the distressing ailments to which the brain-worker is exposed one from which no small proportion of them suffer is the inability to sleep. This is particularly frequent among those who are called upon to burn the midnight oil, to use the consecrated phrase. These sufferers complain that they feel most lively just when the time has come to retire to rest, and that a long period of restlessness precedes a troubled slumber from which the slightest noise awakens them, that is to say, not only may tobacco temporarily prevent sleep, but, short of that, it renders it less deep, and consequently less refreshing. The result of an inadequate amount of refreshing sleep is to render them irritable and heavy during the day, and the feeling of lassitude and incapacity for intellectual work is especially pronounced during the forenoon. But too frequently the complaisant practitioner counsels recourse to this or that narcotic or hypnotic, with the immediate result in a certain proportion of cases of the formation of a habit which not infrequently culminates in physical and mental wreck. A grave responsibility attaches to those who lightly seek to relieve a symptom, which is really a warning, by recourse to a dangerous palliative. The inability to sleep is often merely the outcome of an unnatural mode of life, and if this be corrected the disability disappears of itself. Men who work late are commonly addicted to the tobacco habit. To them tobacco is not a relaxation after a day's work, but a nerve stimulant which enables them to accomplish tasks which would otherwise be difficult of accomplishment. Not infrequently, too, when the mouth becomes parched as the result of continuous smoking, recourse is had to alcohol in some form or another to give a further fillip while enabling him to tolerate still another cigar or two. Under these circumstances tobacco acts as a cerebral irritant, and interferes with the vaso-motor centres of the brain to such an extent that the vessels are unable to adjust themselves forthwith to the condition required for healthy and untroubled sleep. Every smoker is familiar with the fact that a change of tobacco or an unusually strong cigar is apt to keep one awake at night, and this tendency is accentuated when smoking is an aid to work and not a mere pastime. The same remark applies to alcohol when it is used as a stimulant. The real cause is often overlooked, and drugs are employed where a change of habit ought to be insisted upon. Attention to the ordinary rules of "tobacco hygiene" would save many from this distressing condition of chronic insomnia. Smoking early in the day should be discountenanced, and it is equally undesirable within an hour or so of retiring to rest. The best remedy for the tobacco habit, short of total abstention, is to take a short walk in the open air after the last pipe. Under no circumstances should drugs be recommended for this form of nocturnal restlessness.—*Medical Press.*

Cure of Uterine Disease by Vibrations.—Dr. Bourcart would revolutionize uterine therapeutics by extending Brandt and Kelgren's principle of using manual vibrations to insure absorption of inflammatory exudations (*The British Medical Journal*). In the case of the uterus instruments are required. Liedbeck has already invented a good apparatus for producing vibrations by electric means. In the case of the uterus the vibrations must be rapid, very regular, and penetrating. The vibrations can be perfectly transmitted through the abdominal walls. Bourcart, acting on the knowledge of these facts, has contrived a portable dynamo, to which he fits on a vibrator, which he places with his right hand against the parietes. The uterus is pushed toward the parietes by the left forefinger passed into the vagina. In the same way the Fallopian tubes and ovaries may be pressed in the direction of the vibrator. Bourcart declares that subinvolution is particularly benefited by the vibration treatment. In metrorrhagia from fibroids it is equally useful; the tumor may even diminish in size under a course of this treatment. He treats endometritis by vibrations transmitted by means of a specially constructed stem, but he admits that further study of this new variety of uterine therapeutics is required.

Mixed Infection in Phthisis.—At the close of a paper on this subject Elsner draws the following conclusions (*The Boston Medical and Surgical Journal*): 1. Tubercle bacilli can, without the presence of added bacterial infection, cause changes in the lung, giving rise to symptoms of acute pneumonia in chronic or

latent phthisis, which cannot be differentiated without bacteriological examination from non-tuberculous pneumonia. 2. Concurrent infection in tubercular phthisis modifies very materially the course of the disease, giving rise to many acute exacerbations and anatomical changes; hence the conclusion is justified that the clinical picture of the disease is, as a rule, complex. The double infection must be taken into account when indications for treatment are considered. 3. An acute croupous pneumonia can attack lung tissue, the seat of tuberculous infection, or run its course in any part of the healthy or diseased lung. As a rule, the tuberculosis, if latent, is lighted into activity. 4. Aspiration from cavities of streptococci or other bacteria may give rise to acute pneumonia, a streptococcus pneumonia. Early and profuse hæmoptysis is present in a majority of these cases. 5. Mixed infection in pulmonary tuberculosis is an important factor in lowering vitality and the resistance of the patient; all septic and pyæmic processes arising in the course of tuberculous disease may be traced to it. 6. The differential diagnosis of tubercular pneumonia is ofttimes made with great difficulty. In all cases bacteriological examination must be made repeatedly, and culture experiments add to the refinement of such diagnoses. Without repeated microscopic and bacteriological examinations it is impossible to determine the pathological significance of the innumerable exacerbations of pulmonary tuberculosis.

Spengler has endeavored, in fifty cases, by means of bacteriological examinations of the sputum and carefully conducted autopsies, both from the bacteriological and anatomical stand-point, as well as by a careful comparison of their clinical histories, to get some explanation of the different types in which phthisis manifests itself. As a result he arrives at the following conclusions: 1. In tubercular phthisis only a small percentage of the cases are uncomplicated cases of tuberculosis of the lungs. If fever is present in these pure cases, the extent of the mischief is much greater than the physical examination would lead one to suppose, and the prognosis is unfavorable. They become still more unfavorable in case a mixed infection is added. These cases are adapted to the tuberculin treatment. 2. Most cases of phthisis are complicated by a mixed infection with streptococci, and may be classified as active or passive, according as fever is present or not. The prognosis of the active form is good if it complicates a local tuberculosis, remains circumscribed, and receives prompt climatic treatment. Other bacteria, as well as the streptococcus, may complicate tuberculosis, such as Fränkel's diplococci, staphylococci, tetrageni, influenza and pseudo-influenza bacilli, and others. If secondary bacteria appear in a few colonies only in several sputum examinations, fever, if it be present, is not due to the mixed infection but to the tuberculosis, or to some focus of infection other than the lungs. If fever is absent and yet streptococci are found in considerable abundance, the sputum should be carefully washed in order to rid it of accidental impurities from the upper air-passages; and then, if they still persist, the presence of bronchiectasis or cavities may be inferred.

The therapeutic indications are self-evident. Early diagnosis is essential before secondary infection has occurred; and the treatment should be specific, that is, with tuberculin. Mixed infection can only be combated by pure air, either at sea, in the desert, or on the mountains.

After the secondary infection has been overcome, and tuberculosis alone remains, tuberculin is again indicated. Huguenin arrives at similar conclusions, and says that the prevalent idea that patients with fever are not fitted for high altitudes is radically wrong, as it is those cases with pus-infection in the lungs and secondary fever who are fitted for that, and only that.

Curative Treatment of Puerperal Infection.—Dr. Pinard states that the new therapeutics of puerperal infection comprise three methods of treatment well known: intra uterine intermittent irrigation, continued irrigation, and curettage. These methods have been employed separately or combined, according to the exigencies of the case. (*The Medical Press.*) Intermittent irrigation, first employed by Recolin and Levret, and recommended by Gensoul, Roche, and Lemuel Weiss, in 1858, has become current treatment, especially since Pasteur revealed the true nature of infection. For the purpose Professor Pinard uses the glass sound of Fariner, which is very easy to introduce, and when ordinary precautions are taken, cannot break. The antiseptic liquid he employs is a solution of biniodide of mercury (1–4,000) at 103° F. Being a partisan of low pressure, he places the reservoir containing the liquid for injection only ten inches above the level of the patient, as in this manner the liquid cannot penetrate into the veins, or the uterine sinuses. The amount injected generally exceeded three quarts, or until the liquid returned is quite clear. Continued intra-uterine injections is entirely of French origin, but to a German, Schücking, of Halle, is due the honor of being the first to apply it to obstetrics. Since 1885 Professor Pinard has employed it frequently in his service. The method of operating is about the same as in the first case, but the sound is made of metal, as the glass might break. The antiseptic liquids are: A solution of biniodide of mercury (1–4,000); a solution of phenic acid (1–100); a saturated solution of boric acid. Fifteen quarts of the first solution are injected, and followed by the second, and as soon as the temperature of the patient has come down to the normal it is replaced in its turn by the third. Objections have been made against this method, not only as regards the difficulty of adopting it in private practice, but also as regards the fact of leaving a sound *à demeure* for days and nights, which might produce an accident by the movements of the patient. M. Pinard considers that such a danger could only be feared where the instrument was not properly fixed to the patient. In any case he never witnessed the slightest accident in all the cases he had tried it. The operation of curettage followed by Pinard differs but slightly from that usually practised, with the exception of the absence of anæsthetics and the non-employment of the speculum. As to the former, M. Pinard considers it both needless and dangerous—needless because the pain produced by the operation is very slight, and dangerous because in post-partum curettage the hemorrhage is frequently abundant under anæsthetics. In concluding, Pinard said that it was admitted by all that no physiological phenomenon produces a rise in the temperature throughout the course of a normal confinement, and for this reason any increase should put the attendant on his guard against the invasion of septic matter. Consequently, in every lying-in woman who presented within the six days following the delivery, a rise in temperature, puerperal infection should be suspected and treated accordingly. A temperature of 101° F. in the axilla was a certain indication for intra-uterine injections. If after a second injection the temperature continued to rise, continued irrigation or curettage should be substituted. The latter operation should not in any case be done until three days have elapsed since the delivery.

Septic Surgery.—We have left unwashed those things which we ought to have washed, and we have handled those things which we ought not to have handled, and there is no health in us.

Opium Eaters, in India, average from four to twelve grains of the drug per day.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE WOMEN'S PETITION TO THE COLLEGE OF PHYSICIANS—DR. BUZZARD'S ADDRESS—CLINICAL SOCIETY—MEDICAL SOCIETIES OF LONDON—THE CASE OF DR. R. B. ANDERSON—DEATH OF INSPECTOR-GENERAL SIR WILLIAM MACKENZIE, K.C.B., ETC. — HOSPITAL SUNDAY FUND—DR. BARRY, THE FEMALE ARMY SURGEON—ANTI-TOBACCONISTS ON HEALTH.

LONDON, November 1, 1895.

THE women have made an assault on the Royal College of Physicians, the oldest of our corporations, and came within view of victory. The form of attack adopted was a petition from the staff of the School of Medicine for Women to recognize the institution and admit its students to examination. The petition was also signed by the staff of the Royal Free Hospital, at which these students receive their clinical instruction. Further, a great array of influential names was appended. Before the meeting to consider it, a counter-statement was got up by some of the fellows and signed by some most influential opponents. This is rather piquant considering the secrecy in which the ancient college has usually tried to shroud its proceedings. There was a serious discussion on the subject, but several of the speakers addressed themselves to the question whether medicine was a suitable calling for woman, rather than that before the meeting, which was, whether the college should follow the example of several other bodies and open its doors to both sexes. The former question will settle itself, for there are now some two hundred female physicians among us, and if the calling should prove unsuitable or in opposition to public opinion, another generation will determine. As to the second question, fears were expressed that if admitted to the licentiateship, these "new women" would aspire to membership, then to the sacred order of fellowship, and perhaps ultimately grasp — *horribile dictu* — the presidency itself.

The college, as the oldest body, may fairly hesitate to follow the lead of some of the more advanced corporations. It has interests and traditions to consider and respect, and there are internal changes which are far more urgent to enable it to retain its position. Some eighteen years ago the question was discussed, but the changes since then have altered the circumstances. There is now no difficulty in the way of women obtaining registerable diplomas, and admission to one more would do nothing to determine their right to study medicine. The men may therefore, without any injustice, retain to themselves some of their institutions. The vote has been a surprise to both sides. One hundred and nine fellows took part in it, and of these fifty voted in favor of the admission of the other sex and fifty-nine against; a majority of only nine for the *status quo* is a surprising event, and the women regard it as a great victory. On a former occasion the votes were, I think, fifty to thirty-six, so, it looks as if the trend of opinion was in favor of the women.

Next week the question will come before the annual meeting of the College of Surgeons, and we shall see whether the members will attend in sufficient force to represent fairly the opinion of the working practitioners, who are threatened with the competition of women, for it is to be remembered the late meeting consisted only of consultants. At the coming one of the sister college those in general practice have the suffrage.

Dr. Buzzard delivered his address to the Clinical Society this day week. He glanced at the great change that has taken place since the establishment of the Society twenty-eight years ago, when the first president's address did not hint at the investigation of diseases with a view to their prevention as appropriate work for such a society, but was occupied chiefly with the administration of remedies. The change brought about may be said to be largely due to the researches of Pasteur and the patient work of Lister. As an application of the scientific method the president naturally mentioned what has been done in myxœdema, for the work has been largely identified with the Society. Other examples named were the great number of cases of paralysis and convulsive diseases now known to depend on syphilis, and the recognition of the influence of alcohol in causing a form of progressive paralysis. In reference to micro-organisms he remarked that in diseases of the nervous system the infective origin of hydrophobia, tetanus, leprosy, and diphtheritic paralysis admitted no reasonable doubt, and he suggested as a field of inquiry the possible dependence of some chronic nervous diseases upon infection. Infantile paralysis, from the occurrence of epidemics, he had little doubt, was infective, and perhaps the form of progressive muscular atrophy, in which the lesion occupied the same anatomical position, might have a similar origin. Insular cerebro-spinal sclerosis probably was another example, as to chorea and some forms of epilepsy the suggestion was only a conjecture at present, but one worthy of investigation. The supposed heredity of Friedreich's ataxy and other family diseases might be open to the doubts some express respecting tuberculosis and cancer. The subject must be considered from its clinical, bacteriological, and chemical aspects, and no society was better qualified to pursue the investigation.

After the address there was a paper on a rare form of contagious impetigo, and one detailing three successful cases of pleural effusion treated by early excision. The latter gave rise to some discussion as to whether paracentesis would not have been sufficient. Mr. Parker gave the history of a case of excision of the patella for primary sarcoma, recorded in the "Transactions" (vol. xx.). The girl, aged eighteen, continued well for three years, when recurrence took place. Another operation was done, and three years more of freedom obtained. Then new growth in the lymphatic glands deep in the pelvis occurred, and an attempt to remove them was only partially successful, and death from exhaustion followed in a few weeks.

At the Medical Society, on Monday last, the battle of buttons and bobbins in intestinal operations was waged with some energy. One speaker objected to all "artificial contrivances," a rather large objection for a surgeon. Another repeated the stale joke that we all had Murphy's buttons in our mouths, and should soon have them in our intestines. Another remarked that the results in the cases brought forward were no better than those obtained by the older method in much graver conditions, such as gangrenous gut in hernia. Another deprecated the importance attached to rapidity in operating.

The case of Dr. R. B. Anderson has gone through another step, though I am afraid not one in advance. He endeavored to get the High Court to pronounce that its former decision was void, or at least voidable, on the ground that Lord Esher was interested in the decision on account of an action which was then pending against him, and which would be influenced by the judgment in his case. The contention was repudiated by all the judges of the court as nonsense, and Lord Esher suffered himself to speak in terms I hardly care to characterize as coming from the bench. He might at least have refrained from insulting remarks if he had not the sense of judicial impartiality sufficiently strong to impose silence on him in such a case. It only remains for Dr. Anderson to take his case to the House of Lords, and I trust the Civil Rights Committee will be supplied with funds, for which they have appealed to the public, to enable them to see him through.

It is with great regret I have to report the death of

Sir William Mackenzie, K.C.B., C.S.I., M.D. He died on Tuesday, last "full of days" and full of honor. He was eighty-four years of age and served his country well. His Indian career extended, I believe, over forty years, and of course he had long since retired. His rank was Inspector-General. I had the honor and pleasure of his friendship, and regarded him as one of the ornaments of his profession. In every society in which he moved he was the type of a perfect gentleman. *Si sic omnes.* Such men are indeed "the salt of the earth."

The Hospital Sunday Fund has this year gone up by some £15,000. It was feared at first that the average might not be reached as some of the collections were known to have fallen off. But *The Hospital* got up a special appeal which has produced the noble sum of £18,000. This quite eclipses *The Lancet*, which has done so much for the fund all along, but I am glad to see that no jealousy of such an unexpected success has been produced. In fact *The Lancet* has some very generous words of congratulation for its smaller contemporary, which though not exactly a medical journal, being devoted to the interests of hospitals and charities, and the special organ of nurses, is read by a good many doctors. The editor of *The Hospital* is Mr. Burdett, the originator of the Nurses' Pension Fund. He is also one of the secretaries of the Stock Exchange, and no doubt his city influence has been exercised to help. I hope now the administrators of the Sunday Fund, which has leaped up to £60,000 from about £42,000, will do justice by putting aside the ignoble jealousy of specialties which has so marred their valuable work.

Some amusing correspondence has lately appeared respecting the career of Dr. James Barry, who served as an army surgeon from 1813 or 1815 to 1859, then retired on half-pay, and died in 1865, when it was found at the autopsy that the army surgeon, who had attained the rank of Inspector-General, was really a woman!

There have been other impersonators of sex, *e.g.*, Chevalier d'Eon, but few, if any, can have gone through all that Dr. Barry must have endured. "A Modern Sphinx" is the title of a novel by Lieutenant-Colonel Rogers, whose hero, Dr. Fitzjames, is drawn from the life of Dr. Barry. This novel was reproduced under the title of "Madeline's Mystery," and contains many anecdotes said to be true. I think both volumes are out of print.

The Anti-tobacco Society thinks that smoking in the streets should be put down by proceeding against the offenders under the health acts for creating a nuisance. Surely these amiable people might take up some nuisance more obviously injurious to the public health.

ONE CAUSE OF ATROPHY OF THE UTERUS.

To the Editor of the Medical Record.

Sir: In your issue for November 2, 1895, p. 640, Dr. Hilbert B. Tingley narrates a case of atrophy of the uterus in a woman, twenty-two years of age, following the birth of her second child, and asks the question, "What was the cause of the atrophy?"

The report states that owing to a uterine hemorrhage on August 26th (fourteen days after labor), she was thoroughly curetted under anæsthesia on September 2d, "and a large handful of fragments of placenta, etc.," was removed. The most reasonable inference as to the cause of the atrophy is the curettage that had been resorted to. This probably was followed by complete obliteration of the uterine cavity, with subsequent atrophy of the organ. An exactly similar case has been reported by H. Fritsch, in the *Centralblatt für Gynäkologie*, 1894, No. 52. A young woman, twenty-five years of age, was delivered of her first child on January 21, 1892. The puerperium was free from fever, but there was a continuous discharge of blood. A consultant advised a curettage, which was carried out under anæsthesia by the attending physician on February 24, 1892. The husband stated that he saw the doctor remove "a large piece of flesh," which was quite hard. The uterus was packed with gauze, then hemorrhage ceased, and the patient made a good recovery. But since then she had not menstruated and had remained sterile. She was perfectly healthy, had no symptoms save the amenorrhœa and sterility. On examination the vaginal portion of the cervix was found entirely gone, there being only a small opening in the vaginal vault. It was impossible to pass the finest sound through this into the uterus, which on bimanual examination was found to be very much atrophied. Fritsch made an attempt to bore an opening into the uterus, but failed. These cases are instructive, and must serve as a warning that during the period of post-puerperal fatty degeneration of the uterine tissues a vigorous curettage may be followed by very serious consequences.

Hiram N. Vineberg, M.D.

127 East Sixty-first Street, November 4, 1895.

"BACTERIOLOGICAL DIAGNOSIS."

To the Editor of the Medical Record.

Sir: In July, 1894, I had occasion to complain to the Health Department that cultures were being taken by their inspectors from typical cases of diphtheria where no useful end could be gained by so doing. I complained of the danger to a very weak and nervous child of having a strange doctor insert the swab and make the necessary examination to secure reliable cultures.

In doubtful cases it was suggested by me that the attending physician would, for his own protection, send in the culture-tube; to make a cultivation from a typical case was only finding work for inspectors, and exposing cases to a serious and unnecessary risk.

Dr. Edson immediately replied: "The matter will be thoroughly investigated at once. I consider the point made by you an excellent one." I believe some time since there was a motion adopted by the Board of Health that employees were not to interfere with private cases unless for unavoidable reasons, which would be in the same lines as my suggestion.

I had occasion to report two cases of diphtheria, November 5th, and was excessively annoyed to find cultures had been taken from the two patients on November 7th. Both were typical cases that there could be no shadow of doubt regarding diagnosis.

Imagine my amazement at receiving a report, "Laboratory No. 7,705," saying "the case did not admit of an exact bacteriological diagnosis as the inoculation was made at so late a period of the disease." The case was about forty-eight hours old, and the pharynx is now (three days after taking culture) covered with exudate. The other report, "Laboratory No. 7,729," said: "Bacilli present, slightly resembling diphtheria bacilli, not sufficiently characteristic for positive identification; a prompt confirmatory culture is requested." This could not be furnished as the infant died from exhaustion before receipt of request. This case was not twenty-four hours old when culture was taken. Both cases were very severe in local and constitutional symptoms, and typical cases of diphtheria.

The question occurring to me, and which must suggest itself to all general practitioners is this: If we cannot get a correct and definite report in a typical case, how can we rely on the report in a doubtful case? I have frequently had reports on cultures from the Health Department Laboratory where the clinical symptoms did not bear out the bacteriological report; but this is the first time it has been clearly demon-

strated to me that the report is a lame reed to lean on, and for this reason I still further emphasize my objection to strange doctors taking cultures from every case as a routine procedure. I may say that in conversation I have heard several medical neighbors make the same complaint of interference and unreliability of report.

Yours truly,
E. V. BRENDON, M.D.

1¾ CHARLTON STREET, NEW YORK CITY,
November 11, 1895.

Surgical Suggestions.

Pulmonary Tuberculosis.—Cornet maintains that microorganisms with a moist surface can not be detached by a stream of air passing over them, and explodes the idea that the breath is the source of infection in pulmonary tuberculosis, making clear at the same time that it must be looked for in the excretions from the patient.

Treatment of Lupus.—After chloroformization all the friable tissue is scraped away with the sharp spoon; then the floor of the wound and the borders to a distance of one centimetre are scarified. When bleeding has been stopped, the wound is dabbed over several times with a cold saturated alcohol solution of zinc chloride, to which a little hydrochloric acid has been added. During the ensuing six hours sharp pain is felt, mitigated by iced compresses. Before twelve hours have passed, local swelling comes on, more or less pronounced, of the neighboring parts. Boric acid compresses disperse this œdema in thirty-six hours and cleanse the wound. For four days afterward a dressing of pyrogallic acid (1 in 4) in vaseline is applied thrice daily; then boric acid compresses, frequently changed, are substituted. After five days of these compresses pyrogallic acid in vaseline is again used and continued for four days; then boric compresses are applied again for three days. A final application of pyrogallic acid in vaseline is made for two to three days. Cicatrization is rapidly obtained by iodoform in powder or boracic acid in vaseline. Duration of treatment is from two and a half to three months. An excellent-looking scar is the result. Recurrence may take place at one or two points. If so, the nodules must be scraped away with the sharp spoon and zinc chloride applied. The author claims that the results of this treatment are more satisfactory than those of any other plan known to him. The treatment is applicable to skin lupus. For mucous membrane in readily accessible situations, such as the gums and the uvula, Schutz recommends applications of a watery solution (twenty to thirty per cent.) of zinc chloride.—SCHUTZ (*British Medical Journal*).

Cycling.—As a general rule, the following conditions may be looked upon as making the exercise inadvisable: Arterio-sclerosis, tuberculosis, emphysema, extensive valvular disease, asthma, affections of the abdomen and pelvis, obesity, epilepsy, and chronic affections of the joints and muscles. Fast and long distance riding, especially in adolescents, must be condemned. Straining to climb hills or to meet head-winds is injurious. Light, judiciously selected meals should be taken at frequent intervals. Alcohol, meat extracts, and such stimulants as coca should be prohibited. Women should not ride during menstruation. The clothing (of wool) should be adapted to the easy, unrestrained movements.

Tubercular Sinuses.—A ten per cent. emulsion of acetanilid in sterilized sweet-oil for injecting tuberculous sinuses and abscesses.—AUGUSTUS WILSON.

Varicose Veins.—Instruct the patient to carry always a tight ball. In case of rupture and consequent hemorrhage it requires no skill to apply the ball to the point of rupture and bind down tightly with the handkerchief. This will in all cases preserve life and strength until the arrival of the physician.—HIRST.

Gonorrhœa in Women.—In gonorrhœa urethral and vesical irrigation should be made with a solution of potassium permanganate, 1 per 1,000 to 1 per 2,000, according to the case. The quantity at each irrigation should be at least one litre. The irrigation should be practised every day, the usual duration of treatment being from ten days to two weeks or thereabout.—CUMSTON.

Bad Sloughs.—Anderson uses the nitric acid whenever he has a bad case of sloughing, and believes that by its use he has saved several limbs from amputation.

Alumnol as a Hæmostatic.—A ten per cent. aqueous solution of alumnol when a hæmostatic is necessary after operations in, or traumatism, to the nose and throat. It does not form an objectionable magma with the blood as do many astringents, nor has it shown, at any time during a year or more of its use, any untoward action upon the mucous membrane of the nose or adjacent passage, but the results from its use are most excellent.—RUGH.

Fractures.—In adults perfect restitution of the osseous structures is seldom secured, and, probably, in the majority of cases deformities of varying degrees follow in spite of any treatment.—MANLEY.

Lesions that May Simulate Chancre.—*a.* Artificial indurations caused by irritants applied to simple lesions. *b.* Nodular lymphangites, as occur in gonorrhœa. *c.* Scabies, where penile lesions are the rule. *d.* Secondary indurations at the site of the initial lesion (Fournier's pseudo-chancre). *e.* Secondary syphilitic papules or tubercles situated upon the genitals. *f.* Ulcerative gummata of the genitals. *g.* Epitheliomata of the genitals.

Hæmorrhoids.—Pathologically speaking, hæmorrhoidal tumors, whether external or internal, are enlargements of the veins of the rectum and infiltration of their connecting tissue, including many times the submucous tissue. The vessels supplying them run parallel with the rectum in the mucous membrane and enter the tumor from above. The so-called arterial hæmorrhoids are morbid conditions rarely found.—GAILEY.

Indications for Cholecystenterotomy.—In all cases where it is desirable to drain the gall-bladder. In all cases of perforation into the abdominal cavity, where the duct must be obliterated by the reparative process. In all cases of cholelithiasis, where obstruction of duct is present, or where the reflex disturbances of digestion are marked. In all cases of cholecystitis, either with or without gall-stones. In all profusely discharging biliary fistulæ, either following operations or as sequelæ of pathological changes in gall-tract.—MURPHY.

Purulent Ophthalmia.—

℞. Hydrastis sulphatis,
Acidi borici,
Sodii biboratis.....ää gr. v.
Tr. opii deodor..... ℥ ss.
Aquæ dest..... ℥ j.
To be used as a collyrium from the beginning.

—SCOTT.

Chancroid.—Touch the ulcer every morning for two or three consecutive days with a pledget of absorbent cotton dipped in the following solution:

℞. Menthol..... gr. iij.
Carbolic acid..... gr. xv.
Alcohol, 90 deg..... ℥ ss.
In the meantime keep the sore covered with acetanilid.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending November 16, 1895.

	Cases.	Deaths.
Tuberculosis	116	192
Typhoid fever	27	5
Scarlet fever	60	7
Cerebro-spinal meningitis	0	2
Measles	118	10
Diphtheria	176	28
Small-pox	1	0

There is no Malarial Parasite, says Surgeon Lawrie of the British Indian Medical Service. He affirms that the microscope is misleading and useless in the diagnosis of malaria, and that there is no parasite in the blood in that disease. "There is nothing in pure blood but hæmocytes and leucocytes—red corpuscles and white cells." The so-called parasite of malaria is nothing more than the blue-stained nucleus of the white blood-corpuscle. It is stated, further, that the appearances which Laveran and others have pronounced to be malarial parasites are to be found in the blood in health and disease.

Legal Valuation of Destroyed Members.—The jury in the case of Louis Rouss against the New York Biscuit Company, before Judge Wallace in the United States Circuit Court, recently returned a verdict for $10,000 for the plaintiff. Rouss lost his right hand through an accident while at work in the defendant's factory. He sued to recover $20,000. In the case of James Roberts, a brakeman, against the New York, New Haven & Hartford Railroad Company, before Judge Lacombe in the United States Court, the jury returned a verdict for the plaintiff for $5,000. Roberts sued to recoved $50,000 damages for the loss of his right leg through being struck by a low bridge.

Removal of Tattoo Marks.—The principle of the method is to form a dermic destruction of the tattooed part. Here is how it is done. It is first necessary to paint over the tattoo marks with a concentrated solution of tannin; afterward, by means of fine needles, we make a series of pickings over the tattooed design. Over the surface thus picked we pass a stick of nitrate of silver. At the end of a few minutes we see detached the black pickings previously made, and know that the superficial layers of derma contain a tannate of silver. In order to assure success this surface must be powdered with tannin for two or three days. The end is very simple. After an inflammatory action, lasting two or three days, the picked parts turn black, forming a thin crust, very adherent to the deeper skin, but painless. At the end of from fourteen to eighteen days the scab falls off, and in its place a superficial red mark is seen, which gradually fades away until, at the end of a few months, all signs of coloration disappear. Dr. Baillot also suggests the use of bioxalate of potassium in place of nitrate of silver.—*The Lancet Clinic.*

Training in England and America.—Now that Yale has beaten Cambridge in the athletic sports by eight events to three, everyone will attribute the supremacy of the American athletes, as the Cambridge captain does, to their severer system of training. The truth is that the Americans are far keener in such matters than we are. But we cannot say, with Mr. Horan, that we wish to see their severer system of training adopted on this side of the water. Athletics are already pushed too far in England. Champions' honors are usually won at the cost of shaken health and shortened life. It seems but the other day that Muttlebury broke down, and now the doctors are telling us that the champion athlete generally pays the supreme debt to nature between forty and fifty years of age. It is coming to be recognized, too, that nervous collapses are almost as often due to youthful overstraining of the body as to the mental worry and anxiety of later manhood. We hope that as these truths become more widely known, athletics will be taken more lightly both in America and in England. They should be looked upon as a means to the attainment of perfect health, and not as an end in themselves, with a "record" as the highest reward.—*Saturday Review.*

Picric Acid for Burns.—French surgeons have recently been using a solution of picric acid for the first treatment of burns; and it has been found that the pain which is caused by the burning of the skin can be almost immediately alleviated, or altogether removed, by painting the affected surface with a strong solution of picric acid. It is stated that the remedy has proved to be quite harmless, and that the yellow stains which are caused by its application can be easily washed out with boric acid. The general verdict of those who have employed the remedy is that it has greatly lessened suffering, and has, therefore, probably saved life, while it would appear that even severe cases thus treated have recovered more speedily and completely than would have been the case under other forms of treatment. It would, therefore, be well, presuming that experience of the remedy in this country gives identical results, if the medical officers of factories or workshops, where accidents like burning or scalding are common occurrences, would direct that solutions of the acid should be kept at hand, and explain the method of its application to the workers.—*Medical Times and Hospital Gazette.*

Prize Essays on Vaccination and Small-pox.—In connection with the centenary of the introduction of vaccination, which is to be commemorated next year, the Russian National Health Society offers four prizes for the best literary work upon small-pox and vaccination, under the following conditions: The essays may relate either, first, to the general question of small-pox and vaccination, or, secondly, to the technique of vaccination itself. Under the first heading are mentioned: (*a*) Text-books on vaccination; (*b*) historical, medico-geographical, and medico-statistical works; (*c*) clinical, pathological, bacteriological, or chemical investigations; and (*d*) popular works on the utility of vaccination. Under the second heading are mentioned: (*a*) Essays on the preparation of vaccine lymph and the best methods of preserving and transmitting it; (*b*) new suggestions as to the best forms of instruments used for vaccinating man and animals; and (*c*) suggestions for a model vaccination institute. Authors are not limited to any one of the above, and other aspects of the subject may be treated of in the essays. The essays may be written in either Russian, French, German, or English; they may be in manuscript or print, but must not have been printed anterior to May 14, 1894. They must be sent in not later than March 14, 1896, addressed to the Council of the Russian National Health Society, Dmitrovski Pereoulok No. 15, St. Petersburg. Authors may sign their own names or may write over a pseudonym, in which case they must send their own names in a sealed envelope. The first prize will be a gold medal and 1,000 roubles (100 guineas approximately); the second and third, gold medals; and the fourth, a silver medal. The essays will be judged by a special commission, and the results announced on the day of the centenary, May 14, 1896.

Iron in Food.—Professor Bunge holds that when iron is needed it should be exhibited by increasing the consumption of iron containing food in place of giving the mineral in substance.

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Original Articles.

THE APPENDIX AND CÆCUM IN ONE HUNDRED AND TWENTY-EIGHT ADULT POST-MORTEMS, WITH A NEW THEORY AS TO THE CAUSE OF APPENDICITIS.

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THESE autopsies were performed in Cook County during the past two years. The bodies were taken just as they came, consecutively. No selections were made. The object of the investigations was anatomy and pathology of the peritoneum and its viscera. The observations and measurements were made without regard to the outcome or any theory. The examinations were conducted by first examining the position and condition of the great omentum and its relations to the cæco-appendicular apparatus. Secondly, the appendix was carefully observed as regards its length, position, and mesentery (anatomy), and its pathologic condition. Thirdly, the cæcum was noted in regard to its anatomy and pathology. I have assumed as the standard of reference for the position of the cæcum and appendix, the psoas and iliac muscles. After summing up the notes taken in 128 cases, it becomes very plain that the psoas muscle may be taken as the standard of reference in regard to the pathologic condition of the cæcum and appendix, for seventy-two per cent. of peritonitis occurs in adults around the cæco-appendicular apparatus. Hence, the cæco-appendicular region I shall term a major region of peritonitis (the other three major regions are the pelvis, gall-bladder, and meso-sigmoid). The cæco-appendicular apparatus was sketched in almost every case with special regard to the psoas muscle, as to whether it was on the muscle, to the right of it, or to the left (in the pelvis). All doubtful adhesions were regarded as healthy. Hence, in this report of seventy-two per cent. of peritoneal adhesions around the cæco-appendicular region, we are dealing with microscopically demonstrable cases — pathologic conditions visible to the naked eye. To me, at present, it seems evident that the factor which induces the seventy-two per cent. of peritoneal adhesions around the cæco-appendicular apparatus is the psoas muscle (and iliac), and that the frequency of appendicitis in man, over woman, may be looked for in the activity of the psoas muscle on the appendix. The appendix in man is much more frequently found in contact with the psoas muscle than in woman, and in the relation of the motion of the psoas muscle and the condition of the appendicular contents and its wall lies an etiological factor of appendicitis.

FIG. 1.

The Appendix.—The appendix (the fading herbivorous stomach) had an average length in the 128 cases of 3⅛ inches. The longest was 7½ inches and the shortest was 1 inch. In the 98 males, the average length of the appendix was 3¼ inches. The longest was 7½ inches and the shortest 1½ inch. In the 30 females, the average length was 3 inches, the longest was 5 inches, and the shortest 1½ inch. In the 30 females, the appendix hung in the pelvis 15 times (fifty per cent.). In 98 males, the appendix hung in the pelvis 39 times (thirty-nine per cent.). In 128 cases, 32 appendices lay to the right of the psoas muscle (twenty-five per cent.). In the 30 females, 9 appendices lay to the right of the psoas muscle (thirty per cent.). In the 98 males, 23 appendices lay to the right of the psoas (twenty-three per cent.). In 128 cases, 33 appendices lay on the psoas muscle (twenty-five per cent.). In 98 males, 27 appendices lay on the psoas (twenty-seven per cent.). In the 30 females, 6 appendices lay on the psoas muscle (twenty per cent.). In the 128 cases the appendix showed peritonitis in 82 subjects (sixty-four per cent.). In the 98 males, 65 showed adhesions (sixty-six per cent.). In the 30 females, 17 presented past peritonitis (fifty-six per cent.). As regards the direction in which the appendix points, developmental processes show that it points upward and toward the left. The two organs toward which it actually does point, in general, are the spleen and liver. The vicissitudes to which the appendix is subject in development insures great variations in its position and direction. In the 128 cases it pointed toward the liver in 26 subjects, toward the spleen some twenty-five times, rested on the pelvic floor 29 times. It ran parallel to the entering ilium, 5 times lying in front of the sacral promontory. Several times its tip end extended to the left of the middle line, touching the left psoas muscle. It pointed toward the right iliac fossa 11 times, and toward the left pelvic wall 9 times. It was directed toward Poupart's ligament 9 times, and toward the iliac crest 5 times. It would occasionally pass up behind the entering ilium and direct itself midway between the liver and spleen. In fact it often assumed irregular and uncertain directions, owing to incomplete or excessive descent of the cæcum. The mesentery of the appendix was observed (the mesenteriolum) in all the cases, but it had so much variation in size and appearance that it could not be described as full mesenteriolum, or not full. Sometimes there would be a very large mesenteriolum, and again there would be only sufficient mesenteriolum to carry the appendicular arteries, and finally there would be no mesenteriolum to part of the appendix, especially

FIG. 2.

at its end. The size of the mesenteriolum generally determines the position of the cæcum. We may first note that the mesenteriolum is an acquired mesentery, and hence it is so very variable. All acquired organs vary. The mesenteriolum is acquired on account of the relation of the anterior and posterior branches of the ileo-colic artery projecting upward folds of peritoneum on the anterior and posterior surface of the ileo-cæcal surfaces. These folds are called plica superior et inferior ileo-cæcalis. The above-named folds are divided by the mesenteriolum, forming two fossæ known as the fossa superior et inferior ileo-cæcalis. Now, the mesenteriolum may originate on the plica ileo-cæcalis superior, on the right blade of the mesentery, on the surface of the ilium, or from the left blade of the mesentery on a line close to and about parallel to the ilium. The mesenteriolum is triangular, with its free border concave. It is sometimes so thin and so non-vascular as to appear like a bladeless fold. In some cases the mesenteriolum is large and liberal and extends to the end of the appendix, but generally the mesenteriolum extends to about the middle of the appendix. At other times it extends to the junction of the outer, middle, or inner third. In a general way one can say that the mesenteriolum is too short for the appendix, and this anatomical fact accounts for the twisted or spiral condition of the appendix. The mesenteriolum determines to a large extent the position of the appendix. In the majority of cases the appendix lies either behind the junction of the ilium and cæcum, and behind the cæcum. These would be developmental positions. The size and length of the cæcum has no constant relation to the other viscera at any period of life. This is, no doubt, due to its irregular blood-supply.

To the irregular growth of the cæcum must be credited the appropriation of a part or nearly all of the mesenteriolum to cover the cæcum. The cæcum and ascending colon grow out of proportion to their peritoneal covering, so that adjacent peritoneum must be pressed into service to cover the distending bowel. The mesenteriolum is the first and easiest portion of the peritoneum to appropriate and to cover the rapidly expanding cæcum. Little by little the growing cæcum separates the blades of the mesenteriolum to clothe itself, and gradually the appendix is drawn upward behind the cæcum and ascending colon, the appendix becoming more spiral; but as soon as the appendix is drawn upward far enough to lie parallel to and posterior to the cæcum and ascending colon, it may lose nearly every vestige of its mesenteriolum and become almost straight. The appendix will then be applied against the posterior surface of the cæcum and ascending colon. So far as the 128 cases were concerned, whenever the appendix ascended vertically behind the cæcum some abnormality seemed to exist in the mesenteriolum—perhaps an old adhesion from a past peritonitis. When the appendix exists vertically behind the cæcum it shows that the serous covering adjacent to the cæcum has been distinctly disturbed, and in so doing it has drawn the appendix out of its natural position. The position of the appendix, vertically behind the cæcum and with its mesenteriolum stolen by the expanding cæcum to cover its extending surface, accounts for the many perforations of the appendix with pus formation and reperforation into the cæcum or ascending colon. No peritoneum on either appendicular or cæcal wall exists to resist the invasion or to extend the inflammation, and thus perforation is facilitated. The position of the appendix is a significant matter medically and surgically. The most frequent positions of the appendix are: *a*, in the pelvis; *b*, on the psoas muscle, and *c*, to the right of the psoas muscle; *d*, lying vertically behind the cæcum. The odd positions in the observed cases were lying across the upper part of the sacrum, parallel to the ilium, and frequently the tip of the appendix would touch the left pelvic wall or the left psoas muscle. Again, the appendix occasionally assumes the position of the middle of the lumbar vertebra. This is due to a partial mesenterium commune existing at the junction of the ilium and ascending colon, allowing the cæcum to assume a median position in the abdomen and the appendix to fall on the middle of the lumbar vertebra in the midst of the small intestines—the dangerous locality of peritonitis. In a perforated appendix it is very important in what locality it exists. The especial dangerous locality for an appendix to rupture is among the small intestines, which have not learned by evolutionary processes to check infectious invasions. One of the safest places for the appendix to rupture is where it lies vertically behind the cæcum, whence the pus can soon reperforate the large bowel and pass per rectum. In regard to the relation of the appendix to the psoas muscle, the examination of the subjects showed that when the appendix lay within close range of the actions of the psoas muscle, adhesions arose about it, but if the appendix lay out of range of action of the psoas muscle, it scarcely was found with adhesions about it. Now, women have appendicitis, so far as I can discover, four times less than men. The appendix of woman hangs in the pelvis frequently. In the 30 females fifty per cent. hung in the pelvis, *i.e.*, it was free from contact with the psoas muscle, while in 98 males the appendix hung in the pelvis only thirty-nine per cent.

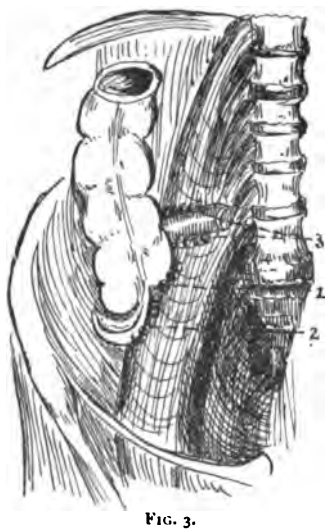

FIG. 3.

FIG. 4.

This would insure the appendix to lie closer to the psoas in males than in females, *i.e.*, within range of the activity of the psoas muscle. The 30 females showed fifty-six per cent of adhesions around the appendix. In the 98 males twenty-seven per cent. of the appendices lay on the psoas muscle, while in the 30 females only twenty per cent. of the appendices lay on the psoas muscle. Again, in the 30 females, thirty per cent. lay on the right of the psoas, *i.e.*, out of the range of the action of the psoas muscle. The range of action of the iliac muscle is very small, except near the region of Poupart's muscle, where adhesions are frequently found between it and the closely lying appendix. In the 98 males only twenty-three per cent. of appendices lay to the right of the active psoas, on the quiet upper end of the iliac muscle. So far as the statistics of these 128 cases are concerned they favor the known clinical knowledge, which is that females have less appendicitis than males. The pathologic facts all tend to show that the etiologic factors in the cases are the action of the psoas muscle on the appendix. It may be assumed to be a traumatic factor. However, the trauma is of no damage unless the microbiac contents favor the trauma. To show that the appendicular contents play the chief rôle, it may be

stated that among some dozen fœtuses no adhesions were found in autopsy. Also in the examination of some 20 infants, all under two years of age, no trace of past peritonitis was discovered. So that the traces of peritonitis around the cæco-appendicular apparatus is that of adult life. The first factor, then, is the condition of the appendicular (or bowel contents). The second factor is the proximity to the widest range of action of the psoas muscle.

The following table shows at a glance the classified condition in 128 cases:

TABLE SHOWING RELATION OF THE PSOAS MUSCLE TO APPENDIX IN ONE HUNDRED AND TWENTY-EIGHT CASES.

In 128 cases the average length of the appendix was 3¼ inches.
In 98 males the longest was 7½ and the shortest 1, average, ¾.
In 30 females the longest was 5 and the shortest 1½, average, 3.
In 128 cases the appendix hung in the pelvis 54 times, forty-two per cent.
In 98 males the appendix hung in the pelvis 39 times, thirty-nine per cent.
In 30 females the appendix hung in the pelvis 9 times, thirty per cent.
In 128 cases the appendix lay to the right of psoas 32 times, twenty-five per cent.
In 98 males the appendix lay to the right of psoas 23 times, twenty-three per cent.
In 30 females the appendix lay to the right of psoas 9 times, twenty per cent.
In 128 cases the appendix lay on psoas 33 times, twenty-five per cent.
In 98 males the appendix lay on psoas 27 times, twenty-seven per cent.
In 30 females the appendix lay on psoas 6 times, twenty per cent.
In 128 cases 82 appendices showed past peritonitis, sixty-four per cent.
In 98 males 65 appendices showed past peritonitis, sixty-six per cent.
In 30 females 17 appendices showed past peritonitis, fifty-six per cent.

When I say the appendix hangs in the pelvis (fifty per cent. male and thirty-nine per cent. female) I do not mean that it always touches the pelvic floor. But from previous labors it would appear to me that over thirty per cent. of female appendices touch the pelvic floor, and that over twenty per cent. of male touch the pelvic floor. From ten years of special labors in gynecology I know it is not always easy to distinguish between disease of the appendix and genitals. The spacious female pelvis enables the appendix to keep more free from the action of the psoas muscle lying in the pelvis or to the right of the psoas muscle, and besides to assume other positions and free from the action of the psoas muscle. In the male the narrowness of the iliac fossa and narrowness of the true pelvis all aid in throwing the appendix on the psoas or within range of its action. And when favorable pathologic conditions arise in the bowel contents (pathogenic microbes), the traumatic action of the motion of the psoas induces microbic invasion through the appendicular wall. But, you say, why does this same invasion not take place through the cæcal wall? The answer is, it does, but the condition of the cæcal and appendicular wall is different. No wonder that Albers, of Bonn, and his hosts of followers thought that the real trouble in the right iliac fossa was due to the cæcum, when seventy-two per cent. of old peritonitic adhesions can be found around it in adults. Repeated observations in these 128 cases showed that be it the appendix, cæcum, ilium, or ascending colon which lies in contact with the highest range of action of the psoas muscle, adhesions were apt to be formed around that part of the bowel lying in contact with the muscle in its longest range of motion. In the male the longest range of motion played against the appendix much more frequently than in the female.

FIG. 5.

The Cæcum.—The cæcum, a less atrophied remains of some herbivoral digestive pouch than the appendix, is situated, as a rule, in the left iliac fossa resting on the psoas and iliac muscle. In 128 cases it was covered by the omentum nine times. This is a significant matter, because the omentum is the supreme peritoneal protector against the invasion of infection. If the omentum would cover the cæcum there would be more circumscribed appendicular abscesses. In the 128 cases the cæcum was always entirely covered by peritoneum. (I mean by the cæcum that part of the large bowel below the entering ilium.) This fact was well known to the Germans, and systematically worked out by Luschka in 1861. In 1868 Waldeyer noted that the cæcum was entirely covered by peritoneum. In 1871 Aeby devoted a paragraph to tell us that the cæcum is entirely covered by peritoneum. Henle, in 1873, made the same unqualified statement. Bochdaleck Jr. also worked out the same subject about 1868. In 1885 Treves revived the idea by examining one hundred bodies and asserting that the cæcum was all covered by peritoneum.

FIG. 6.

Three cæca lay immediately under the liver, and were evidently arrested by intra-uterine peritonitis while on their circuit of travels. Observations on autopsies and of fœtuses, children, and adults, show that the cæcum may be found in any position between the liver and the floor of the pelvis. The subject may be divided into three classes: (*a*) Non-descent of the cæcum, *i.e.*, it may never pass below the liver, but remain there for life. I have seen besides these fourteen cases of non-descent, some in the living, and one of the cases was a man aged thirty on whom Dr. Lucy Waite and I operated for ruptured appendicitis, and found the appendix and cæcum immediately under the right lobe of the liver. The malposition is due to ancient peritonitic adhesions. (*b*) The cæcum may be arrested at any point between the liver and the right fossa; this is a frequent occurrence in autopsies. It must rest back on peritonitis. It is a curious fact, but it is plain, to note that the appendix is frequently caught by inflammation on the anterior surface of the kidney and can thus not descend. (*c*) The third division I would distinguish as an excessive development of the cæcum, *i.e.*, when it develops so long that it rests on the pelvic floor. In the 128 cases thirty per cent. of cæca had excessive development in the pelvis. This is not strange when it is noted that the ascending colon varies as much as six inches in growth. In the long, free cæcum the peritoneum does not pass from the posterior wall of the ascending colon until it ascends to a variable distance above the entering ilium—in some cases three inches. Over forty cases had cæca so free and long that they would herniate on the right side, and many would touch nearly every abdominal viscus.

The deficient or excessive descent of the cæcum is important to surgeons. The non-descent I look on as the result of past peritonitis arresting the descent of the cæcum during intra-uterine life. It may be that

the fœtus suffers an attack of appendicitis, for I find in such cases that the appendix is frequently fixed to the kidney, and solidly imbedded in old cicatricial tissue. It really appears that the old peritonitis which checks the descending cæcum surrounds the appendix and not the cæcum. Peritonitis explains the non-descent, but excessive development must be sought to explain the cæcum which lies on the pelvic floor. Yet I noted a band of peritoneum in the fœtus which extends from the lower pole of the right kidney to the diaphragm, which I have termed ligamentum phrenico-colicum dextra. It is quite a constant fold of peritoneum, and is nearly always inserted into the ascending colon at the junction of the middle with the upper thirds. Treves calls this band the ligamentum sustentaculum hepatis. Now, if this band becomes elongated the cæcum is apt to fall into the pelvis. Of course, we cannot only have an elongated ligamentum phrenico-colicum dextra, but also an excessively developed cæcum. The mobile cæcum and appendix are worthy of attention, as they may assume a position anywhere in the abdomen. They may leave the regions which tolerate peritonitis, *e.g.*, pelvis, appendicular, and gall-bladder, and deceive in diagnosis and operative procedures. The excessive mobility is due to either an excessively developed cæcum or a mesenterium commune at the junction of the ilium and colon. This is not a very uncommon affair, for I have seen it at least a half-dozen times in 128 cases.

The mobile cæcum can leave the three great peritonitic regions, pelvic, appendicular, and gall-bladder region, and create a violent and dangerous inflammation in districts unused to resist infection. Besides, a mobile cæcum can herniate through the inguinal and femoral rings on both sides. These mobile cæca may frequently be made to touch every viscus in the abdomen.

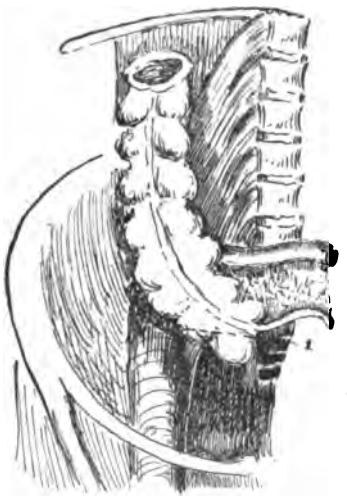

Fig. 7.

The shape or form of the cæcum depends on the size of the branches of the ileo-colic artery, as was pointed out by the Germans (Toldt, Luschka) a quarter of a century ago. If the posterior ileo-colic branch exceeds the anterior ileo-colic branch, the external lobe of the cæcum will be the larger, and *vice versa*. In regard to the ileo-cæcal fossa we are convinced that there are two constant fossa and three peritoneal folds. The constant fossa are the superior et inferior fossa ileo-cæcalis. The constant folds are the superior et inferior plica ileo-cæcalis et plica non-vascularis. The superior ileo-cæcal folds extend from the ilium to the cæcum, and contain the anterior branch of the ileo-colic artery. The cause of the fold is the artery. The inferior cæcal fold stretches from the lower border of the ilium (sometimes from the mesentery) to the posterior border of the cæcum. This fold, plica ileo-cæcalis inferior, is due to the posterior branch of the ileo-colic artery, and is the substituted mesentery of the appendix. The third, or bloodless, fold is the original mesentery of the appendix. It stretches from the appendix to the border of the ilium most distant from its mesentery. However, it may be seen that both the origin and the insertion of this bloodless fold varies. It is a double fold of peritoneum, transparent and void of almost all visible blood-vessels. It is subject to considerable atrophy in many subjects. The superior ileo-cæcal fossa is bounded by the plica ileo-cæcalis above and below the bloodless fold, externally by the cæcal wall, and internally by the wall of the ilium. This is a constant fossa in every one of the observed fifty cases. However, at times it is very small. The inferior ileo-cæcal fossa is an irregular-shaped fossa bounded above by the bloodless fold (the original mesenteriolum), below by the plica ileo-cæcalis inferior (the substituted mesenteriolum), externally by the cæcal wall, and internally by the wall of the ilium. This fossa is so frequently distorted by adhesions that it is difficult to estimate it, and yet it is present in almost every subject. The cæcal and sub-cæcal fossa are irregular, uncertain, seldom present, and one is only an extension of the other. They depend on, (*a*) the amount of cæcal descent, (*b*) the development of the ligamentum intestini cæci, and (*c*) on the presence of frequent exudates due to inflammations. Time after time I have been able to prove that these sub-cæcal and cæcal fossa are due to old plastic adhesions formed into smooth and shining surfaces from peristalsis of the cæcum and appendix, aided to some extent by the peristalsis of the small intestines sliding to and fro on it. These newly formed surfaces from soft exudates look and act just like genuine peritoneal surface. I am of opinion that such men as Langer, Huschke, Waldeyer, Luschka, and Treitz, names unsurpassed for respectability, have erred by mistaking these artificial or pathological peritoneal pockets for genuine ones. If the theory which I have advocated in regard to the psoas muscle producing peritoneal exudates be correct, the ground will be made clear how they came to err. The sub-cæcal and cæcal fossa may be looked on as one and the same thing. If the ligamentum intestini cæci be longer well developed, there may exist a cæcal fossa of considerable dimensions.

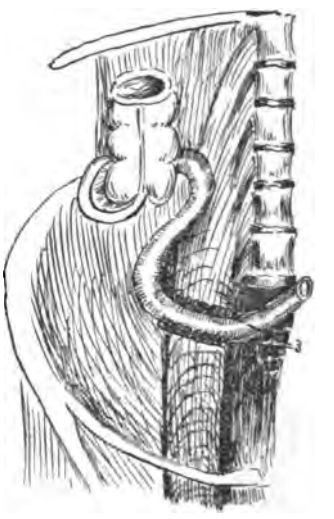

Fig. 8.

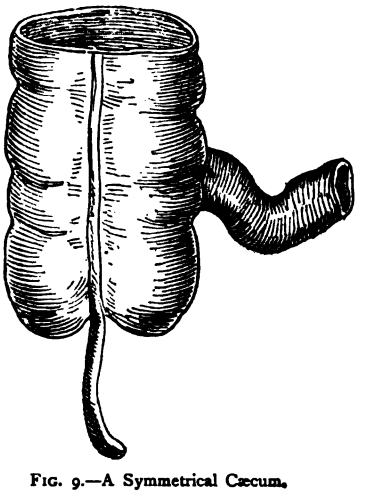

Fig. 9.—A Symmetrical Cæcum.

The type of the cæcum has engaged my attention for five years. As suggested by Treves, we can observe four well-marked types of cæca. We will illustrate each type by cuts drawn from the cases at the time of the post-mortems. The types of cæca may be described as non-symmetrical, fœtal, symmetrical, and atrophied, all depending for their shape on blood-supply. The ileo-colic artery has two branches, anterior and posterior, and if one becomes larger than the other, the part of the cæcum fed by it will enlarge, while the other portions are apt to atrophy.

1. The non-symmetrical cæcum, as seen in Fig. 12, is the most frequently found (52 in 128 cases, or forty per cent.). The bulgings or sacculations are unequal on each side of the anterior colic band. It is nearly always the external bulge which is enlarged.

2. The second type of cæca is the fœtal, as seen in Fig. 10 (38 in 128 cases—thirty per cent.). It is like a dog's or like the cæcum so often found in the fœtus or

infant. It tapers from the entering ilium to the end of the appendix.

3. The third type is the symmetrical, as seen in Fig. 9 (25 in 128 cases—twenty per cent.). The sacculations, haustra, or bulgings of the cæcum, are equal on both sides of the colic band, which runs down in front of the bowel.

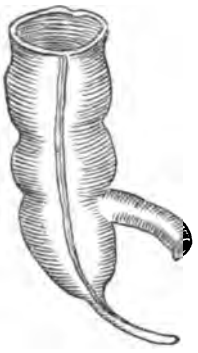

Fig. 10.—Fœtal Type of Cæcum.

4. The fourth type of cæca is what I shall term atrophic, as seen in Fig. 11 (10 in 128 cases—eight per cent.). The sacculations, haustra, or bulgings, are not equal on each side—in fact there is only one side with a bulging. The other is atrophied, and the appendicular root springs from the junction of the ilium and cæcum where the tenia coli converge.

TABLE SHOWING THE RELATIONS OF THE CÆCUM TO THE PSOAS MUSCLE.

In 128 cases the cæcum hung in the pelvis 30 times, twenty-three per cent.
In 98 males the cæcum hung in the pelvis 20 times, twenty per cent.
In 30 females the cæcum hung in the pelvis 10 times, thirty per cent.
In 128 cases the cæcum lay on the psoas muscle 56 times, forty-three per cent.
In 98 males the cæcum lay on the psoas muscle 42 times, fifty-three per cent.
In 30 females the cæcum lay on the psoas muscle 11 times, thirty-six per cent.
In 128 cases the cæcum lay to the right of the psoas 60 times, forty-six per cent.
In 98 males the cæcum lay to the right of the psoas 43 times, forty-three per cent.
In 30 females the cæcum lay to the right of the psoas 15 times, fifty per cent.
In 128 cases adhesions existed around the cæcum 93 times, seventy-two per cent.
In 98 males adhesions existed around the cæcum 57 times, sixty per cent.
In 30 females adhesions existed around the cæcum 12 times, forty-one per cent.
The omentum covered the cæcum 9 times, eight per cent.

The types of cæca in 128 cases.
1—52, non-symmetrical—forty per cent.
2—38, fœtal—thirty per cent.
3—25, symmetrical—twenty per cent.
4—10, atrophic—eight per cent.

In 128 cases the cæcum was always covered by peritoneum.

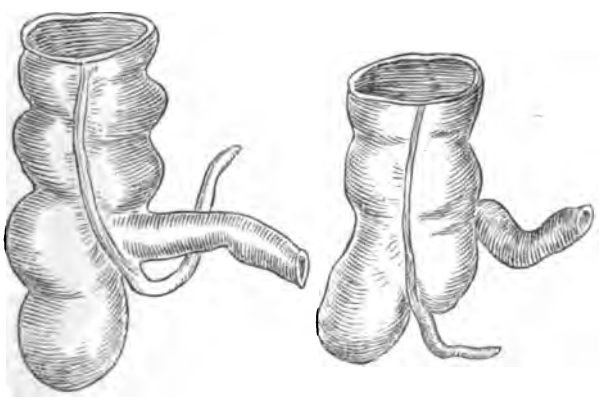

Fig. 11.—An Atrophic Cæcum. Fig. 12.—A Non-symmetrical Cæcum.

The ending of the ilium is of considerable surgical significance, as any analogous condition of the lower end of the ilium indicates anomalous relations in adjacent structures. Generally the ilium ends by entering the large bowel in an upward direction. It enters the descending colon just above the pelvic brim. But all these conditions may be changed. In the bodies we found that the ilium sometimes entered the colon while in the pelvis, at other times it approached the colon from behind and entered it from the right.

The ilium entered the ascending colon at any point on the circumference of a half circle extending around the posterior half of the bowel. When the ilium enters the colon from the pelvis the ileo-colic structure is generally prolapsed, *i.e.*, its supports are elongated. As illustrations of the ending of the ilium see Figs. 13 and 14. If the ilium does not end in the usual manner it generally ends in some stage of volvulus or twisting. The mesentery of the ilio-cæcal structure in some

Fig. 13.—Non-descended Cæcum with Volvulus.

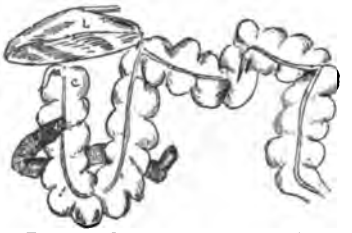

Fig. 14.—Non-descended Cæcum with Ilium entering Colon in Front—Axortial Volvulus.

manner becomes elongated, and then appears some yet unexplained force at work which makes the cæcum rotate from right to left. The ilium ends around the hinder furface of the colon. So far I have only seen a twist or volvulus of three-fourths of a twist. It must be remembered that the elongated, fatless supports tend toward volvulus.

In practical experimental work on dogs' viscera I never could produce a volvulus except by suturing the twisted viscus in position, and even with sutures the volvulus had such a tendency to recover that it would tear out the sutures and return. Now, sixty per cent. of volvulus occurs at the sigmoid flexure, thirty per cent. at the cæcum, and ten per cent. in the small intestines. It is a little difficult to explain this volvulus or twisting of the ilium and cæcum, but the vigorous peristalsis of the ilium, the fixity of the colon, and the entrance of the ilium into the posterior half of the colon probably explains why the cæcum rotates from right to left. I have found in an adult autopsy the cæcum and ilium twisted round each other (volvulus) three-fourths of a twist and both lying on the floor of the pelvis. The volvulus appeared insufficient to produce fecal obstruction. In some of the autopsies the ilium for one-half to two inches was found adherent to the cæcum; this, however, was not pathologic, but drawn against the cæcum through the readjustment of peritoneum. However, the last part of the ilium is nearly always drawn against the cæcum, and not against the ascending colon.

Yet the ilium may first ascend and then sharply bend down along the ascending colon, but this is an exception, for the ilium nearly always ascends in contiguity with the cæcum. Certain anomalous conditions modify the ending of the ilium in the cæcum as regards position. They come under, 1, complete mesenterium commune; 2, partial mesenterium commune; 3, partial descent of the cæcum; 4, non-descent of the cæcum; and 5, volvulus of the cæcum. So far as complete mesenterium commune is concerned, two cases occurred in the 128 subjects. This long, common mesentery would allow the ending ilium to locate itself in almost any position of the abdominal cavity. In fact, in one case I tested in what position the ending ilium (and cæcum and appendix) would fall by lifting it in almost every locality of the peritoneal cavity, and as an actual fact, the ending of the ilium had assumed and could assume many positions of widely distant character in both cases of mesenterium commune. Of course, if the theory I have advocated accords with facts, the further the appendix lies from the range of action of the psoas, the less dangers it suffers from microbic invasions of its walls. So far as the partial mesenterium commune is concerned, it gives the ending of the ilium a variable position, depending on the length of the mesentery common to the ascending colon and ilium. In the 128 subjects there were some ten cases of the partial mesenterium commune.

There were two cases of complete non-descent of the cæcum. In this case the ilium would enter the ascending colon as it lay immediately under the liver, either directly from below, or pass posterior to the colon and enter it from behind or from the right surface.

There were at least ten cases of partial non-descent of the cæcum. Now, in these cases the ending of the ilium would be located at any point between the lower surface and the right iliac fossa. The ilium will end in these partially descended cæca at some point in a circle beginning at the left surface of the ascending colon and extending around the posterior surface of the large bowel as far as its anterior surface (see Figs. 13 and 14). It is not easy to explain this form of volvulus of the cæcum and ilium, but it is likely that it is due to a partial mesenterium commune and the peristalsis of the ilium; and as the ilium in such cases ends in the large bowel posterior to the centre of the left surface, the bowel is compelled to rotate from right to left backward. This peculiar kind of volvulus at the cæcum occurred some four times in the 128 subjects, but two cases were only of a slight degree. In dissecting 100 bodies I only found one distinct case of volvulus at the junction of the cæcum and appendix. It is intra-uterine appendicitis that arrests the cæcum in its circuit of travels.

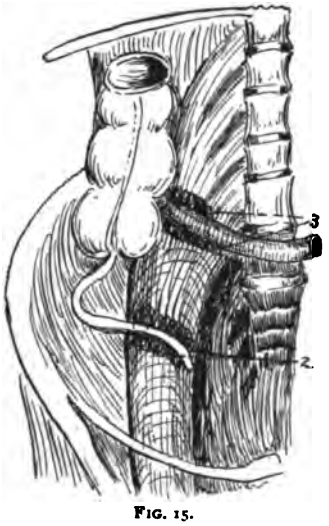

FIG. 15.

In viewing the table on page 759 in regard to the appendix, the peculiarity is noticed that the male appendix is one-fourth of an inch longer than the female in the given number of subjects; besides, the extremely long appendix belongs to the male. Again, it may be observed that in the male the appendix lies in the pelvis thirty-nine per cent., while in the female it hangs in the pelvis of the female only thirty per cent. I wish to say that this is not in accord with my dissection of one hundred bodies not recorded in this article. For my work has shown previously that more female appendices hang in the pelvis than male. Thirty females is too small a number to make final estimates. It may be otherwise noticed that the appendix is in general more approximated to the psoas muscle in man than in woman. In other words, the appendix is more in range of action of the psoas muscle in man than in woman. Also labor in the autopsies here recorded and not recorded, show more peritonitic adhesions around the male appendicular cæcal apparatus than the female. The table notes that ten per cent. more adhesions occur in the male appendix than in the female.

In looking at the table on page 761 in the relation of the cæcum to the psoas muscle, we may first observe that the cæcum lies in the pelvis ten per cent. more in females than males. This is on account of the more roomy pelvis in females. Of course, the cæcum being in the pelvis, it takes with it the appendix, and hence both are out of the range of the psoas muscle, which actively playing against the bowel (or appendix) at any time it may be filled with pathogenic microbes, is liable to induce microbic invasion through the bowel wall. This table shows that the cæcum of males is much more within the action of the psoas than it is in females. For example, note by the table that in females the cæcum is thirteen per cent. more to the right of the psoas than in males, *i.e.*, it is further from the psoas muscle than it is in males. Observe the table indicates nineteen per cent. more adhesions around the cæcum in man than in woman. One of the surprising matters is that the great peritoneal protector, the surgeon's friend, the omentum, covers the cæcum in eight per cent. of subjects. The two tables combined show that the appendicular apparatus of males is closer to the action of the psoas muscle than females. They also show that more peritonitic adhesions exist around the male appendicular apparatus than around female.

The cuts I sketched from the subjects of the autopsies. The cuts also show the various positions of the cæcum and appendix in relation to the psoas muscle.

Fig. 4 represents the cæcum, appendix, and entering ilium resting on the psoas. No. 1 points to a part of the cæcum with exudates about it. No. 2 points to the appendix with exudates along its edge. These two portions of the bowel were in the active range of the psoas muscle.

Fig. 5 represents the cæcum resting on the psoas with some exudates around it at No. 1. The appendix being out of range of the activity of the psoas, it is free from exudates.

Fig. 6 shows the range of the psoas activity affecting the ilium 3, and the cæcum 1. The appendix ascends behind the cæcum with no mesenteriolum. In such a case the appendix lies against the bowel wall with no peritoneum between itself and the colon, so that there is no peritoneum to irritate. The exudate is noted at 1 and 3.

Fig. 7 notes the appendix lying parallel to the entering ilium out of the range of the psoas and iliac, with no exudates. The cæcum also, lying out of the active muscular range, has no exudates. But the colon 1, lying on the highest range of the psoas activity, shows distinct exudates about it.

Fig. 8 illustrates well that any bowel structure which crosses the middle of the psoas is liable to have exudates around it. Here the cæcum and appendix are non-descended and entirely out of range of the psoas muscle, with no adhesions about them. But the ilium 3, where it crosses the psoas, had adhesions on both sides of it.

Fig. 15 is another type sketched from a subject where the ilium 3, and the appendix 2, come within range of action of the psoas. The cæcum is free from adhesions, though it lies on the iliac muscle, because the range of the iliac muscle is insignificant in action.

Fig. 16 shows the appendix and cæcum free, but the colon 1, has adhesions about it as it crosses the psoas.

Fig. 3 shows the ilium, the left half of the cæcum, and a small part of the appendix involved with adhesions, all of which parts are in range of the action of the psoas muscle.

Fig. 2 shows that the ilium and cæcum are involved in adhesions with a free appendix.

Fig. 1 shows that the part of the bowel only which comes in contact with the muscle has adhesions about it.

Fig. 13 represents a partially descended cæcum with the ilium entering the ascending colon by passing around behind it —a kind of volvulus.

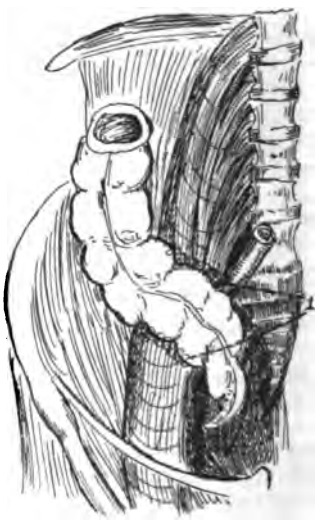
FIG. 16.

Fig. 14 represents a completely non-descended cæcum and appendix, but the ascending colon has been compelled to make a loop like the double colon of the horse or squirrel. Observe that the ilium passes behind the loop and ascends to enter the bowel on its anterior surface, showing a volvulus. Every one of the above cuts I sketched from the subjects in the 130 autopsies.

A CONTRIBUTION TO THE STUDY OF THE NATURE, CAUSE, AND TREATMENT OF SUSPENDED ANIMATION IN THE NEW-BORN.[1]

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The age of empirical medicine has passed, and we live to-day in an era which demands experimentation as the foundation of all theories and doctrines. "The truly scientific investigator is an analyst and purist who seeks to establish the values of single in place of combined forces." He searches for the hidden laws of nature where alone he believes truth to dwell, and accepts only that which is demonstrable. History tells of but few men living before the sixteenth century who sought to unravel the complex problems of disease through the study of the laws governing the body in health.[2] It was not until 1543 that Vesalius[3] published his experiments, which demonstrated the effect produced upon the heart when the lungs of animals were inflated by air. In 1664 Robert Hook[4] introduced artificial respiration, the principle of which has ever since been the recognized means of reviving life where suspended animation exists. But to Marshall Hall we are indebted for having made the first great advance in the study of the nature and cause of asphyxia, one of the forms of suspended animation, and for having established a procedure for inducing artificial respiration superior to any previously suggested.[5] While his researches greatly advanced our knowledge upon the subject, yet we are also indebted to many other observers, and to some even before his time, for valuable suggestions regarding resuscitation. In 1824 Dewees described a plan of extreme value, which, unfortunately, has not received until of late much consideration. He advised "placing the child's mouth downward, and holding the body and hips higher than the head . . . renew the inflation alternately." He further stated that "owing to the tenacity of the fluid within the windpipe we cannot at first force air into the lungs, but by a little perseverance we overcome the obstacle, and the mucus becomes so thinned as to flow readily from the mouth and at once relieve the child. This operation should never be neglected, nor should it soon be given up, especially if we can excite a few pulsations of the heart, or in the cord.[6]

In 1883 Professor Simpson, of Edinburgh, in discussing a paper on "Resuscitation of the New-born Infant," remarked that his practice was to "first hold the infant up by the heels, to allow any fluid to run out of the air-passages, and then perform artificial respiration by Schultze's method. The danger of blowing air into the lungs was that the lungs might be injured by the forcible distention.[7] During the past year Prochownick also advocated suspension by the feet with the same object as did Dewees and Simpson.[8]

While it is a common practice among many accoucheurs of the present day who recognize the value of gravity in assisting in the removal of mucus from the air-passages, to invert the child for a few minutes previous to putting into execution one or more of the generally accepted methods of resuscitation, yet no observer, to my knowledge, has advocated the persistence of this procedure without the aid of any other method, and with the principal object in view of encouraging circulation and thereby inducing respiration.

[1] Read by invitation before the Obstetric Section of the New York Academy of Medicine May 23, 1895.

[2] In the Appendix to the last scientific address of Dr. A. L. Loomis, entitled The Influence of Animal Experimentation on Medical Science, there will be found a full account of the experiments conducted by Aristotle, Galen, Vesalius, Hook, and others.

[3] Andrea Vesalii: De Humani Corporis Fabrica. Lib. Septem, De Vivorum Sectione. [4] Philosophical Trans., London, No. 28, p. 539.

[5] Marshall Hall on Asphyxia: its Nature and Remedy. Published January, 1894. [6] Dewees: System of Midwifery, p. 195.

[7] American Journal of Obstetrics, June, 1893, p. 636.

[8] Centrablatt für Gynäkologie, 1894, No. 10.

Among recent observations upon the subject of asphyxia neonatorum, those made by Dr. Alexander Morrison are perhaps of the most interest and importance. In an article published February 24, 1894,[1] he describes this condition as being a disease of the circulatory and not of the respiratory system. The conclusion I arrived at from the study of the cases herein cited is practically the same, though reached by an entirely different line of reasoning, and entirely independent of any knowledge of his work. His views upon the important relation which the ductus arteriosus bears to cyanosis, and thus to asphyxia neonatorum suggested to me, however, the additional value of suspension as respecting its influence through the ductus arteriosus upon the change in the direction of the circulation lungward.

The value of inversion, *per se*, as a direct means of resuscitation, was first advanced by Nélaton. Dr. Chisolm states, in speaking of the way in which resuscitation is accomplished by suspension under these circumstances, that "it is a mooted point whether resuscitation is brought about by an additional supply of blood to the anæmic brain alone, or by the emptying of the blood from the great reservoir, the liver, through the vena cava, into the cavities of the heart, stimulating them into renewed activity. Most likely both of these influences work."[2]

The application of inversion to conditions of suspended animation in the new-born is the outcome of my experience with it in chloroform narcosis, and in Case I. of the following series:

Case I.—On September 1, 1893, I was hastily summoned to a child I had delivered the previous day at the New York Asylum for Lying-in Women. Living in the institution at the time, my response was immediate. On arrival I found the child presented every appearance of death, being cold, blue, limp, and breathless. While questioning the nurses concerning the circumstances under which the child was found, I noticed a shallow gasp, followed by the dropping of the chin, so characteristic of approaching death. Finding that there still remained a spark of life, I ordered a vessel of hot water to be brought, hoping to revive the infant by immersing it. While the nurse was preparing the water, a new thought occurred to me. The similarity between the condition presented in the child and that of chloroform narcosis when cyanosis occurs, suggested the idea of treating the condition as due to a similar cause. Having on several occasions successfully treated chloroform-poisoning by Nélaton's method, *i.e.*, suspension by the feet, I at once resorted to this procedure. Great was my delight when, after the lapse of a few minutes, breathing, though feeble, was resumed with some regularity, and the appearance of the child became more lifelike. On placing the infant in a horizontal position, respiration again ceased, with the accompanying cyanosis, complete muscular relaxation, slow and feeble pulse. Again suspending it, I was rewarded at the end of about two minutes with the same satisfactory result. During the cyanotic state the pulse was 45 to the minute and very feeble. Almost immediately after the first deep inspiration it increased to 150 per minute. Concluding from these observations that suspension by the feet would give the best chances of recovery, I determined to keep the child in this position and await the result. During the first ten minutes breathing and heart action were quite regular, and the general appearance comparatively good, though complete muscular relaxation continued. Suddenly respiration again became labored and heart-action slow and feeble as before. For one minute and a half there was no effort at breathing, then a feeble gasp or two, followed by regular breathing and increased heart-action. This seizure was not nearly as

[1] The Lancet, February 24, 1894, p. 457.

[2] Chisolm on Chloroform, the Best of Anæsthetics, p. 14. Read before the Baltimore Academy of Medicine, 1888.

bad as those which occurred when the child was in the horizontal posture. I therefore felt greatly encouraged as to the ultimate result, and persisted in the inverted position. Voluntary movements of the head and arms were not observed until more than twenty minutes had elapsed. During the first two hours collapse occurred four times, lasting in each instance from one and one-half to two minutes. These seizures were, however, not so severe as the first, and their intervals became successively greater. At the end of this time one of the attending physicians, Dr. Tull, for whom I had sent, arrived. The condition of the infant then was incomparably better than when first discovered, yet so grave as to cause the doctor to express little hope of restoration. Finding now that the horizontal position still occasioned depression when resumed, I arranged with pillows an inclined plane, upon which the child was placed and kept with its head down for four hours. It steadily continued to improve, and the seizures became less frequent and less severe. Six hours after efforts at resuscitation were begun, the horizontal position was resumed, without apparently any deleterious effects. Nourishment was then administered every few hours, and from that time on recovery was uneventful. At the end of two weeks it left the hospital in good health.

I am unable to say what occasioned this asphyxiated condition. The child had been noticed half an hour before calmly sleeping. It is possible that it vomited and strangled, but there were found no evidences of such about its crib or clothing. The exact length of time the child was cyanotic is uncertain, as it was found in that condition ; at least three minutes elapsed from the time it was discovered to the time I first inverted it.

To resume : There was found cyanosis, feeble respiration, slow and weak heart-action, want of volition. Suspension by the feet for two hours, succeeded by an inclined position, with head down for four hours, resulting ultimately in the restoration of the normal functioning of the heart and lungs, and natural appearance and powers of the infant. Prolonged suspension with head down showed no bad after-effects. During each cyanotic seizure while respiration was suspended (from one to two and a half minutes) the pulse-rate remained at 45 per minute, but on the first deep inspirations it invariably increased to 150 per minute.

My thoughts were directed by this success to the study of the probable advantages such a procedure would possess in cases of suspended animation in the new-born ; but it was not until November 20, 1893, that an opportunity was presented to put the idea into practice.

Case II.—On the above date I attended, at the New York Asylum for Lying-in Women, now known as the Old Marion Street Maternity Hospital, a primipara, aged twenty-nine, nine months gravida. She was a large, strong, and well-proportioned German woman ; presented no history of special interest during her pregnancy, excepting that there was present in her urine a small amount of albumin. Presentation of child, vertex ; position, L. O. A. Up to about twenty minutes before delivery the fœtal heart was regular and strong—140 beats to the minute. Labor progressed normally until within a few minutes before I delivered, when there suddenly occurred a profuse discharge of blood. The uterus had spontaneously and almost completely emptied itself of the amniotic fluid half an hour after the second stage began, and one hour before delivery, so that the discharge was almost entirely pure blood. I then examined for fœtal heart-sounds, but was unable to find them. Low forceps were immediately applied and child extracted. The condition of the child was that of apparent death, the form of asphyxia neonatorum spoken of in text-books as anæmic. It was pale to a marked degree, with general and complete muscular relaxation. No appreciable pulsation could be discovered in the cord, or over heart, and no respiratory action. With the assistance of a nurse the child was held up by the feet between the mother's limbs, while a warm receiving blanket was thrown around it and the umbilical cord. I then placed my mouth to the child's mouth, and, pressing upon the throat to prevent the air from entering the stomach, blew the mucus out of the pharynx through the nose. I might here incidentally state that I now consider the step unnecessary, and by no means devoid of danger ; and, as will be seen, was not resorted to in any of the succeeding cases.

About three minutes after birth a feeble gasp was made, following which a considerable quantity of bloody mucus flowed from the nose. The mouth and throat were then mopped out with a piece of cotton on a stick. Finding that the almost imperceptible pulsation in the cord did not improve at the end of the fourth minute, I tied and severed. The flow of blood from the untied or placental end was very slight. The child, covered well with a warm blanket, was taken in the inverted position near a lighted gas stove, and the position persisted in (two hours and twenty minutes) until recovery. Two minutes after the first gasp, or five minutes after delivery, another faint effort to breathe was noticed. These gasps continued about one every two minutes during the first half hour, and in the succeeding half hour improved to one every ninety seconds, and one every seventy seconds. After the first hour the gasps were a little deeper and for fifteen minutes occurred one every sixty seconds, improving during the next thirty minutes to one in every forty seconds, then in the remaining thirty-five minutes one in every twenty seconds, which ended the two hours and twenty minutes of suspension, when breathing became suddenly regular. Heart-action was not sufficiently strong to be counted until after the first gasp had been taken ; then it was noticed to be about forty to the minute, and remained so, with slight variation occurring immediately after gasps, until regular breathing was established, when it increased to 85 per minute. At the end of the first hour the conjunctivæ and skin were as dry as parchment and as lifeless as if death had occurred. There was absolutely no reflex action until just before respiration assumed regularity. At that time slight muscular volition was also noticeable, and in an effort to cough there was expelled a considerable quantity of bloody mucus. This mucus evidently came from the trachea, where it was lodged either by the efforts on the part of the child to breathe in utero, or my attempt at clearing the air-passage by the mouth-to-mouth method. The position of inversion, that is, the head down, with legs and arms up, which was maintained from the beginning to the end, was the only procedure adopted after freeing the mouth and nose of mucus. The child was of course very feeble for a time after resuscitation, but soon rallied, thrived, and left the hospital on the twenty-first day perfectly well. It was seen eight months after, enjoying excellent health.

The points of especial interest in the above case are : The extreme anæmic condition of infant ; the gradual but steady improvement in respiration ; the dryness of the skin and conjunctiva during the first hour—becoming less and less as respiration and circulation improved ; the length of time reflex action was absent ; the completeness with which the air-passages were freed from mucus ; the length of time elapsed before regular breathing was established.

Case III.—Labor began at 3 A.M., November 22, 1893 ; second stage, 10 A.M. Membranes ruptured spontaneously at 10.15 A.M. Presentation, vertex ; position, R. O. P. The mother, a multipara, aged twenty-nine, was strong and healthy. During second stage she suffered severely, head of fœtus making very slow progress. At 1.45 P.M. fœtal heart was strong and regular, 140 per minute. At 2.15 I discovered that the heart-sounds were very feeble, and determined to deliver immediately.

The operation was uncomplicated and took but a few minutes. The instruments inflicted no appreciable injury to the child. Considerable hemorrhage, though not of an alarming nature, immediately followed its birth. Its condition, however, was that of complete exhaustion, muscular relaxation and want of reflex action; pulsation in cord about forty to the minute; distinct though very feeble. The infant, weighing 9 pounds, was well developed, but pale, though not so anæmic as the previous case reported. It was immediately suspended by the feet and covered with a warm receiving-blanket. The mouth and throat were then mopped out with a piece of dry cotton on a match-stick.

Four minutes after birth the cord was ligated and severed. The first gasp was made about three minutes after delivery, and was followed immediately by a flow of bloody mucus from the nose and mouth. Shallow inspiration was continued at the rate of one every eighty seconds, for fifteen minutes, at the end of which time five or six short breaths were taken in rapid succession. These were followed by an interval of two minutes without an effort to breathe. Inspirations were then resumed, somewhat more full, and continued one every sixty seconds for fifteen minutes, again terminating in a succession of rapid respiratory acts. Another interval of two minutes then elapsed when breathing was resumed at the rate of one every forty seconds, and continued so for twenty minutes, terminating as before in a rapid succession of respirations, followed again by another interval of two minutes. Breathing was then resumed at one every thirty seconds, becoming, with heart-action, stronger and better, and at the end of one hour and twenty minutes from the time suspension was begun both lungs and heart functioned normally, During the first half-hour heart-action grew stronger, but did not increase beyond 45 to the minute, excepting during the several successive and rapid respirations, when it was always accelerated, but at no time reached as much as 60 per minute until regular breathing was established, when it became normal, or 130 per minute.

Nothing eventful occurred in connection with the case during the following thirteen days while the child remained in the hospital. It left in perfect health. What occasioned, in this case, interference in fœtal circulation, I am not positive. There was a discharge of blood before delivery and immediately after birth, but no more than is often seen in uneventful labors. The cord was of usual length and position; the placenta had upon its uterine surface a blood-clot, but not of sufficient size to indicate an extensive separation of that organ from the uterus. The peculiar feature of this case was the succession of rapid breaths occurring every fifteen or twenty minutes, being invariably followed by an interval of two minutes before breathing was resumed.

Case IV.—Primipara, aged twenty, entered hospital May 14, 1894, 8 A.M., in labor. She had had several labor-pains before admission. Examination showed vertex presentation; L. O. A. position. Cervix tense and not sufficiently dilated to allow the passage of the forefinger. She complained a little of backache, but had only one labor-pain during the remainder of the day. At 5 P.M. the cervix was softer and more patulous; the vagina well lubricated with mucus. At 6 P.M., finding that the head was descending, but that there was no protrusion of the bag, I passed my finger up through the cervix and discovered that the amniotic sac was intimately attached to the lower segment of the womb. These adhesions I immediately broke up as high as I could reach. In about half an hour the bag was found descending and distending the cervix. At 10 P.M. labor-pains began again. At 10 A.M. the next morning (May 15th) pains became so severe that morphine, grain ¼ hypodermatically, was administered. At 11 A.M. bag of waters was ruptured artificially, and at 11.58 A.M. child was born. Fœtal heart-sounds remained throughout labor about 132, full and strong. Greatly to my surprise the child's condition at birth was that of extreme cyanosis, with complete muscular relaxation. It was immediately suspended by feet, covered with a warm receiving-blanket, and mouth and throat mopped out. Pulsation in the umbilical cord, at birth, was 125 to the the minute, quite regular and strong. At the end of four and a half minutes, although the child had made no effort at respiration, I tied and severed cord, thinking that in so doing the infant, being thrown upon its own resources for oxygen, would soon breathe. It was not until two and a half minntes after severing cord, however, that any effort at respiration was noticeable. This feeble effort was succeeded by an interval of three minutes, during which time mucus flowed from the mouth and nose. Then a deeper inspiration was made, followed by an interval of two minutes, terminating in a succession of respirations. But it was not until sixteen minutes after delivery that respiration became regular and muscular volition was established. A considerable quantity of mucus, slightly tinged with blood, was then expelled from the throat. Pulsation before ligation of cord was 125 to the minute. Immediately after ligation it fell to 60 per minute, and remained so until respiration became regular, when it rose again to 125 per minute.

To resume: There was a marked degree of cyanosis at time of birth. Though no effort to respire had been made for several minutes after birth, the appearance of the child steadily improved under the influence of the inverted position. The first inspiration was made about four minutes after the mouth and throat were mopped out and two and a half after the cord was tied and cut. The heart-action fell immediately upon ligating the cord from 125 per minute, full and strong, to 60 per minute, and did not assume its normal functioning until regular respiration was established. No blood was allowed to escape when the umbilical cord was severed.

I have attended three other cyanotic or apoplectic cases since this one; but as none were extreme nor presented any features of peculiar interest, I will not impose upon the reader a further account than to say that they were all resuscitated from within six to nine minutes by the same procedure as that employed with those cases whose histories have been given in detail.

The following procedure I now invariably adopt where suspended animation exists:

As soon as delivery is completed the child is held up by the feet. Any mucus that may be in the mouth or throat, obstructing the free entrance of air, is wiped out with a cotton swab. A warm receiving-blanket is immediately wrapped around the child, and also about the umbilical cord, if it remain unsevered for any length of time. In placing the covering about the babe it is best to bring the arms up alongside of the body, so that there will be no hindrance to the act of respiration when it is begun. The child is then removed, still in the inverted position, near to a warm stove or radiator, that it may not suffer from the loss of heat, and is kept suspended until resuscitation has taken place. If improvement is satisfactory, however, the child may soon be placed in an inclined position in the lap of the nurse. If we have to deal with the apoplectic form it is well to allow the umbilical circulation to continue for several minutes after birth; the engorged vessels are thereby relieved without the loss of blood, as occurs when leakage is allowed from the severed cord. Should efforts at respiration not be made during the first two or three minutes, it is best to ligate and sever cord, and thus throw the child upon its own resources. With the anæmic variety I think it is best to tie and sever the cord immediately after birth so as not to allow an increased loss of blood.

Of all methods adopted to insure artificial respiration that of alternately flexing and extending the body upon itself is perhaps the most highly valued and universally used. There are many varieties of this method,

but in principle they are all essentially the same. On flexing the body the thoracic cavity is compressed, causing expiration. On extending the body the thoracic cavity is expanded, causing inspiration. The best plans of procedure are probably those advocated by Schröder, Schultze, Sylvester, and Dew. Schultze's method is perhaps the most powerful and successful of the above named, and for these reasons we will consider it as the type of this class.

In order to handle the infant, according to the prescribed plan, it should be naked. In this condition it is thrown up over the shoulder and down between the legs with considerable violence. This rough handling of the uncovered child must necessarily expose it to a loss of heat, exhaustion, and physical injury.

In the newly born asphyxiated the congestion in venous organs, such as the liver, has been shown by autopsies to be very great. Schultze claims, as one of the advantages of his method, that the manipulation induces the emptying of the right heart, and in that way relieves this internal congestion. He seems to lose sight of the fact, however, that the position which the child is made to assume in inducing expiration forces the blood suddenly from a considerable area into the engorged organs themselves, and that such manipulation may therefore play no small part in the rupture of vessels already distended to their utmost capacity. In this connection I might state that both Korber and Koffer have each reported a case of rupture of the liver with fatal termination as the result of Schultze's method.[1]

If violence or sudden force is used in any of the methods which alternately flex and extend the child, the same danger is, of course, incurred, and when benefit is derived from them I believe it to be due partly to the pressure on the liver, encouraging thereby the emptying of that organ into the heart. The difficulty is to regulate or determine the amount of force to be used under these conditions.

Schultze advises that "where spontaneous effort at respiration is made the method is to be desisted from in order that the spontaneous respiratory process may not be interfered with by the artificial."[2] It is impossible always to tell when spontaneous respiratory efforts are being made, because, while the operator is throwing the child up and down, it is part of the time completely out of the line of vision, and the first efforts at respiration are too shallow and too feeble to be heard. The possibility of inflicting injury also offers a serious objection. Schultze himself reports a case which suddenly died soon after resuscitation, the autopsy revealing a fractured clavicle, the broken bone having perforated the pleura and lung.[3]

Inflation of the lungs stands, perhaps, next in importance. It may be accomplished by the mouth-to-mouth method, or through tubes passed into the trachea. Budin says that while the throat is freed by the mouth-to-mouth method, the mucus being blown through the anterior nares, yet it does not insure the entrance of air into the lungs, because of the flaccidity of the air-passages, and that even if such is accomplished, viscid matter may be driven before and obstruct a certain number of bronchi.[4]

Mundé states that "post-mortem examination of the lungs of children that have died after efforts had been made to resuscitate them, showed, frequently, points of ecchymosis, which was evidence that too much force is often used in such cases."[5] He also remarks, in speaking of cases where the Marshall-Hall and Sylvester methods were used without success, that the mouth-to-mouth method was resorted to, and, "by this means some were resuscitated, but too frequently the air instead of entering the lungs simply went into the stomach."[1]

Before meeting with the above, in the study of the literature of the subject, I delivered a syphilitic fœtus which had been dead *in utero* several days. I tried to inflate the lungs by blowing through its mouth, but found that instead of filling the chest I distended the abdomen. The air-passage is almost as flaccid in the "still-born" child as in the dead-born; therefore such a procedure is always accompanied by a grave risk. This mishap might to some extent be averted by pressing upon the throat so as to close the œsophagus, which, however, must also hinder somewhat the passage of air into the lungs.

There have been many instruments devised for inflating the lungs, but the ordinary gum-elastic catheter is perhaps most frequently used. In adopting instrumental insufflation we are always liable to use too much force; but aside from this danger, the necessary skill and practice which it requires constitute a considerable objection, for, as Budin says, "Any instrumental insufflation is often very difficult; it is a true catheterization."[2] He might have added that an inexpert operator is just as apt to pass the instrument into the œsophagus as the trachea.

Several successful cases have been reported, treated by the faradic current.[3] In order to make the diaphragm act by this means, the current must be applied so as to stimulate the phrenic nerve. Dr. Polk has well observed that stimulating the diaphragm to act by the electric current was one of the most uncertain things in medicine.[4]

Mundé thinks that one is apt to do too much with the faradic current; to make it too strong or to repeat it too frequently, thus producing convulsive contraction of the diaphragm, which interferes quite as much with the resuscitation of the child as if nothing had been done.[5]

But aside from these objections, were the method even more certain, we could not on all occasions avail ourselves of it, because batteries are not always to be had when wanted.

Hypodermatic injections of brandy or whiskey have also proven efficacious in some cases. But it is not always possible to gauge the amount necessary. Dr. Rodenstein reports a case where, after a faithful trial of both Sylvester's method and the catheter without success, brandy was injected and restoration soon followed. "He acknowledged a fault, however, in that he overdid the matter, over-stimulating the child, and it died within twenty-four hours of convulsions."[6]

Hot and cold water plunges alternately, spanking, etc., are means adopted to induce respiration by reflex action. Where the cases are not extreme they hasten restoration, but in exhausted cases the accompanying shock from such procedures only increase, I believe, the exhaustion, and subject the infants to greater danger. With regard to artificial respiration in general, I believe it to be of value when it is performed without the accompanying shock and injury which may be occasioned by some of the recognized methods. I think that the artificial expansion and contraction of the lungs induces a blood flow to and from these organs which must in turn affect beneficially the entire circulation and necessarily the nerve centres governing respiration.

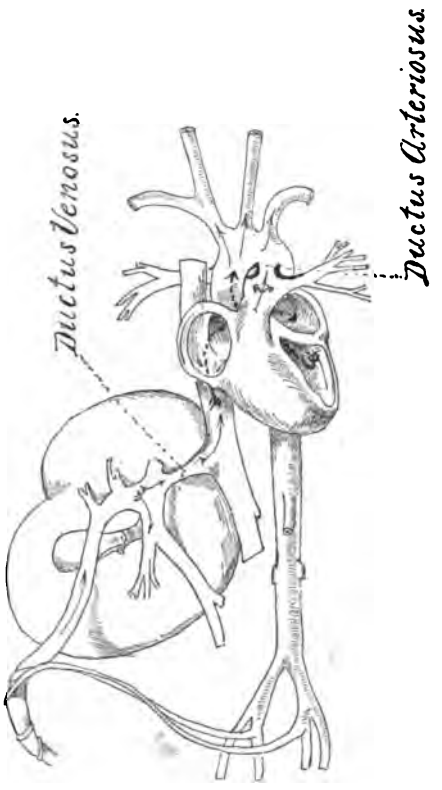
The value of inversion as an agent in restoring life in the still-born but yet viable child will be more fully appreciated by bearing in mind the following important points in the fœtal circulation.

Nearly the whole of the maternal or placental blood,

[1] Centralblatt für Gynäkologie, 1893, No. 15.
[2] Cyclopædia of Obstetrical Gynecology, vol. i., p. 468.
[3] Centralblatt für Gynäkologie, 1894, No. 8; American Journal of the Medical Sciences.
[4] Archives de Tocologie et de Gynécologie, 1893, No. 7.
[5] American Journal of Obstetrics, October, 1881, p. 885.

[1] American Journal of Obstetrics, October, 1881, p. 884.
[2] American Journal of the Medical Sciences, January, 1894, p. 100.
[3] Drs. Walker and Mundé: American Journal of Obstetrics, October, 1881, pp. 883-4-5.
[4] American Journal of Obstetrics, October, 1881, p. 884.
[5] Ibid., October, 1881, p. 885.
[6] Ibid., October, 1881, p. 888.

on its passage to the fœtal heart, traverses the liver,[1] where, during this stage of life, a quarter or more of the entire volume of the system is to be found.[2] In this organ, the liver, we therefore have a great reservoir for the storing of nutrient blood, which, to the infant who has not yet breathed, is practically its only source of oxygen.



In the fœtus and the still-born child the blood "passes almost directly to the arch of the aorta, and is distributed by the branches of that vessel to the head and upper extremities."[3] The pulmonary arteries transmit only sufficient blood to nourish the lung tissue, while the ductus arteriosus conveys the blood of the right ventricle into the general circulation.

Suspended animation in the new-born may be due, first, to impairment of the umbilical circulation occasioned by pressure upon the cord, or entanglement of the cord upon itself or around the child; second, to the loss of blood resulting from placenta prævia, or partial or complete separation of placenta before birth of child; third, to shock following injuries received during labor, from instrumental interference, or traction on body in breech presentation.[4]

These may be classified under the two recognized forms, viz., apoplectic or cyanotic, and anæmic or syncopal. In the apoplectic form, which is occasioned by a direct interference with the umbilical circulation, there exists not only superficial venous congestion, but also general stagnation in the circulatory system, and diminished supply of maternal or placental blood.

In the anæmic form, when due alone to the loss of blood, there exists a depletion of the circulatory system as well as a deficiency in maternal blood-supply. When due alone to shock from injury, the maternal blood-supply is also affected, it being lessened because of the enfeebled heart-action of the child.

In both forms we find the circulation to be of primary consideration, and it is to the improvement of this we must look for the awakening to activity of the nerve-centres governing the respiratory organs.

According to the theory of Dr. Hall, respiration is established in suspended animation through a centric influence which he terms "ecstaltic;"[5] that is to say, in the apoplectic variety respiration is caused by the action upon the medulla of the excessive carbonic acid in the circulation. In the anæmic it is occasioned through "the impression produced upon the medulla by the loss of blood."[6]

The physiological cause of the first, as well as the succeeding inspirations, *I believe to be due to the appreciation on the part of the medulla, through probably the sympathetic system of nerves, of the want of a proper proportion of oxygen in the system*, a similar cause to that which occasions the demand for food or drink when true hunger and thirst exists.

The respiratory centre remains inactive during fœtal life because the placental blood contains the required proportion of oxygen; but when from any sudden cause, natural or unnatural, this proportion is decidedly interfered with, the activity of the medulla will be aroused and respiration attempted.

During the act of labor the sinuses of the uterus diminish in size in direct proportion to the contraction of that organ, and the capacity for maternal blood must diminish likewise; through this physiological process nature shuts off from the child, about the time of birth, the accustomed supply of nutriment. If the body is born without delay after the head has passed the perineum, attempts at respiration will generally be made at, or soon after, expulsion; but if the head rests over the perineum, and the body in the genital canal, for any length of time, the child will almost invariably attempt to breathe, but without success, as the pressure upon the chest and abdomen is too great to allow their expansion.

If there exists an abnormal condition, such as the birth of cord before the head, entanglement of it around neck or body, or pressure upon it in breech presentation, the interference in blood-supply to child is more sudden and decided than from uterine contraction alone; hence the demand for oxygen becomes more urgent, resulting generally in active efforts being made by the fœtus to inspire before birth.

While the immediate change, after delivery, of placental breathing to that of lung breathing is not essential, as life can be maintained for several minutes on the reserved supply of oxygenated blood, the continuance of heart-action is essential, and may be considered as the test of the viability of the child.[1] It may be too feeble to be immediately recognized, but if the condition is that of suspended animation, and not death, nature will, I believe, invariably restore herself if aided by the child being placed in such a position as will enable her to work to the greatest advantage.

When the infant is very feeble the first inhalations are extremely shallow, and sometimes do not increase in depth, though the interval between each may lessen until an hour or more has passed. Each inhalation, however, increases the amount of oxygen in the system until the required proportion is reached to establish rhythmical functioning of the lungs.

When complete exhaustion or injury to the medulla occurs, heart-action must necessarily cease forever, and under these circumstances no method of resuscitation employed should be charged with failure.

The position of inversion effectually aids, by the action of gravity, the emptying of the contents of the liver into the heart, nourishing in turn that organ, and by the continued action of the same law the flow from the heart to the medulla is also materially assisted.

Therefore, as the course of the nutrient blood from the liver to the nerve-centre of respiration is almost direct, and as the circulation is encouraged by the influence of gravity, a greater volume of this blood, consequently a greater quantity of oxygen, is supplied to the nerve-centre in a given length of time than would be if the body were kept in any other position.

[1] Gray: p. 841.
[2] Chapin: Keating's Encyclopædia of Diseases of Children, vol. iii., p. 403.
[3] Gray: p. 841.
[4] It may be incidentally noted that severe traction in breech cases often results in injury to the medulla, under which circumstances resuscitation is impossible, as death must instantaneously follow.
[5] Hall on Asphyxia Neonatorum: its Cause and Treatment, p. 11.
[6] Cazeaux: Midwifery, p. 506.

[1] In this connection I might state that Dr. Haultain, of Edinburgh, has reported a case where heart-action continued under the assistance of artificial respiration for two hours and a quarter; spontaneous inspiration was never once attempted. The autopsy showed a basal intra-cranial hemorrhage which evidently injured the respiratory centre without affecting the circulation (Edinburgh Medical Journal, April, 1895, p. 941). Such a condition is exceptional.

Gravity also exerts an important influence upon the direction of the circulation lungwards, for it aids directly the emptying of the contents of the right ventricle into the pulmonary arteries, and by the increased blood-pressure in the aorta which it occasions, hinders the flow through the ductus arteriosus, and encourages thereby the pulmonary circulation.

Under the influence of this law the direction of the blood-current from the right ventricle is therefore changed, the general circulation encouraged and improved, and the vigor of the exhausted nerve-centres revived by an increased supply of oxygen to them.

Inversion is not associated with the slightest danger. Nature seems to favor the position in utero, and if the position is not maintained long, after regular circulation has been established, the danger of congestion of the brain is no greater than it was before birth. The head and neck are sufficiently extended under the influence of gravity to allow of the unobstructed ingress and egress of air, and the escape of mucus from the air-passages. The capacity of thoracic and abdominal cavities is in no way encroached upon, and by keeping the arms up against the chest, entire freedom of the respiratory muscles is insured.

The apoplectic form of suspended animation is restored more quickly than the anæmic, and the general appearance will be found to improve soon after inversion is begun. With the anæmic the death-like pallor and want of reflex action may continue even for hours, or almost up to the time regular respiration is established.

After the child has been severed from its mother, the continuance of the position may be maintained by an assistant or nurse, while the accoucheur's attention is directed to whatever else demands it. This procedure may be used in connection with some of the recognized methods, and will be found of great assistance to them all; but where it is desired to test its independent value, there should be none other used with it; for, where there is a combination of methods we cannot tell with certainty which is the efficacious one. When the infant has considerable vitality, almost any method, or combination of methods, may be serviceable in hastening restoration, but in cases where vitality is low, extreme manipulation, being exhausting, is detrimental.

So that as long as there is vitality in the child the value of inversion over other methods increases in proportion to the exhaustion.

The simplicity of this procedure will, I believe, be the greatest obstacle to its popular favor, for it seems that the natural impulse on seeing a still-born infant is to "work over it," to "spank life into it," and thereby often to spank life out of it.

That no artificial means was adopted to stimulate respiration in the above-cited cases would seem to justify the conclusion that the recuperative power of nature is a more important and valuable factor in the restoration of the still-born yet viable child than has been heretofore conceded; and should there be established from this beginning a means by which coming generations will be benefited, I would ask only for the credit of having directed the old maxim, *vis mediatrix naturæ*, into a new channel.

Miss Kate Marsden, who figured for a time as a friend of the Siberian lepers, and enjoyed the patronage of the English and Russian royal families, as well as the approval of many notable clergymen and philanthropists, has apparently ended her career. Certain charges were brought against her which a committee of investigation found to be sustained by the facts. The London *Times* published the committee's report, and was sued for libel by Miss Marsden. She has now, however, withdrawn the suit and so abandoned her struggle.

TWO CASES OF MORPHINE-POISONING TREATED PRINCIPALLY BY FORCED RESPIRATION.

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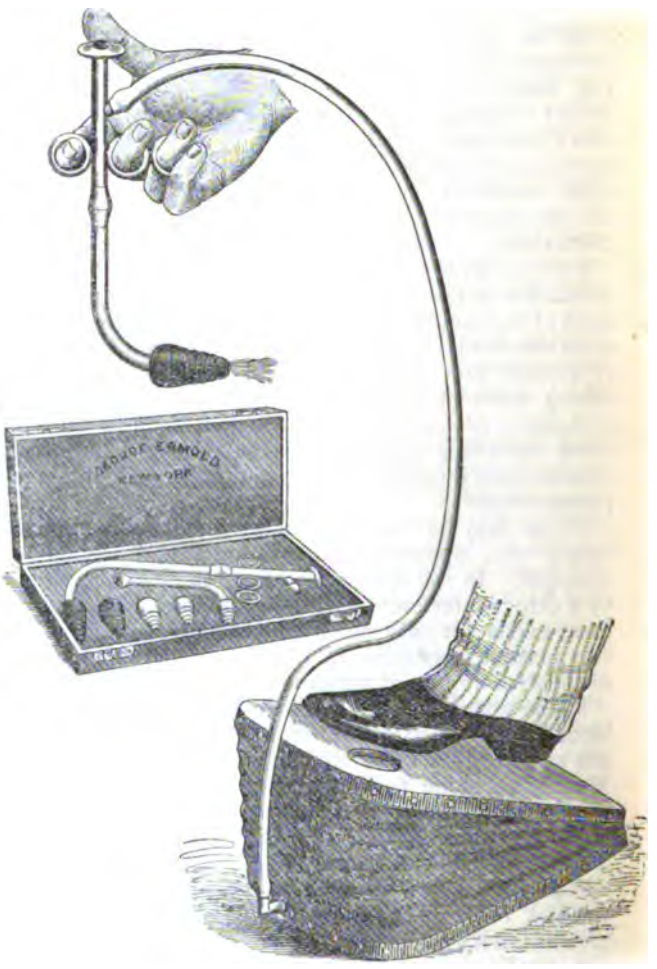
Cases of acute morphine-poisoning occurring in a city hospital are more of a rarity than one would imagine, but when they do come in, no matter how extreme the condition of the patient, they should all get well.

The drug kills by paralysis of the respiratory centre, so if the body is artificially supplied with air, and if it can be done completely in a well-regulated manner and long enough, so that all the poison has been gotten rid of by excretion, the organism ought to return to its normal condition. This artificial respiration cannot be kept up adequately and sufficiently by the Sylvester method, as we all know, but Dr. O'Dwyer, of this city, has contrived a modification of the method originated by Dr. Fell, of Buffalo, to do this. It is by means of a tube inserted into the larynx, the air being forced in by a bellows, thus avoiding tracheotomy.

The apparatus, then, consists of a foot-bellows, rubber tubing, and an intubation attachment. The last



consists of a metal tube (as in cut), curved at right angles, on the distal end of which is a grooved cone which fits the laryngeal socket. The cones are of different sizes. The proximal end has two openings, one receiving air from the bellows and the other closed by the thumb during forced respiration. The thumb is removed during expiration, or the collapse of the chest. The insertion is comparatively easy. A mouth gag is used, the tongue drawn out, the epiglottis held back by the first finger of the left hand, and the tube inserted in the median line by the right hand. When well in the larynx, on inspiration the chest rises fully and no air escapes except when the cone is too small, when a larger size can be put in. This is kept up regularly twelve

times a minute, and atomized water is forced into the tube occasionally to keep the passages moistened.

CASE I.—A German, thirty-seven years of age, a cook, had taken morphine irregularly, but had no habit. After a fracture of the leg he became despondent, and at 6 P.M., on July 23, 1895, took twelve grains of morphine in shellaced pills, ⅛ grain each. He was brought to the hospital at 9.30 P.M., comatose, cyanotic, pupils contracted, respirations feeble, and four a minute; pulse feeble, irregular, and 150 a minute. He was given strychnine sulphate, $\frac{1}{30}$ grain, and atropine sulphate, $\frac{1}{60}$ grain, hypodermatically immediately, and then his stomach was washed out. The Sylvester method was tried, as his color, breathing, and pulse became worse, but with no benefit. O'Dwyer's tube was then (10.30 P.M.) inserted and worked at twelve a minute. The patient's whole condition improved—pulse and color soon normal. The stomach-tube was again inserted *alongside* of the laryngeal tube, and the organ washed completely, and then four grains permanganate of potash left in.

At 10.45 P.M. atropine, grain $\frac{1}{100}$, was given. At 11.30 P.M. the patient could be aroused, but pulse was not good, and he was given coffee, eight ounces, by rectum, and strychnine, grain $\frac{1}{30}$, hypodermatically. At 12 M. patient became restless. The tube was removed and he was made to sit up. Notwithstanding efforts to keep him awake, he in about two minutes became cyanotic, and pulse rapid and feeble. The tube was replaced and condition became good immediately. At 1 A.M. potassium permanganate, grain ½, was given hypodermatically; no appreciable effect. At 2.30 A.M. tube was again removed, but cyanosis returned. It was put back again and kept in place till 5.45 A.M., when the patient became so restless that its removal was a necessity. Even after this, till 7 A.M., to keep him awake the slapping of a towel was required, for when left alone his respirations would go down to eight and ten a minute. At 6 A.M. atropine, grain $\frac{1}{100}$, was given. From 2 to 6 A.M. his temperature gradually arose from 101.6° to 105.8° F., when he was given a cold sponge, from which he got a drop to 102° F. At 7.45 A.M. he was sent to the ward. Temperature, 101.5° F.; pulse, 120; respiration, 16. Patient was able to sit up and speak, though hoarse, and complained of thirst. He was given whiskey every four hours and a croup kettle started.

Besides this laryngitis he developed a glossitis from the use of a tongue forceps. These complications kept his temperature up five days, when he was discharged cured. Tube remained in seven hours and fifteen minutes.

CASE II.—A German, aged fifty-six; a druggist. No previous morphine habit. Out of work and despondent, and on July 24, 1895, at 12 M. took thirty grains morphine in powder. He was found in Central Park about 4.30 P.M., and brought in by the ambulance, the Sylvester method being used on the way. On admission, at 5 P.M., pupils contracted; cyanosed; no effort at respiration; pulse fair. O'Dwyer's tube was immediately inserted and atropine, grain $\frac{1}{60}$, given hypodermatically. The tube did not fit well, and it was removed and a smaller cone inserted, but this worked worse and the former was replaced, and by pressure against the teeth did better. It was difficult to get the stomach-tube by the laryngeal tube, but after about an hour attempting it was successful, and the organ was thoroughly washed with water and tannic acid, and four grains of potassium permanganate left in.

At 10.30 P.M. the patient was fairly conscious and his throat full of secretions, so the tube was removed and he was made to sit up. Attempts to keep him awake and breathing, by the wet towel and electricity, were fruitless, and in two minutes pulse became bad and color cyanotic. Dr. O'Dwyer himself inserted the tube, and his condition became good immediately. At 11 P.M. he was given potassium permanganate, grain ½, hypodermatically.

July 25th, 2.05 A.M.—Patient became very restless and tube was removed. During this time, besides the initial dose of atropine, he received $\frac{1}{100}$ grain three times, and coffee and whiskey by rectum twice. Temperature rose to 103.5° F. Admitted to ward at 3 A.M., and kept awake with towel. At 10 A.M. temperature 104.5° F., face a little cyanotic, coughs, and is hoarse.

Complications: Glossitis, laryngitis, and bronchitis, which kept his temperature up for five days, and then discharged cured. Tube was in nine hours and five minutes.

Remarks.—1. The above cases are very bad ones, almost *in extremis* when first seen.

2. They show how ineffectual artificial respiration by the Sylvester method was; how atropine, stimulation, and potassium permanganate would have been without results. Of course each helped toward a safe termination, and perhaps the permanganate was not used in large enough doses and as frequently as required.

3. They show how easily the tube and bellows can be used and how quickly it acts, and that the stomach-tube can be used at the same time.

4. One interesting result is the high temperature. Is it due to the effects of the drugs, to its antidotes, to hyperoxidation, or to the beginning inflammations of the tongue, larynx, and bronchi? It seems most reasonable to suppose to the last.

5. This apparatus can be bought cheaply and should be in every hospital, for it can be used in other emergencies, as in apnœa due to ether or chloroform narcosis, and it has been used in this, the Presbyterian Hospital, in cases of apoplexy, tumors of the brain, and fractures of the skull where the respirations stop first. In two cases operations on the skull were performed while the tube was in the larynx.

6. So we see that in prolonging life, as well as in saving it, this intubation is of the highest value.

The above cases occurred at the Presbyterian Hospital during the service of Dr. Walter B. James, with whose kind permission I publish them.

WHAT CONSTITUTES THE WELL-QUALIFIED DOCTOR.[1]

BY EDWIN STERNBERGER, M.D.,

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WITHOUT any introductory remarks whatever, in order to give you the gist of my paper at the outset, I will say that, in my judgment and in the opinion of others, the general practitioner and the specialist of to-day are not properly equipped, or perhaps I had better use the term schooled, or experienced, for the scientific work which they are called upon to do. Now, this statement may seem to you, on first thought, to be rather a broad one. But I feel sure that after you follow me carefully in what I am going to say you will, on further deliberation, concur with me in the above apparently bold assertion. You certainly will admit the following:

1. To be a thoroughly scientific and conscientious general practitioner, as the term implies, the doctor must be trained, or rather educated, in all the branches of medicine.

2. For the specialist to be absolutely thorough in his especial sphere or specialty, it is necessary that he be familiar with all other branches outside of his own.

Both of these statements require qualifying, otherwise you might think that I am entirely too radical in my views. Perhaps if all of us in the medical profession were more radical, *i.e.*, more thorough in our methods, far better results and more scientific work would obtain. Does it not appeal to you that in order for the general practitioner to render the very best possible treatment to his patient, or perhaps I had

[1] Read before the Metropolitan Medical Society of New York, October 22, 1895.

better say, to give an intelligent opinion to his patient, he must necessarily be versed in all the departments in medicine? Only by doing so does he perform his duties or obligations honestly and scientifically to his patient? It is not to be expected that the general practitioner should conduct the treatment of a special form of disease that requires the expert or specialist. But I do claim that it is his duty to learn what the nature of the disease is, in short, to make the scientific diagnosis. How often does it happen that the unfortunate patient is treated by the family doctor for a disease, the diagnosis of which is never made, simply because of the ignorance of the attending physician?

Ignorance in medicine as well as in law does not admit of an excuse. The patient certainly relies upon his medical attendant for receiving the proper treatment. He surely does so until he is convinced he is not getting the right treatment, or until a friend, or perchance a friendly physician, advises him to make a change by consulting Dr. ——, who is a specialist in the department to which his malady belongs. I am referring now to an ordinary case, one that a well-educated physician with proper experience would recognize and either treat properly or refer to the proper specialist. Such an instance as the above, I am sure, happens repeatedly—not only in the small town but in the large city as well.

You must not think, gentlemen, that I, for a moment, am finding fault with the physician who is attending an obscure case. Far from it. For in such a case the well-meaning, the honest, the conscientious physician will then seek further counsel by suggesting a consultation. By way of parenthesis I would say that it does happen, and not so very infrequently, that the experienced and well-educated physician, believing that he himself knows it all, takes it upon himself to conduct the whole case without consultation, even though the family persistently wishes it. Such action on the part of a physician is surely open to harsh criticism.

Let us consider, now, the importance, the great necessity for the general practitioner to be thoroughly, or at least partially, familiar with all the branches of medicine. Take any one of the specialties, gentlemen, the skin for example, and I am sure it will appeal to every one of you that a knowledge of this specialty is indispensable for the general doctor. It will stand him in good stead to be a moderately good dermatologist to prevent any unpleasantness which might arise through ignorance, even though his conscience doesn't tell him that he owes it to his patient to recognize a skin eruption.

I don't suppose for a moment that I am exaggerating when I say that many an eruptive fever case of a virulent character, under the care of a general practitioner of limited experience, progressing favorably or unfavorably, as the case happens to be, causes the physician or the family very little, if any, concern, notwithstanding the grave conditions prevailing. Again, see how exceedingly important it is for the general practitioner to make a correct diagnosis in small-pox or typhus. Suppose he isolates a case that he is positive of as being contagious. Just look at the discomfort, outside of the trouble and expense, it puts a family to. Now, I am not referring to a suspected or doubtful case. This method of conducting a case is perfectly in order when practised by the experienced doctor, who does it then solely as a precaution. I am referring to the doctor whose lack of proper experience does not justify his making a positive diagnosis. I cannot help believing that many of the cases of small-pox and typhus, especially the former, that we read and hear of, even those reported by the Board of Health, are not genuine cases. It takes a great deal of experience to be able to make the positive diagnosis of either one of these diseases. One must have seen verified cases before venturing a positive diagnosis.

Not long ago I had occasion to refer a suspicious case, which I thought might be small-pox, to one of our prominent dermatologists. After assuring me that it was not small-pox, he commented on this very subject, and virtually remarked exactly what I have just said.

How imperative it is for the general practitioner to know positively what he says when he informs his patient that he is suffering from syphilis. By erring in such an instance as this, from lack of proper education and experience, is certainly worthy of much censure.

Let us now turn to ophthalmology. To the improperly trained practitioner a case of virulent purulent conjunctivitis never suggests itself as one likely to be gonorrhœal in character. He perhaps has heard of such a condition. But to recognize it, or even have the disease occur to him, is altogether out of the question.

In just such an instance as the above, see how much depends on a correct early diagnosis and the proper treatment. The ignorance of the physician in such a case might cost the innocent patient one or both eyes.

In obstetrics it is of the greatest importance that the general practitioner should be thoroughly experienced; for in this branch of medicine, which is ordinarily conducted by the family doctor, where emergencies can arise at any moment, the physician must have at his finger's end the proper method to pursue at the critical time.

How many doctors are there who regularly attend cases of labor, in conjunction with their general practice, who have had the proper scientific training in midwifery? I venture to say it is the great exception for a general doctor to have had any experience or systematic schooling whatever as an accoucheur when he begins his private practice. I am sure none of you will take exception to this assertion, because you all know or have seen cases that have been mismanaged by the general physician, simply on account of deficient early training.

I know from my own experience, while an interne at the Sloane Maternity Hospital, that this specialty requires personal management and manipulation under careful supervision—not merely observation and book-reading—to properly fit one to conduct a labor case.

That the general practitioner should be conversant with the principles and practical part of surgery, particularly minor surgery, cannot be disputed by anybody. Yet how many of our general practitioners are at all able to conduct a minor surgical case according to true scientific principles? I venture to say mighty few; especially is this so of those who have been in practice for many years. You might say that the old practitioner has an excuse for not practising surgery (simple or minor) according to modern methods, because the present methods, particularly the aseptic and antiseptic ones, were unknown to him when student and interne. This I contend is no legitimate excuse. It certainly behooves a conscientious practitioner, just because modern methods have superseded old-time ones, to familiarize himself, not alone by reading but by actual experience, with a more recent technique. How many take the pains to do so? Surely very few. All of you present, I am sure, have seen, as I have, most wretched minor surgery practised by men who have tremendous reputations as conscientious and scientific practitioners. I am not in the least exaggerating, and I know you don't think that I am, by making these sweeping assertions. I could quote innumerable cases, but I am so positive that you all can recall cases, as I can, that I hardly think it necessary to take up your time by doing so. I hardly deem it necessary to take up any more of the specialties to show you the indication for the general practitioner being proficient in all departments. The mere fact that I have directed your attention into this channel of thought will be sufficient to cause convincing examples to suggest themselves in those specialties not dwelt upon.

Coming now to the different specialties, I will take, first, that of neurology, to illustrate the truth of my second statement, namely, "For the specialist to be absolutely thorough in his especial sphere or specialty"

it is necessary that he be familiar with all other branches outside of his own. All of us, even those who are not neurologists, know how important it is for the nerve specialist to be well acquainted with ophthalmology, particularly with ophthalmoscopy. The nerve specialist, again, must be familiar with dermatology, for we well know that there are many skin diseases depending directly on a derangement of the nervous system. If the neurologist has not had a good skin training, he might, while treating a nervous case with an eruption, have difficulty in determining whether the eruption is due to the disordered nervous condition or to some other cause unbeknown to him. With a proper dermatological experience the neurologist could seldom be placed in such a dilemma, and a differential diagnosis would be plain sailing for him. Furthermore, when you consider how frequently a cough is of a nervous or hysterical origin, how much more satisfaction would it be to the neurologist if he were familiar with laryngology, so that he might determine for himself that there was no throat lesion that could account for the cough. Again, before he can conclude that the cough is of nervous origin he must have excluded the lungs; hence you see the indication for the neurologist to be apt at making a physical examination of the chest.

When we consider the department of surgery no one can dispute the fact that for a surgeon, above all other specialists, to be thorough in his sphere, particularly as a diagnostician, he must be well qualified in all branches of medicine. It is apparent to every one of us, without citing examples, that the surgeon must be a good physical diagnostician. The ability to percuss and auscultate is, perhaps, as important a quality for the surgeon to possess as the general practitioner. That the general surgeon should be a gynecologist admits of only one argument.

In doing an exploratory laparotomy, for instance, it does not infrequently happen that the surgeon after entering the abdomen finds a condition of affairs that, strictly speaking, belongs to the domain of gynecology. How embarrassing it must be for the surgeon and how unfair to the unfortunate patient when a condition like this is met with and the operator is not competent to manage the case simply because it turns out to be purely gynecological. Such an instance as this, gentlemen, is by no means a fanciful one, for believe me when I tell you that I was an eye-witness to such a case.

Conversely, I can well state at this point, that for the gynecologist to do justice to his work and to save himself from embarrassment, he must have had a good surgical training. It often happens that the gynecologist in performing a laparotomy, even though he is quite sure of his diagnosis, has to deal not with a gynecological case but with a surgical one.

Thus you see, gentlemen, in the several specialties that I have referred to, the strong indication, the necessity, for the specialist to be well informed and experienced in other departments besides his own.

Possibly the instances I have brought up have not been very striking ones, but I feel sure they will serve my purpose in calling your attention to this exceedingly important question of a broader and more liberal education and training of the doctor.

I cannot close my paper without dwelling for a moment on the important subject of emergencies, the proper management of which all doctors, whether specialists or general practitioners, ought to be thoroughly familiar with. Every one of us who practises medicine should know, not from reading but by actual experience, how to administer an anæsthetic, and how to manage a possible emergency in connection with its administration. I contend that the position of anæsthetizer is, oftentimes, if not always, as important as that of the operator.

That all of us should know, instinctively, how to cope with hemorrhage cannot be emphasized too strongly. There are doctors, and many at that, who either become flustered or are wholly incompetent when confronted with a severe case of hemorrhage. In connection with hemorrhage I cannot let this opportunity pass by without referring to the extraordinary results from infusion when practised properly.

It is not my purpose here, gentlemen, to describe the methods and technique of infusion or how to control hemorrhage. I merely want to attract your attention to a subject that above all others requires careful consideration by the medical fraternity.

43 East Sixtieth Street.

SARCOMA OF THE NASAL CAVITY; LIGATION OF BOTH EXTERNAL CAROTIDS; DECIDED BENEFICIAL EFFECT.

By M. D. LEDERMAN, M.D.,

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Malignant disease of the nasal passages is happily not a frequent manifestation. Unfortunately its origin is so insidious that when symptoms arise which demonstrate its existence the disease has already assumed a formidable aspect. As the prognosis in such cases is usually of a serious character, we can only hope to alleviate suffering by employing strenuous measures. No remedy is so prompt in its action, nor so justifiable in its application in suitable cases as surgical interference; and as the latter, though extrinsic in my case, has had so marked an effect upon the pathological process, I offer this curtailed contribution, trusting it may prove of some interest.

Observers have reported instances of adeno-sarcoma, fibro-sarcoma, myxo sarcoma, spindle-celled sarcoma, round-celled sarcoma, osteo-sarcoma, and rarely melano-sarcoma, invading this region. The round-celled variety probably appears most frequently. Sarcoma in this vicinity, if not stimulated by medicinal or mechanical irritation, is inclined to run a slow course. It is more often met with before the age of forty years, in a number of recorded cases presenting itself before the age of puberty, and terminating fatally after an average duration of from three to four years. It is claimed that the small round-celled type is the most malignant, developing very rapidly and prone to reappear even after it has been seemingly eradicated. The malignant nature of the growth grows less as the proportion of normal tissue elements in the structure of the tumor increases. The osteo-sarcoma is another of this group which grows with astounding pace. In a patient suffering from the latter form of the disease, whom I had the opportunity of examining, the tumor, which originally started in the nasal chamber, had eroded through the basilar portion of the occipital bone, extending into the maxillary antrum; into the ethmoidal and sphenoidal cells; through the floor of the orbit, causing pronounced exophthalmos, necessitating enucleation of the eye; descending through the soft and hard palate, appearing in the mouth. Attempts at extirpation were made before it had reached such enormous proportions, but they failed to arrest its growth. When last seen the neoplasm occupied the entire right side of the face. Morphine in ten-grain doses was taken as the only relief.

Direct surgical treatment in cases of sarcoma of the nasal passages should be carried out early and thoroughly. At times, however, we meet with patients in whom this procedure is not feasible nor justifiable, owing to the extensive spread of the disease. Such was the state of affairs existing in the case which I herewith report. The question naturally arises, what means are to be employed in similar conditions?

Dr. Coley has had some promising results from injections of erysipelas and bacillus prodigiosus toxins. Protonuclein has been recommended as being of service in diseases of a malignant nature.

As far back as 1849, Van Buren [1] ligated the right common carotid artery in a patient afflicted with sarcoma of the nasal cavity, attempting to retard the progress of the growth in this manner. Though the patient succumbed eighty-two hours after the operation, the tumor had already appreciatively diminished. Dr. W. C. Jarvis [2] mentions a cure of a similar case by ligation of both common carotids and the subsequent exsection of a portion of the superior maxilla.

The history of my case is as follows: Charles B——, varnisher, twenty-six years of age, was referred to me in May, 1895, by Dr. A. Mayer, for a growth in the nose, which he thought was malignant. For over three years the young man had repeated attacks of nose-bleeding, lasting for several hours, which were difficult to arrest, and compelled him to stop work. As a child he remembered having an occasional hemorrhage from the nose, and also recalled having colored blotches over his body (very likely some variety of purpura). He felt quite weak after the prolonged epistaxis, and had to rest before he felt able to resume work. Frontal headaches were very severe for two years past, and were the principal cause of complaint. Obstructed nasal respiration on the right side became annoying. Anosmia gradually followed, but no ocular disturbances appeared. At that time he was examined by a surgeon, who evidently recognized the disease, as he suggested exsection of the superior maxilla, with the possible enucleation of the right eye. To this Mr. B—— objected, as the eye had not troubled him in the least, and he did not suppose his affliction to be so serious a matter. The patient's general appearance aroused suspicion. He was cachectic and emaciated. On inspecting the nose a large fleshy mass was observed presenting at the right vestibule, the anterior and lower portion of the growth being of a grayish color. It was impossible to see the attachment, as the tumor filled the entire cavity. On attempting to locate same by means of a probe a profuse bleeding resulted. Cocaine was applied to arrest the hemorrhage and at the same time to facilitate the examination. On posterior rhinoscopy the growth was found occupying the right and left choanæ, being attached to the pharyngeal vault and upper portion of pharynx, and to the pterygoid plates of sphenoid bone. It almost encroached upon both Eustachian orifices, the hearing being slightly affected. Owing to a deflected septum to the left, no view could be obtained through this side anteriorly. There was some space on the left, posteriorly, along the floor of the nose, through which the patient was able to breathe.

Fearing a prolonged bleeding the galvano-cautery was employed in removing a portion of the tissue from the right side. A tampon of punk (surgical sponge) checked the copious bleeding which followed. Microscopical examination showed the specimen to be a small, round-celled sarcoma, with very little intercellular structure. As the disease was so extensive, a bad prognosis was made. Suggested some possible benefit from the use of the erysipelas and bacillus prodigiosus toxins. The patient received the first injection of two minims into the anterior portion of the tumor on the morning of May 25, 1895. Dr. H. A. Cohrs, of Brooklyn, who lived near Mr. B——, was kind enough to note the effects of the toxins during the interim. He informed me that the patient developed chills after leaving my office, and that they continued until he saw the patient at 2 P.M. same day. Mr. B—— had vomited several times; complained of violent pains in the back and joints, and of severe headache. The face was considerably swollen, and the conjunctivæ much injected. Temperature (rectal), 104.8° F.; pulse, 120. At 5 P.M: The vomiting had ceased; pain was less; temperature, 103.6° F.; pulse, 115. At 8 P.M.: Pain in joints and back absent; conjunctivæ normal; headache milder; temperature, 102.8° F.; pulse, 110. At 11 P.M.: Temperature, 101.8° F.; pulse, 100; was very restless; morphia sulph. (gr. ¼) was given by mouth.

May 26, 1895, 11 A.M.—Temperature, normal; pulse, 88; felt very weak; was not able to come to the office.

May 28, 1895.—Mr. B—— came to see me. He felt much depressed; had no appetite, and stated that his throat was very sore. This was due to an herpetic eruption, situated on the uvula and hard palate. The mucous membrane was swollen and painful. A similar lesion existed at the corners of the mouth. Odontalgia was also troublesome. Infection was quite marked in this instance. As the temperature had remained normal another injection of one minim was given. At 7.30 that evening the temperature was 101° F.; pulse, 90, and intermittent. Similar symptoms reappeared, but in milder form.

As the reaction was severe it was thought best to have the patient under daily observation, so he was placed in the Polyclinic Hospital.

On June 3d, 1.30 P.M., gave an injection of one minim. At 4.30 P.M., temperature was 103° F.; chills and nausea became pronounced. Whiskey administered on account of depression; headache became agonizing. Sulfonal given to promote sleep. Temperature receded to 99° F. the following day, and Mr. B—— felt more comfortable.

June 4th, 1.30 P.M.—Same quantity as last was injected. Similar train of symptoms arose. Temperature, 101° F. Cephalalgia became unbearable, and hypodermics of Magendie's solution had to be repeated daily. Iodide of potassium in ascending doses gave no relief. Patient refused further injections of the "toxins," so a surgical measure was proposed. He willingly acquiesced to any procedure that would offer some amelioration, as the headache caused him great suffering.

Drs. Wyeth and Dawbarn examined Mr. B——, and came to the conclusion that the attachments of the sarcoma were too extensive to permit of direct surgical manipulation. Ligation of both external carotid arteries was suggested as being justifiable in this case. Dr. Dawbarn kindly performed the double ligation; eight days intervening between the operations. The veins of the neck were found greatly engorged. Our patient made a good recovery, and left the hospital at the end of the month. At the time of his departure the headache was much improved.

Being advised to go to the mountains, he spent the remainder of the summer among the Catskills. There he lived on fresh albuminous food. His appetite promptly returned after reaching the higher altitude. On his return, August 27, 1895, the parts were examined, and I was surprised to find so decided a diminution in the nasal portion of the growth. It was about one-third of its previous size, and its attachments to the middle turbinated body could now be readily seen. Breathing, in a modified degree, could be carried out through this side, but it was still considerably obstructed owing to the mass occupying the posterior nares, which, though somewhat reduced, yet occluded the greater part of the choanæ. The breathing was better on the left side. The tumor seemed less vascular and more fibroid in character. Probing did not cause any bleeding.

As the patient was much improved, further local operative treatment was postponed. My intention is to remove the pendulous nasal mass with the cold snare, avoiding the possible stimulation of the disease, which might arise if the galvano-cautery wire was employed. Furthermore, direct treatment can now be attempted without starting what might previously have been a serious hemorrhage. As the collateral circulation increases, this danger is naturally augmented.

Mr. B——, in the meantime is taking an alterative tonic, and living on a nourishing diet. He is again able to continue at his work, having gained twenty pounds in weight.

[1] Bosworth: Diseases of the Nose and Throat.
[2] Burnett: System of Diseases of the Ear, Nose, and Throat.

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THE ARMY RATION.

THE recent experiments of the United States Government to test the value of a concentrated army ration have quite naturally proved a failure. They were instituted by the Secretary of War with a view of reducing the bulk and weight of food without impairing its nutritive functions. This appeared to be necessitated by the fact that the American army is more in need of possible improvements in this line, in view of the heavy, tedious and long transportation of supplies across the plains and through districts that are incapable of affording the proper amount and quality of food in times of emergencies. The German army, for example, when moving in small bodies, always purchases supplies on the march as wanted. The same is true of the French, Russian, Austrian, and other European armies, but at the same time the soldiers usually have in their knapsacks what is called an "emergency" ration, generally sausage or preserved meat of some kind. The soldiers of the Japanese army in the late war with China carried an emergency ration of rice in a little tin case strapped to the top of their knapsacks.

The reports made by the different military departments to whom the questions were referred are interesting as bearing upon the value of food products generally, and on the physiological questions involved in the digestive and nutritive processes more particularly. Theoretically speaking it would appear that the problem had been solved regarding the amount of food necessary to sustain life and the varieties of sustenance that gave in minimum compass the greatest amount of nourishment.

All the observers agree, however, that the old-fashioned ration of bacon and hard-tack in suitable bulk is the most practical that has ever been suggested. The quantity of food necessary to keep a soldier in good condition is fixed at twenty-two ounces. The latter amount is increased for obvious reasons to twenty-six ounces.

When the theories were put to a practical test the result was as might have been anticipated. Various concentrated food tablets were employed in Colorado, but more than half the men who were victims to the experiment became candidates for hospital treatment. The following extract from the report speaks very significantly on some very essential and striking facts:

"A company of the Seventh Infantry, at Fort Logan, near Denver, was detailed and furnished with condensed rations, consisting of coffee, soup, bread, and bacon. The coffee and soup were in small tablets, which, when placed in boiling water, were ready for consumption in two minutes. The bread was in small flat cakes, the weight and hardness of a brick, but when moistened swelled out like a sponge. The bacon was compressed and needed only to be warmed in a frying-pan. The soldiers started out with ten days' rations, but the campaign was brought to an abrupt end after four days of fifteen-mile marches. The food not only did not satisfy the hunger or give strength, but seemed to irritate the stomach. After the first meal two of the enlisted men had to be placed under the surgeon's care. At the end of the second day thirty of the seventy men in the company were ill, and on the fourth day the whole command went into camp, and couriers were sent to town for hard-tack and ordinary coffee and bacon. Some of the soldiers were seriously ill with a stomach complaint, and were confined to the hospital for several days."

All this goes to show that not only very much is to be learned regarding laboratory feeding, but that we are also far from the proper appreciation of nature's complex requirements in food taking. Thus far the human laboratory, with its multiple, interdependent, and complementary methods, has a monopoly of its own in fixing the proper standards for digestion, assimilation, and subsequent growth. There is a natural law pervading the whole that must not be violated by too radical attempts at modification or improvement. The stomach pouch is constructed with a certain capacity for food which cannot be gainsaid by any chemical formula which mere human ingenuity may create or theoretical reasoning devise. Each of the varied and subtle processes of digestion must necessarily adapt themselves to the construction and functions of an organ that has a purely vital as well as a merely chemical duty to perform. The stomach must earn its living in its own way, as by such purely physiological effort in bringing each and all of its mechanical, vital, and chemical functions into play, it can best maintain its health, activity, and usefulness. No prepared or concentrated food can relieve it of any or all of its activities in that gradual conversion of a legitimate quantity and quality of food that constitutes a natural and perfect digestion. In such an aspect a moderately full stomach is something more than a feeling. Its work must be distributive rather than restrictive. It must be healthfully distended with food bulky enough to occupy spare places, otherwise its most important function is hampered, while for lack of mechanical stimulus the intestines become stagnated into almost helpless inactivity. Hence it is easy to see how the experiments failed, and the victims paid the penalty of outraged physiological laws. So far, at least, there is not sufficient reason, because a man becomes a soldier, that his stomach should be puckered around a desiccated soup tablet, or that it should wrestle alone, in some dark corner of an accommodating fold, with some soggy and glazed albuminoid.

Horseless Carriages are used by the country physicians in France.

QUESTION OF PRIORITY IN SERO-THERAPY.

THERE are many names honorably associated with recent discoveries concerning the immunizing and curative properties of the blood of immunized animals, and the future alone will determine, if it is possible ever to know with certainty, who was actually the first to state the doctrine of artificial immunity with an appreciation of its stupendous bearing upon modern medical science. But while the future will render the final judgment, the documents and the evidence must be presented now while the chief actors are still on the scene. One of the claimants to this honor is Professor Victor Babes, of Bucharest, who presented his side of the controversy in a communication addressed to the Academy of Medicine of Paris, early in the present year.

While Behring and Kitasato, he said, published their first communication on tetanus in the *Deutsche Medicinische Wochenschrift*, No. 49, 1890, the writer, in collaboration with Lepp, had established the same principle in relation to rabies in a paper published in the *Annales de l'Institut Pasteur* for July, 1889. He thought at the time that Richet and Hericourt were the first to immunize animals by means of serum from animals already immunized, but on reading again the works of these authors, he found that they had made no such claim. They inoculated rabbits with septicæmia and then treated them with the blood-serum of non-immunized dogs, and also of dogs which had recovered from a previous attack. They apparently, however, did not appreciate the significance of this experiment, remarking simply that the blood of these last dogs seemed to be more efficacious than that of the others. If, then, the claim of these authors to priority be disproved by their own writings, Babes holds that his must be conceded.

He quotes from his paper to show that he employed the serum of an immunized animal with a curative aim. His experiments were thus described in the article above mentioned. Four dogs with shaven heads were put into a cage with a mad dog, which bit them. Two of these dogs were untreated, the other two had received an injection of five grammes of blood from an immunized dog every day for a week. The two control animals were attacked with hydrophobia sixteen and seventy-eight days, respectively, after being bitten. One of the vaccinated dogs died a month after being bitten, but without having exhibited any symptoms whatever of rabies, and experiments showed that its brain substance was not virulent. The second dog lived many years free from disease.

We think the objection might hold that this was only a preventive inoculation and not an attempt at cure—a distinction with a difference when it comes to deciding a question of priority or determining whether the significance of a discovery was appreciated at the time it was made, in other words, whether it really was a discovery. Vaccination was employed solely as a preventive of small-pox for a long time before its value as a curative agent in the early stages of the disease was recognized. However, that Dr. Babes did soon recognize the actual curative value of the serum of immunized animals is evidenced by the fact that he used it the following year—in 1890—as a curative agent in man.

The discoveries which Professor Babes claims as his own, and upon which he bases his contention of priority, are the following:

1. That immunity against infectious disease, in this particular instance rabies, may be transmitted to susceptible animals by means of the blood of animals previously rendered in high degree immune to this disease.

2. That this method will effectively prevent the development of the disease even in animals that have been inoculated with the virus prior to the beginning of treatment.

The writer expressly disclaims, however, the assumption that Behring had based his work upon the discoveries made by himself in Pasteur's laboratory, which Behring might possibly never have heard of; and he desires in no way to belittle the epoch-making labors of Kitasato, Ehrlich, Roux, and others, for without the researches made by them, he admits, his own discovery might have remained hidden and barren of results. But he contends that, in the recording of the part taken by individual workers in laying the foundations of sero-therapy, the future medical historian cannot in justice omit all reference to the part he himself has taken in it.

THE DENVER HEALER.

A MOST extraordinary social and psychological phenomenon has been exciting the population of Denver and the great Divide. A certain person, known as "Schlatter the Healer," has been the principal figure in it. The facts in the history of this man and his works have been published in the daily papers, and are probably pretty well known to our readers. This man, it seems, became possessed with the idea that he was a second Messiah, and that he was sent to the earth with healing powers. He passed a long period of solitude and deprivation in the Arizona deserts, and then came to Denver, where he announced his mission. He talked, dressed, and acted in a curious and eccentric fashion, so that public attention was soon called to him, and he was helped to carry out his work of healing by the assistance of an enthusiastic friend. Schlatter's fame as a "healer" soon spread throughout the West, and people flocked to him from distant regions, with the result that the business of the railroad companies running into Denver was distinctly increased. It is reported that he saw and treated many thousands of people daily. The Denver "healer's" methods were very simple. He stood at one side of a fence which enclosed the house where he lived, while the people who came to be healed passed slowly by in a row on the other side. He took each one by the hand and uttered some words of promise, direction, and encouragement. Schlatter's views as to his powers were very ingeniously adapted to this kind of treatment, for he did not claim to cure at once, but told the people that they would get well after a few days or a few weeks or a few months. Naturally, among many thousands of people who went through this curious ordeal, a certain per cent. would get well, either by mental influence or the natural course of events. The peculiar mysticism of the man, his apparent unselfishness, for there seemed to be no money-making in connection with the work,

lent a somewhat additional credence to his claims, and his popularity and fame were growing steadily, up to within a few days from the time of the present writing, when he suddenly disappeared, leaving the message that his work was finished. Nothing could have been more dramatic or better timed than this sudden breaking-off in the very height of his popularity. So far as reports go, it seems that Schlatter would very soon have far out-done the healing springs of the waters of Lourdes, and there is, in the history of this curious man, something quite as surprising and interesting as that connected with the French faith-curing resort. As to the reality of his cures, however, or the percentage of them, we are told by the Rev. Mr. Heisler, of Denver, who has investigated the matter, that very few real cures, even of fanciful ailments, have taken place, and Mr. Heisler is of the opinion that Schlatter is by no means what he represents to be. Most people, however, we believe, take the view that he is a self-deluded enthusiast, and more or less insane. From the accounts that reach us, it would be fair to conclude that Schlatter's is a case of what is known to alienists as "paranoia religiosa," and the pictures that are given of him represent quite distinctly the degenerative physical characteristics of a well-marked paranoiac.

THE MORTALITY OF MEDICAL MEN.

Dr. Cortright, in the Brooklyn *Medical Journal*, has written a paper on the "Mortality and Causes of Death in Medical Men." This paper is based on the records of four hundred and fifty physicians who died in New York and Brooklyn during the past eight years. The average age of death was 54.6 years, and the mortality was about 25.23 as compared with a mortality of 15.93 in clergymen and 20.23 in lawyers. There is a considerable mortality from the self-administration of drugs; that from consumption is about half the general rate, while that from typhoid fever is very high. There is a high death-rate due to arterial sclerosis and other degenerative changes.

The practical conclusion deduced from Dr. Cortright's statistics, says the *British Medical Journal*, is that doctors should take at least three weeks' complete rest and change yearly, should be extremely moderate in the use of stimulants, should be regular in their meals, never worry and never hurry. This is the kind of advice that doctors give, but do not take. The further suggestion, however, that they all join some medical sickness and life assurance society, is a wise one.

STIMULANTS FOR ATHLETES.

The alert mind of the modern drug manufacturer has not failed to take note of the extraordinary interest and widespread indulgence in athletics and sports of every kind. The bicycle, field and track athletics, foot-ball, golf—all these things have increased enormously the number of contests in which the person who has the greatest physical vigor and endurance wins. It has occurred naturally to the pharmaceutist, therefore, that some substance which would make the competitor in athletic sports keep his wind and his strength a little longer would be eagerly seized upon. We hear already of bicyclists who use various coca and kola compounds in order to help them in their work. It is even rumored that preparations of cocaine are consumed to some extent. We feel sure that all true athletes would disdain any such injurious and adventitious aids, but there is a vast number of persons who take such things thoughtlessly and injury is done thereby. The announcements which are made in advertisements of various stimulants, in which it is claimed that they save the strength and promote the endurance of bicyclers and athletes generally, are very much to be deprecated. There are no drugs which will help one to win a game that could not be won without them, and the general effect of drug-taking, and especially of the use of drugs belonging to the caffein and cocaine class, is distinctly bad. We believe that the medical profession ought seriously to warn those with whom they come in contact professionally, against the use of such things.

"THE PASSING OF HYPNOTISM."

The *Journal of the American Medical Association* has an editorial, the general trend of which is to show that hypnotism has had its day, and is practically being laid upon the shelf, or, at least, its use confined to irregulars outside of the recognized school of medicine. This is a rather curious statement to make, at least, if one measures the interest of a medical topic by the number of articles written about it. There are few subjects about which German physicians are writing more monographs at present, or in which they seem to take a more active interest. The sensational side of hypnotism is certainly dying out, but a certain practical side, which is represented by the word "suggestion," has undoubtedly come to stay, and to be used in therapeutics.

GREEK AS THE LANGUAGE OF MODERN MEDICINE.

Dr. Achilles Rose is to be congratulated on having won over another adherent to his cause. The *Post-Graduate* devotes a page of editorial to pleading for the use of modern Greek as an international language. "What a start medical science would take," it says, "if we could have a congregation of doctors from various sections of the earth who could address us in a language known to all."

Fibroids Cured by Extract of Thyroid Gland.—Jouin (*Bulletins et Mémoires de la Soc. Obst. et Gynéc. de Paris*, No. 8, 1895) states that he has successfully treated several cases of myoma of the uterus by doses of Nielsen's dry extract of sheep's thyroid gland. He gives four to eight tablets daily, equivalent to half a thyroid gland. Out of five cases, the two which have been fairly long under treatment have distinctly improved in health. In the first case the tumor has distinctly diminished in size. Menorrhagia is much diminished by this treatment. In other classes of patients, hæmorrhoids present in at least one case were greatly relieved.

News of the Week.

Prostatic Catheter.—Shove me little, shove me long.

Influenza in London.—Influenza has reappeared in London and is becoming daily more prevalent. In this city there is not yet any special development of the disease.

A Freak of Nature.—A young woman living in Paris recently gave birth to a child whose eyes were placed on the top of its head. The infant seems to be doing well and crowds of people have tried to satisfy their curiosity by visiting the house.

Death of Dr. Richmond Lennox, of Brooklyn.—Dr. Richmond Lennox died on November 14th, aged thirty-four. He was a graduate of the Polytechnic Institute and of the College of Physicians and Surgeons of New York City.

Medical Mission Work in China.—Referring to the recent Szchuan riots and massacre, the *China Medical Missionary Journal* says: "Foolish and exaggerated statements of the esteem in which the foreign doctor is held in China, a too exclusive dwelling upon successes and their impression on the populace, has caused people to forget that there are two sides to this shield. While on the one side it is undeniable that medical work operates powerfully to remove prejudice and hostility, yet on the other side it must never be forgotten that it gives, and must give, however cautious one may be, abounding opportunities to ignorant and superstitious and malignant people to spread all sorts of evil stories. The removal of an eye to arrest sympathetic ophthalmia, or the amputation of a leg for a compound comminuted fracture, are deeds which, though they may be absolutely necessary, are powerful for either good or evil, and one can never be sure in which direction they will operate. This is true not only of hospitals conducted by missionary medical men, but also of those benevolent establishments to which so many port doctors freely give their services. Now, there can be no question that in Szchuan ugly stories were afloat about the hospitals and the doctors."

The New York State Association of Railway Surgeons.—This Association held its annual meeting in New York City on November 12th, Dr. R. S. Hardin presiding. The president, in his address, advocated strongly a co-operative system between railway managers and employees, whereby hospitals may be erected along the railroads, and medical services rendered to injured passengers, as well as the employees themselves. A tax of one cent on each dollar of an employee's monthly salary, and a contribution of the railway management, would be sufficient to put up hospitals, sustain them and pay funeral expenses, provide expert service, and furnish a relief fund. The association indorsed the views of the president. Another point considered by the president was the transportation of persons suffering from infectious and contagious diseases. Instances were given of the loss of life resulting from passengers contracting scarlet fever and other diseases during railroad travel. The hangings and furnishings of the Amercian sleeping-cars were criticised as being liable to become infected with the germs of tuberculosis and other diseases. It was suggested that there be isolation cars, and that certain compartments might be arranged like those of the quarantine or operating wards in a hospital—compartments which could be thoroughly cleansed and disinfected, and in which infectious cases could be transported. A paper was read by Dr. W. L. Estes, of South Bethlehem, on "Multiple Synchronous Amputation." The writer advocated immediate amputation in all cases where the injured person is not too weak. The subject of "Shock" was discussed, and the use of strychnia recommended, some preferring that to the administration of whiskey and brandy.

Judge Dailey, of Brooklyn, read a paper which did not seem to meet the sympathetic approval of his audience. He cited instances in which railway surgeons had overstepped their professional duties in order to adjust claims and accidents advantageously to their employers. He stated that this practice of taking notes for the benefit of their employers, and to be used against the injured persons in prospective trials, was illegal as well as immoral, and that raliway surgeons rendered themselves liable to criminal prosecution thereby. Dr. George Chaffee agreed with the speaker that the railway surgeon had no right to perform any legal functions. The officers elected for the ensuing year were as follows: *President*, Dr. C. S. Parkhill, of the Erie Railroad; *First Vice-President*, Dr. J. F. Valentine, of the Long Island Railroad; *Second Vice-President*, Dr. J. K. Stockwell, of the Ontario and Western; *Secretary*, Dr. C. B. Herrick, of the Delaware and Hudson Railroad; *Treasurer*, Dr. Theodore S. Mills, of the Ontario and Western; *Chairman of the Executive Board*, Dr. George Chaffee.

Death from Sin and Fear.—The papers report the case of a child living in Anderson, Ind., who was attacked with diphtheria. During the course of the disease the child was attended by a Christian Scientist. The patient died and the Scientist made out a death return, "Died from sin and fear." The authorities made an investigation and found that the child had died of diphtheria. It was also found that the "doctor" and the parents had relied upon faith entirely in the treatment of the disease. Warrants have been issued for the arrest of both the parents and the "doctor."

Dr. John Ridlon has been appointed orthopedic surgeon to Michael Reese Hospital, Chicago.

The Moscow Congress.—Dr. A. Jabobi writes that it has been decided to hold the International Medical Congress in Moscow, August 7 to 14, 1897, instead of in 1896, as was originally announced.

The New Orleans Polyclinic.—Dr. Isadore Dyer writes that a statement in the prospectus of a newly established school, that there is no post-graduate medical school south of Philadelphia, is incorrect, for the New Orleans Polyclinic is a flourishing institution that has been in existence for eight years.

The Alert Managers of Certain Mineral Springs in France have already discovered that the new elements argon and helium exist dissolved in the healing waters which they sell.

Society Reports.

SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.

Eighth Annual Meeting, held in Washington, D. C., November 12, 13, and 14, 1895.

THE Association met in the banquet hall of the Hotel Shoreham, at 10 A.M. Tuesday, November 11th, and was called to order by the President, DR. L. MCLANE TIFFANY, of Baltimore, Md.

Address of Welcome.—DR. H. C. BUSEY, of Washington, delivered an address of welcome on behalf of the medical profession of the District of Columbia. In his closing remarks, Dr. Busey said: I solicit your aid and co-operation in our effort to secure the protection of our people from the horde of impostors and charlatans which you have driven from your borders by the enactment and enforcement of medical-practice laws, and which has made the District of Columbia a common rendezvous, where the most atrocious methods of the charlatan and mercenary impositions are openly and flagrantly committed to the wrong, injury, and robbery of its citizens. You represent the most influential and intelligent class of suffragists, for whose aid on the hustings and at the polls we plead.

To state the deplorable condition of this District fully and broadly, there are five medical schools and several medical societies chartered by acts of Congress, or under the general incorporation law authorized and empowered to license persons to practise the art and science of medicine, without any uniform, and, by some, without any standard of qualification beyond the ability and willingness of the applicant to pay the required fees or give promissory notes for such payment; and, under the provisions of the general incorporation law, any dozen of persons can obtain a charter upon payment of the fee for recording the same, authorizing them as a body corporate to confer the degree of M.D. at their pleasure and will. Such is the status of this Federal territory, which is under the exclusive jurisdiction of the highest tribunal of legislation in the land, made up of the representatives and Senators from forty-nine States and Territories, which have enacted medical practice laws for the protection and welfare of their citizens. Take these facts home with you, and re-echo them throughout the length and breadth of the land, that such criminal neglect, not less disgraceful and scandalous than the slums of vice, may not continue to afflict the citizens of the Federal territory.

PRESIDENT TIFFANY responded to the address of welcome for the Association.

After some announcements had been made by DR. JOSEPH TABER JOHNSON, of Washington, Chairman of the Committee of Arrangements, the reading of papers was taken up.

Personal Experience in the Treatment of Stab Wounds of the Intestines and Peritoneum.—DR. ALFRED BROWN, of Alexandria, Va., read a paper on this subject. At the outset the author stated that about one hundred and thirty cases of stab wounds of the peritoneum and intestines had come under his care during his entire professional experience in both private and military practice. In less than one-third of the cases the intestines were wounded. It is a little remarkable, said the author, that there should be such a disproportion in the number of intestinal wounds in these cases; in other words, it is a singular fact that in a large majority of abdominal wounds the intestines escape injury, even when such wounds are extensive. Transverse and longitudinal stab wounds of the intestines were then considered at length. Dr. Brown regards the sabre wound as one of the most dangerous in its immediate and remote results. If the edge and point of the sabre are sharp, the wound inflicted is large and deep. The weapon, cutting through the intestines and mesentery, usually passing through the abdomen, severs large blood vessels and causes frightful hemorrhage, which is speedily fatal. He had only seen three sabre wounds of the abdomen, and they ended fatally in a brief time. The stiletto is a dangerous instrument, as it almost invariably enters an intestine or other organ. It does not kill by hemorrhage usually, but makes an opening in the intestine sufficiently large to permit the escape of a small quantity of fecal matter, causing septic inflammation. It is one of the most difficult of all intestinal wounds to detect.

The diagnosis of intestinal wounds was then dwelt upon, reference being made to Senn's hydrogen-gas test to detect wounds of the intestine. While he considered it a useful test, in remote sections of the country, far from large cities and towns, it is not practicable because of the impossibility of procuring the apparatus and generating the gas. In all abdominal stab wounds the author's rule has been, after cleansing the hands and thoroughly disinfecting them to insert the index finger and explore the intestine, to ascertain if there is an opening. In certain cases a wound may exist in the intestine, but it may be so small as to escape detection. But if the intestine is wounded, whether we can insert the finger or not, there is always more or less extravasation of fecal matter and gases, and if the finger comes in contact with this matter, it is certain to retain for a length of time the peculiar odor of human fæces. This will always afford positive evidence of an intestinal wound.

In treating simple wounds of the peritoneum, the author's rule has been to close them with silver-wire sutures after thorough disinfection. Formerly he closed these wounds without regard to antiseptic measures, except that the wound was washed with hot water and soap. On the battle-field and in field hospitals, wounds were washed with any water that was convenient, and were not washed at all when water could not be obtained. Previous to the introduction of antiseptic treatment in dressing wounds but little attention was paid to the condition of instruments, sutures, sponges or dressings, except the practice of ordinary cleanliness, and the percentage of cases of healing by first intention of simple wounds of the peritoneum was large. In dressing simple wounds of the peritoneum scrupulous attention should be paid to the laws of cleanliness. In treating wounds of the intestines two vital procedures are necessary, one is a complete and thorough closure of the intestinal wound; the other is to cleanse the peritoneal cavity of all fecal matter, blood, and gases escaping from the intestine.

Dr. Brown then described a simple method of reducing a protruded intestine in stab wounds. He takes two long slender curved needles, threaded each with a silken cord ten or twelve inches long. One of these needles is passed midway through the margin of the wound, the other needle is passed through the opposite margin and then each cord is tied in a separate loop. These cords are drawn in opposite directions by two assistants, upward and outward, firmly and tightly. By this means the wound is made to expand or gape widely and at the same time the walls of the abdomen for a large area around the wound are very considerably elevated above the intestines, while the patient reclines in the dorsal position, and a considerable vacuum is in this way created and the intestines will glide back without force or manipulation to fill this newly created vacuum.

DR. RICHARD DOUGLAS, of Nashville, said that in peritoneal wounds we always have a mixed infection, which is more serious than an infection from the colon bacillus. Peritonitis, whether local, adhesive, general or septic, should be considered of germicidal origin. In closing the abdominal wound, he thinks it is proper to always approximate the peritoneum, as by so doing we lessen the danger of hernia.

Dr. C. A. L. Reed, of Cincinnati, expressed himself as being apprehensive about mere exploration with the finger to detect stab wounds of the intestines. However erudite the tactile sense of the surgeon may be, at times it would prove misleading, and therefore in certain cases it was exceedingly important to enlarge the original incision or wound, and that part of the viscera lying immediately beneath it should be brought out and carefully inspected. He believes with Dr. Douglas that the peritoneal margins should be carefully approximated.

Dr. James Evans, of Florence, S. C., related an instance where nine men had received chest wounds by the bayonet during the war, the bayonets having been previously stuck in the ground, and yet all of the men recovered. He attributes their recovery to the form of wound made by the bayonet. In another case, a man had been shot within half an inch of the navel. He had no rise of temperature, yet when he saw the patient the omentum had extruded to the size of both his hands. He applied a double ligature, then put a piece of adhesive plaster over the surface, and the man recovered. He had frequently seen gunshot wounds of the abdomen during the war in which there was extravasation of fecal matter through the wound, but unaccompanied by shock.

Dr. A. Vander Veer, of Albany, had always made it a practice to first inquire carefully as to the kind of weapon by which the wound is made. He had seen several of the wounds inflicted by bayonets during the war, but does not remember of having seen the intestines or stomach penetrated by them. There should be no delay in treating stab wounds. The surgeon should act promptly and not wait for symptoms to present themselves. Just as a case of perforative appendicitis will terminate fatally in a short time, so will stab wounds of the intestinal tract, unless timely interference is resorted to.

Dr. Hugh T. Nelson, of Charlottesville, Va., said the necessity of enlarging the abdominal wound, under all circumstances, was an imperative one. Four years ago he saw a case in which the small bowel was wounded by a knife and the patient refused operation for twenty-four hours, believing that this viscus was not cut. Symptoms became alarming, and the patient finally consented to have an operation performed. Dr. Nelson opened the abdomen by a long incision, finding it impossible to remove from the peritoneal cavity the extruded contents of the bowel, owing to the fact that an adhesive inflammation had taken place and had agglutinated them to the bowel so firmly that he could not wash them away. He attempted to resect the peritoneum into the pelvic cavity where the fecal matter had burrowed, but could not do so. Peritonitis became general and the patient died. The sooner the abdominal incision is enlarged in stab wounds the better.

Dr. George Ross, of Richmond, asked whether there was any way of distinguishing between the symptoms of nervous shock and shock due to hemorrhage.

Dr. Brown replied that one of the most unerring symptoms was rapid reduction of temperature, but there was no symptom that would enable the practitioner to distinguish accurately between the different forms of shock except the gravity of the condition.

Dr. W. E. B. Davis, of Birmingham, desired to speak of the point in reference to injuries of the gall-bladder. The essayist referred to the fact that injury to this viscus would produce a septic peritonitis. An injury that would produce peritonitis would result in death very soon if there is a large escape of bile into the peritoneal cavity, but Dr. Davis does not believe it is a septic peritonitis. He believes that in the majority of cases the shock following abdominal injuries is due to hemorrhage, and that hemorrhage plays an important rôle in the production of symptoms in these injuries. It was the hemorrhage from these wounds that frequently caused death.

Dr. John D. S. Davis, of Birmingham, expressed himself in regard to the diagnosis of intestinal wounds, as having very little confidence either in Senn's hydrogen-gas test or the flushing method spoken of by the essayist. He had seen perforative wounds of the abdominal viscera where it was impossible from their character and location to flush the abdominal cavity through the opening sufficiently to thoroughly clean it. In addition to the three forms of shock mentioned by the essayist there should be added the shock of sepsis.

Dr. Brown, in closing, agreed with Dr. W. E. B. Davis, that all cases of violent or dangerous shock were due to hemorrhage. In regard to approximating the peritoneum, he had always left it untouched in closing simple wounds in the abdominal wall, and had found it good practice.

Report of Seven Cases of Abdominal Surgery in which the Murphy Button was Applied.—This paper was read by Dr. A. Vander Veer, of Albany, N. Y. The author stated that the seven cases he desired to present had a bearing upon the use of the Murphy button, which is now receiving attention both in this country and abroad, and as a method of intestinal anastomosis is being placed thoroughly on its merits. It is difficult to understand some of the unfavorable reports made by English and German surgeons, when we contrast the very successful results indicated by so many of our American operators, in the practical application of this mechanical device. Perhaps there is no part of surgery that within the past quarter of a century has presented so much in theory, and in which there has been so much disappointment, when practical use has been made of the suggestions, as in the field of abdominal work with all its complications. In other words, how much we have changed from time to time our methods of treatment of many complications, and yet withal there have come certain reliable advances that have met all requirements for which they were indicated, leaving permanently in our possession the comforting thought that a grand progress in the sum total has been made; that we can treat all manner of pathological conditions, traumatisms, malformations, etc., of the intestinal tract and abdominal cavity with less embarrassment than perhaps in any other part of the body, and yet there are very few portions of the human system upon which we operate where more rapid thought and best judgment are to be employed than in abdominal work.

Case I.—The first case was one in which gastro-intestinal anastomosis was made for carcinoma of the pyloric end of the stomach by means of the medium-sized Murphy button, between the upper end of the jejunum and greater curvature of the stomach. Patient was comfortable after the operation, but died from exhaustion on the third day.

Case II.—Case II. was carcinoma of the sigmoid flexure, removal, and end-to-end anastomosis. Operation consisted of removing a mass in connection with the sigmoid flexure three inches in length and an anastomosis of the large intestine by means of the button. Cause of constriction was found to be carcinoma. Patient died from exhaustion on the eleventh day, but was much exhausted and emaciated previous to the operation.

Case III.—Removal of gall-stones from the gall-bladder, using the long drainage-tube button. Recovery.

Case IV.—Removal of eight inches of the small intestine with papillomatous ovarian cyst. End-to-end anastomosis by the button. Perfect recovery.

Case V.—Anastomosis of the gall-bladder with small intestine. Recovery.

Case VI.—Operation revealed a tumor the size of a cocoanut in the immediate vicinity of umbilicus, a portion the size of a silver dollar implicating the umbilicus and in a gangrenous condition. On making an incision there was found a strangulated hernia and many old and firm adhesions. Peritoneum intensely con-

gested; very dark in color. Loop of small intestines included in tumor and gangrenous for space of ten inches. Vessels in mesentery secured, and this portion of the intestines excised. Murphy button used for end-to-end anastomosis. Button passed thirteen days after operation, followed by a large movement of the bowels. Uninterrupted recovery.

CASE VII.—A diagnosis of biliary calculi was made in this case. Dr. Vander Veer made the usual incision for exploration of the gall-bladder, found it containing about two ounces of bile, and through the walls and down into the cystic duct could be felt a number of small calculi. There were some adhesions. He made use of the long drainage-tube button to the fundus of the bladder, and closed the wound, after a careful examination for any possible cancerous mass, which was not found to be the case, then placed the patient in bed. He regarded the use of the button in this instance as a saving of time, leaving the patient in good condition for removal of the gall-stones later. Several days after he had made the exploratory incision the attending physician removed five irregularly shaped calculi, which Dr. Vander Veer exhibited. At this time the patient began to show marked symptoms of cerebral anæmia, with delirium, which continued, patient finally passing into a comatose state and died, temperature just before death reaching 105.5° F.

Dr. Vander Veer said that although the cases he had reported were not many, yet they covered a field in which the Murphy button might be made use of so readily and easily, and the result so satisfactory, that he had considered them worthy of attention as having a bearing upon statistics. He believes he had given a just criticism of the accumulation of facts, so that we could reach and determine definitely as to the value and usefulness of this contrivance. The Murphy button will not answer for every lesion about the intestinal tract, but surely has its sphere of usefulness, being clean, easily handled, and saves the patient from a much longer operation, when time alone is the great desideratum, which cannot be secured by some of the other methods.

Intestinal Resection and Anastomosis.—DR. H. H. GRANT, of Louisville, said there had always been a division of judgment upon the question of immediate suture in acute obstruction or injury requiring resection of the intestine, which even the improvements in technique and means of aid in operative work have not adjusted. The members were all familiar with the Murphy button, and doubtless many had employed it. What it is intended to do, it does well; but too often it does what is not intended, and disaster and death result. There is abundant evidence that it becomes a foreign body; that it occasions spreading necrosis, which involves the peritoneal coat; that recontraction takes place after lateral anastomosis; that fatal results are frequently directly attributable to its use, besides other less important objections.

Lateral anastomosis is now beyond all question the most acceptable method of resection of the continuity of the bowel, if we exclude the button. It is best to accomplish by direct suture, and direct suture is of difficult execution except in very skilled hands. In order to facilitate this suture, Dr. Grant presented a device for clamping opposing surfaces of the bowel, cutting off fenestra between them, and retaining them so opposed until the suture can be completed. He then demonstrated the *modus operandi* of his device.

He had experimentally used the clamp sixteen times, with fourteen consecutive recoveries, but had had but one opportunity to use it in practice. On May 25th he operated on Mrs. E——, aged fifty-three, who had a fecal fistula at the right femoral opening, the result of a strangulated hernia, operated on eight months ago. An incision was made just above Poupart's ligament, near the fistulous opening. The fingers easily liberated the intestine, which presented an opening occupying half its lateral surface and as large as a quarter of a dollar. The mesentery was greatly thickened; the distal segment of the bowel was reduced in size, the proximal dilated at the site of the fistula. About four inches of the intestine was resected; the blades of the clamp were applied opposite the mesenteric borders of each segment, and the anastomosis made as above described. After suturing, the communication between the opposing surfaces was found ample. The cut ends were then invaginated and the anastomosis returned; the abdominal wall closed with silkworm-gut sutures; the site of the fistula curetted and filled with iodoform gauze, and the patient put back to bed in forty-two minutes. There was very little shock. At the present time the patient is well.

The advantages of this method over the other aids, except the button, are manifest. Not only does it do away with the foreign body, but cuts an opening three or four inches long at the fenestra. It is fully as easily accomplished and takes less time. It is no more difficult to use than is the button, but the operation cannot be so quickly completed, as the invagination of the ends is not necessary after the end-to-end approximation by the button. The clamp merely makes direct suture easy to any ordinarily skilled hand.

DR. C. A. L. REED said experience would establish the fact that the Murphy button ought not to be used in approximation of the large intestine, for the reason that the intestinal contents were not sufficiently liquid to pass through the small opening in the button. In the small intestine it is different. There we have liquid contents that will pass through the opening in the button and the approximation is satisfactorily accomplished. Dr. Reed reported a case of resection of the sigmoid for malignant disease (which terminated fatally) in substantiation of the above remarks, the anastomosis being made by means of the Murphy button. He commended the device presented by Dr. Grant, and although he preferred the end-to-end procedure, he would try the device in the next case in which he performed lateral anastomosis. Cholecystenterostomy by means of the Murphy button was one of the easiest, neatest, and altogether most satisfactory operations known to surgery.

DR. JOSEPH M. MATHEWS, of Louisville, said he had taken occasion more than once to call attention to the difficulty that attends diagnosticating tumor of any kind in the sigmoid flexure. Time and again he had been mistaken, as he believed others had, in supposing that he had malignant tumor of the sigmoid when he had not, and supposing, on the other hand, that he did not have when he really did. A few years ago a patient was brought to him from an adjoining State, and from evidence outside of palpation he believed that the man had malignant trouble of the sigmoid flexure. A few days thereafter he was taken to Chicago, was examined by a very eminent surgeon, who positively stated that there was no tumor of any kind in the flexure, and advised the patient to go home and go to work. In less than a week the man was dead. Autopsy revealed carcinoma of the sigmoid flexure. His reasons for opposing resection of the sigmoid and making anastomosis by the Murphy button were in substance the same as Dr. Reed's. Cancer in the sigmoid flexure was not only usually attended by systemic infection, but there is an involvement of other organs and tissues of the body. He would therefore ask, could a man live any longer after a surgeon had removed the tumor than he would if it was left untouched? Granting that there is total obstruction, would it not be better to perform colotomy and let the man live out his allotted days with cancer in a more pleasant way than he would if an operation were done? In lieu of this, it had occurred to him that the plan suggested by Dr. Bacon, of Chicago, of anastomosing the colon to the rectum, leaving the growth there, would be a more favorable operation than extirpation of the carcinoma.

Dr. A. M. Cartledge, of Louisville, said in doing a cholecystenterostomy there was not much time saved by using the Murphy button, and it was not as useful as the ordinary method of suturing. He thought this was well illustrated in one of the cases reported by Dr. Vander Veer, in which there was a passage of stones after the operation, and where it was necessary on account of the extremely feeble condition of his patient. In cases with numerous small calculi extending into the cystic and common ducts, he had made a comparatively large incision in the gall-bladder and sutured it to the peritoneum, where the stones could not be removed, and they would then pass for days externally through the drainage-tube. The orifice in the button is too small to permit the stones to pass, whereas they would escape through a drain and come out. He expressed himself in favor of Dr. Grant's device, and considered it an excellent one for lateral anastomosis.

Dr. W. E. B. Davis believes the Murphy button can be used to advantage in intestinal work where it is necessary to do operations quickly; otherwise the method of stitching, similar to that practised by Abbe, is better, is more certain, and accidents are not so likely to follow it as by the use of a mechanical appliance which is non-absorbable. Cholecystenterostomy by the button should be resorted to only in those cases where it is impossible to remove the obstruction in the common duct. The old method, as pointed out by Dr. Cartledge, is decidedly better in the other class of operations.

Dr. Vander Veer, in closing, was satisfied that end-to-end anastomosis with the button in the large intestine was not likely to be a satisfactory procedure, inasmuch as the calibre of the button was such as not to permit of the passage of hardened fæces through it, while in the small intestine the fæces would easily pass through the orifice in the button. He believed Dr. Grant had presented an appliance that would be of value to the profession. The fact that new devices were being presented from time to time before medical gatherings for intestinal anastomosis was ample evidence that we had not yet reached an ideal method. The Murphy button is an excellent device in the performance of cholecystenterostomy and other operations.

Dr. Grant believes that any surgeon of ordinary skill with his device, after having the two surfaces of the bowel directly opposed, can suture them without soiling the peritoneum or letting them slip away.

Surgical Interference in Rectal Disorders.—Dr. J. McFadden Gaston, of Atlanta, Ga., read a paper on this subject. After outlining the anatomy of the rectum, the author said it is a mooted point in regard to the practicability of eradicating rectal troubles of syphilitic origin by medication, and with the present light on the subject it seems justifiable to resort to such a surgical measure as the condition indicates, while constitutional treatment is being carried out in the case. There are instances of supposed development of specific disease in the form of stricture of the rectum, after the lapse of many years subsequent to any syphilitic contamination, and some authors claim their ability to diagnosticate specific stricture even without a previous history of primary syphilis. Strictures of the rectum from fibrinous depositions in its walls call for division or excision of the structures involved. When carcinomatous induration of the rectal tissues is detected early, there is encouragement to undertake an operation, but after the breaking down of the neoplasm with infiltration of surrounding structures, no benefit is derived from excision of the parts involved. The rectum affords material for surgical work of the most important character, and it should not be relegated to those professing to deal with so-called orificial surgery. Dr. Gaston is fully impressed with the conviction that many cases find their way into the hands of quacks which ought to be treated by members of the regular medical profession, and preferably by those who have made a special study of rectal diseases and are prepared to treat properly all the surgical disorders of the rectum. Reference was then made to a paper by Dr. Gerster, read before the American Surgical Association, upon the surgery of the rectum, in 1893.

The burning and urgent appeal to the surgeon today is for a definite settlement of the issue as to active interference in cases of pronounced cancer of the rectum. Shall we content ourselves with the mere palliative measure of inguinal colotomy and leave the diseased structures untouched, as urged by Dr. Mathews in his paper before the American Medical Association, or shall we endeavor to remove all the tissues involved by extirpation, as recommended by Dr. Gerster? The full statistics of results in the hands of skilled operators ought to be collected and a fair analysis made before a final adjudication of the question can be reached. The materials for such a comparison should be obtained from cancer hospitals in this and other countries, as well as from general hospitals receiving and treating this class of patients, and being grouped together a fair inference may be drawn as to the feasiblity of active interference in any case of carcinoma of the rectum.

Dr. J. M. Mathews said the essayist incidentally alluded to fissure of the rectum giving rise to reflexes. He was glad he mentioned this simply to emphasize the point, that to have reflexes from the rectum we must have a pathological condition. The so-called orificial surgeons had run wild with reflexes from the normal rectum, and as a consequence many respectable citizens in his own city had lost healthy rectums. In regard to stricture of the rectum, his observation has been that benign rectal stricture is very seldom met with. There were cases, however, mentioned by authorities, but Dr. Mathews had failed to find them. If he does find it, it is simply an annular constriction of the mucous membrane, which is easily dissipated. It does not require excision. When the surgeon introduces his finger into the rectum and finds stricture there, it betokens one of three serious diseases—syphilis, tuberculosis, or cancer, and the patient should not be turned aside with a jesting remark that he has a rectal stricture. It is a serious thing. He maintains that sixty per cent. of the cases of stricture of the rectum arise from syphilis, or are the result of it. He had asked his professional friends to investigate this matter and make known their investigations. The responses he had received were nearly all in the affirmative. He regards stricture of the rectum as more frequent than either cancer or tubercle.

With reference to excision of the rectum for a cancer that has blocked the rectum to the sigmoid flexure, in nearly every instance we have systemic infection. This being the case, can the man be cured by surgical interference? He wished, like Dr. Gaston, we could successfully remove the rectum for cancer, but he doubts it.

Dr. H. M. Nash, of Norfolk, Va., had seen a number of cases of ulcer of the rectum cured by dilatation of the sphincters and topical applications. He uses the Sims speculum, placing the patient in the exaggerated Sims position, which gives the operator all the room he wants for manipulation in the rectum.

Dr. Gaston, in closing, congratulated Dr. Mathews on his attitude of masterly inactivity in a great many cases of carcinoma of the rectum.

Surgery of the Biliary Ducts.—Dr. W. E. B. Davis, of Birmingham, Ala., contributed a paper with this title. He reviewed the operative procedures practised on the biliary passages, and recommended for cases of obstruction from stone in the common and hepatic ducts that the obstruction should be removed, and that no attempt be made to suture the incision in the duct or ducts. His experiments with animals had demonstrated that the field of operation will be walled off, and that

no general inflammation will occur after this treatment. He had tested the value of gauze in draining bile in injuries of the gall-bladder and ducts, and reported cases where he had removed the gall-bladder without tying the duct by packing with iodoform gauze. The animals got well. In other instances where he incised the gall-bladder and ducts and packed with gauze around the openings, no stitches being used, the animals recovered. Complete walling off of the general cavity was noted when the abdomen of the animals was reopened. The experiments of Dr. Davis demonstrate conclusively that the peritoneum is capable of taking care of a small amount of bile, but that large quantities or the constant extravasation of it will produce a fatal peritonitis usually in from twenty-four to forty-eight hours.

Management of Cases which have Recovered from Appendiceal Abscess in which the Appendix was not Removed.—Dr. John D. S. Davis, of Birmingham, Ala., read a paper on this subject. The practice of dealing with appendiceal abscess by simply evacuating the pus and draining the cavity thoroughly without any very extensive search, or the breaking up of adhesions in order to find the appendix, has been adopted by a large number of the leading operators for some time. More recently some of the leading surgeons have advocated, in all cases, that the operation should be made complete; that all adhesions should be freed and the appendix removed. One leading abdominal surgeon, who has, perhaps, done more work in pelvic surgery than any other man in this country, has advocated this plan of treatment in most vigorous terms. In a large proportion of cases of pus in the tubes and ovaries gonorrhœa has been an important factor in its production. Such pus is not septic and is not calculated to give rise to so dangerous a general inflammation as infection from an appendicitis or an appendiceal abscess. It is a notable fact that a ruptured tube or ovary will usually be followed by a circumscribed inflammation. It is the exception that a fatal general peritonitis results from such an accident. The most fatal forms of peritonitis are due to a ruptured appendiceal abscess. In fact, but few cases are saved when such an abscess ruptures into the general cavity.

An operation on an appendiceal abscess is usually one of the simplest of procedures and is attended with almost no danger. Where the inflammation is circumscribed and the drainage is thorough, nearly all cases recover. The records of operations for appendiceal abscess show that the great majority of cases are cured after evacuation and complete drainage. Recurrence of the disease in such cases is rare. The appendix, in a large proportion of cases, having ruptured before the abscess formation, is completely drained through the abscess and permanently cured. In others the appendix is destroyed by the inflammation and there is nothing left of it when the abscess is operated upon. To make an extensive search for the appendix is liable to break up adhesions and then allow escape of septic fluid into the general cavity. Thus a very simple condition may be converted into one of the most serious that could happen to the peritoneal cavity. Dr. Davis believes that there cannot be much need of breaking up adhesions, for they give way in a short time after the abscess is relieved. In breaking up these adhesions, in addition to the danger mentioned, the surgeon prepares a favorable condition for fresh adhesions, with the possibility of the bowel being fastened in a position that will produce pain and often obstruction. After the abscess is thoroughly cleaned out, gauze packed into the abscess cavity and between the abscess and abdominal wall will completely shut it off, and the chances for recovery will be good in such cases. Dr. Davis does not favor the breaking up of adhesions and searching for the appendix in cases of appendiceal abscess.

Memorial Address.—Dr. John A. Wyeth, of New York City, delivered a memorial address on "Dr. J. Marion Sims and His Work" (see p. 694).

At the close of Dr. Wyeth's address, remarks were made by Drs. Robinson, Wilson, Nelson, Marcy, Engelmann, Kollock, Vander Veer, Gaston, Tiffany, and Westmoreland, eulogizing Sims, most of whom were personally acquainted with him.

Comparative Frequency of Stone in the Bladder in the White and Negro Races.—Dr. George Ben Johnston, of Richmond, Va., read a paper on this subject. It is commonly stated by writers on urinary diseases that stone in the bladder is of rare occurrence in the negro race. This is so at variance with his own experience that he has instituted an investigation either to prove the statement or to correct the fallacy. He selected the Southern States of Virginia, North Carolina, South Carolina, Alabama, Georgia, Tennessee, Kentucky, Florida, Louisiana, Mississippi, Arkansas, and Texas as the field of inquiry. He selected four hundred representative practitioners to correspond with in order to procure the necessary data. He received three hundred and thirty-eight responses, ninety-four of which contained information, and the remainder were negative. He succeeded in collecting 1,068 cases of stone in the bladder. Of these, 952 were in white subjects and 116 in negroes. It is at once observed that the negro cases represent 9.55 per cent of all cases reported. This showing is quite sufficient to disprove the idea of immunity which the negro is supposed to enjoy.

Geographically these stones were distributed as follows: Alabama, 10; Arkansas, 11; Florida, 28; Georgia, 90; Kentucky, 56; Louisiana, 19; Mississippi, 99; North Carolina, 126; South Carolina, 66; Tennessee, 128; Texas, 98; Virginia, 430.

Sex is specified in 780 cases, and not stated in 280. Of those in which the sex is indicated there were 691 in males and 97 in females, or about seven times oftener in males than in females.

There were 182 cases not subjected to operation, and 584 in which the stones were removed by the following methods: Lateral perineal, 249; medial perineal, 100; suprapubic, 138; vaginal incision, 32; dilatation of female urethra, 28; crushing, 35, and operation not given, 5.

Of those operated on, 541 recovered and 43 died. No report of operation in 304 cases. Dr. Johnston's own cases are incorporated in the foregoing statistics. During his twenty years' practice he has made notes in 41 cases, which is the third largest list furnished by any reporter, and what seemed to him the enormous number of cases in the negro in the face of its supposed rarity, caused him to set on foot the inquiries leading up to this paper. Of his 41 cases, there were 35 in whites, 6 in blacks, 39 in males, and 2 in females. Thirty-nine were operated on and 2 were refused operation on account of advanced kidney disease. Both died.

In 25 cases lateral perineal lithotomy was done, in 12 suprapubic, and in the cases of the two females the urethra was dilated and fragmentation practised. He had no deaths following operation.

President's Address.—This was delivered by Dr. L. McLane Tiffany, of Baltimore. He said the aim of the Association is twofold: first, to do advanced work, and second, to bring it to the notice of and aid other members of the profession. The one complementary to the other, neither complete alone, yet attaining full fruition when associated. The fellowship of the Association is a very extended one, embracing a territory of many degrees of latitude by many degrees of longitude, with infinite varieties of soil, temperature, environment, etc., yet the transactions did not show those exact local records from which facts may be generalized, applicable to the whole area, or a large part of the area, from which the fellowship is drawn. It did not seem reason-

able to him to suppose that a surgical operation done among the mountains of Western North Carolina was going to behave quite the same way that a similar operation would if done on the Gulf coast of Texas. It did not seem reasonable that similar surgical operations on the bank of the Mississippi and the central plateau of Tennessee would behave the same way. Accurately kept charts, with exact and careful notes, would unquestionably show difference not yet put on record by anyone, from which much clinical information could be learned. Again, he questioned whether surgical operations undertaken during the great heat of summer, or after the long continuance of summer heat, would show similar charts or give like results when compared with operations upon patients not subjected to high atmospheric temperature, either temporary or of long continuance. No association has a membership better situated or more competent to carry on a series of such investigations.

Cystotomy for Stone.—Dr. Willis F. Westmoreland, of Atlanta, Ga., said that any surgeon of the present day who had had a long and extensive experience in operating for stone must acknowledge that the upper operation of cystotomy is better and safer. Unless there is a pathological condition of the blood or infection of the bladder, as recognized by chemical or microscopic examination, the surgeon could decide before operation what course to pursue. The anatomy of this region, as laid down by the investigations of Strong and Peterson upon the cadaver and frozen sections, leads the surgeon astray, and the observation of the practitioner is more to be depended upon than any literature we have thus far relative to the subject. In operations for stone, the author said he cares not whether he sees the base of the bladder; that he depends upon touch, and that therefore rectal distention might be dispensed with. Instead of rectal distention, he recommends that a vessel of water be suspended three or more feet above the patient, according to the amount of distention necessary. Where the surgeon desires to effect distention of the bladder by a vessel, if the bladder is ulcerated at any point, with a thickening here or thinness there, it could be done without sudden force, and if the patient, during the operation, should sneeze or cough, or contraction of the bladder take place, instead of contracting upon a solid mass of fluid, the fluid is forced back into the vessel and there is practically no increase in pressure.

Abdominal Pregnancy.—Dr. Cornelius Kollock, of Cheraw, S. C., read on this subject. After referring to the pathology of extra-uterine fœtation and the classification of its varieties by early writers, he reported the following case:

October 18, 1894, he saw for the first time a dark mulatto, thirty-four years of age, the mother of three children, whose general health had been good until within the last fifteen months. The abdomen was very much distended, measuring at the umbilicus sixty-three inches. Fluctuation was evident and wave-tap very distinct. The patient affirmed that she was pregnant, and that she had gone four months beyond the actual period of gestation. After a thorough examination laparotomy was decided upon, and an incision was made four inches in length below the umbilicus. The walls were so thin that the instrument penetrated the cavity before it was certain that the abdominal muscles were divided. There was a sudden and copious discharge of offensive matter. An immense fibroid was removed from the anterior portion of the sac. The cavity also contained a fœtus weighing ten pounds. The placenta had undergone fibroid degeneration, with only a small part of the placental tissue remaining. The patient was extremely weak when operated on. She lived comfortably for five or six weeks after operation, and the doctor thinks she would be alive to-day were it not for the unfortunate intervention of intestinal obstruction.

Extra-uterine Pregnancy.—Dr. J. T. Henry, of Chester, S. C., followed with a paper in which he reported a case of extra-uterine pregnancy. In this case the abdomen was freely opened and a large dark mass, nearly as large as the head of an adult, came into view. The uterus was crowded very much forward. The mass lay posterior to it, and was very much adherent to the fundus posteriorly and to the promontory of the sacrum. The fimbria of the right tube spread out over the covering of the mass. This mass was with some difficulty freed from its attachments, except that portion to the fundus of the uterus, and it was thought best to remove the uterus with it, which was done after tying and cutting the broad ligaments. The fœtus was five inches long and lay between the placenta and the uterus, the cord being attached to the left margin of the placenta. The abdomen was thoroughly washed out with sterilized water and closed without drainage. Patient sat up on the fourteenth day after operation, and was out of bed in twenty-five days. She has gained twenty-five pounds in weight since operation.

The Technique of the Buried Suture.—Dr. Henry O. Marcy, of Boston, read the paper. The constant receipt of letters from all parts of the country, containing inquiries concerning the method for the safe application of the buried animal suture, prompted the author to write this contribution. At the risk of seeming dogmatism, he would venture to assert that aseptic wounds, with very few exceptions, should be primarily closed by buried tendon sutures and hermetically sealed with iodoform collodion. Carefully selected tendons are to be preferred for buried sutures, since primarily their anatomical construction makes them stronger, more compact, and, as a consequence, more resistant to the softening processes which must ensue when buried in the living structures. When properly preserved, they have not been subject to bacterial decomposition, and hence may be sterilized without detriment to their ultimate elements. When tendon has been chromicized, it is best preserved in a sterilized oily fluid. Experience has shown that by far the best preserving fluid is linseed oil sterilized by heat, to which carbolic acid has been added. Tendon improves so much when thus kept that he rarely uses it until it has been in carbolic acid from three to six months. A method far too common has been to preserve chromicized catgut and tendon in absolute alcohol, boiled under pressure. There is no question but that such material is absolutely sterile, but the important factor has been singularly overlooked, that by this process the chromic acid is dissolved out of the tendon, leaving it really less valuable than if chromic acid had not been used.

The infection of wounds may never be absolutely prevented, but the experience of surgeons teaches us daily to what a marvellous extent it can be minimized, reduced in aseptic wounds, he confidently believes even in hospital practice, to less than five per cent. Indeed, not long ago, he examined his own personal experience, reviewing six hundred operations, with only two per cent. of septic cases, evidence ample to show the safety of the coaptation of wounds by means of the buried animal suture.

One of the interesting features of the meeting was the presentation of a gavel made from the leg of the operating-table used by Dr. J. Marion Sims in his office for twelve years preceding his death. It was the gift of his son, Dr. H. Marion Sims.

Election of Officers.—The following officers were elected: *President*, Dr. E. S. Lewis, of New Orleans, La.; *First Vice-President*, Dr. Joseph Taber Johnson, of Washington, D. C.; *Second Vice-President*, Dr. Richard Douglas, of Nashville, Tenn.; *Secretary*, Dr. W. E. B. Davis, of Birmingham, Ala.; *Treasurer*, Dr. A. M. Cartledge, of Louisville, Ky. Place of meeting—Nashville, second Tuesday in November, 1896. *Chairman of Committee of Arrangements*, Dr. W. D. Haggard, of Nashville, Tenn.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, November 7, 1895.

JOSEPH D. BRYANT, M.D., PRESIDENT, IN THE CHAIR.

Benefactor of the Academy.—At the recommendation of the council, it was voted to place the name of the late Dr. Alfred L. Loomis on the list of benefactors of the Academy.

Some Observations on the Effects of Horse Serum Injections.—DR. HENRY D. CHAPIN read the paper (see p. 721.)

Pathological Changes Resulting from Serum Injections.—DR. WILLIAM VISSMAN in this paper quoted several authorities to show that the injection of blood serum was not altogether harmless, and so far as antitoxin serum was concerned he should judge, from the reports made, that its effect was far from indifferent. But since antitoxin was used almost exclusively in diphtheria, it was almost impossible to determine what anatomical lesions it produced, especially since nearly every one of the changes caused by antitoxin or blood serum when injected into healthy animals were also found in persons dying of diphtheria without antitoxin treatment. A few changes, however, had been observed in man, brought about by this agent independently of diphtheria. Horse serum caused a rise of temperature of one to three degrees, acceleration of the circulation, often followed by heart weakness and variable pulse. The exanthema observed after antitoxin treatment had also followed injection of simple horse serum.

Among the disagreeable effects observed after the injection of antitoxin were erythema, hemorrhages into the skin, heart weakness, pain in the joints, with or without swelling; some had observed albuminuria more frequently, others less frequently, than usual for diphtheria. Inasmuch as healthy man was not available for experiments, Dr. Vissman had used rabbits, and gave a résumé of his work. The number experimented upon was eighteen, and a like number was used for control purposes. The changes produced were nearly the same in all that were injected. A nodule developed, with a radius of one inch from the needle, slightly painful on pressure, beginning to disappear on the second day. It was sterile. Little attention was paid other organs than the kidneys, except to note that the liver and spleen were somewhat swollen. In all cases there was injection of the blood-vessels of the kidneys and cloudy swelling. The animals which received more than one dose had slight hemorrhages into the tubules, but fatty metamorphosis of the epithelial cells was not noticed. It was reasonable to assume that since antitoxin produced these changes in healthy rabbits, it produced similar changes in children.

In conclusion he said that, since the injection of serum into rabbits had been shown by himself and others to cause acute nephritis, it had probably had a similar effect in many persons, who had only problematically received any benefit from its influence on diphtheria. If all persons having diphtheritic bacilli in the fauces were treated with antitoxin, many would be injured for an uncertain benefit, for not all would have developed diphtheria. If the disease had gone sufficiently long for a diagnosis to be made independent of the bacillus, the antitoxin (it had been admitted) would have little influence. It was probable, therefore, judging by experiments upon animals, that the antitoxin treatment of diphtheria had increased rather than diminished the death-rate.

Physiological Action of Serum Injections.—DR. W. H. PORTER read this paper. Two theories had been advanced to explain the action of serum therapy, the chemical and the so-called vital theory. The chemical theory assumed that the serum, or some of its constituents, directly neutralized the toxins which were essential to the disease process. But this theory had already been about conclusively disproved, and it could be discarded as of no practical value. The so-called vital theory assumed that the serum or some of its constituents acted upon the living cells of the body, either rendering them insusceptible to the toxic agents, or enhancing their power to dispose of them as substances foreign to the normal economy. Dr. Porter presented his conception of the function of the living cell, of the chemical physiology of the animal body, and on this basis proceeded to study the effects of serum, or modified serum, when injected into the circulation.

In using horse serum we had no means of determining exactly the nature of the fluid injected, but we could assume that it was mixed proteids. It was equivalent to introducing a foreign body, just as when one employed an inorganic substance of any kind for hypodermic injection. It had been shown that blood serum or its contained constituents was not inert, since transference of considerable volumes from one animal to another caused rapid destruction of the red blood-cells. Whether this change was brought about by direct action upon the blood-cells, or as a foreign body which had to be taken up by the living cell and split into simpler compounds, had not been accurately determined. It was highly probable, in the author's opinion, that the chemical properties of the living cells were overtaxed in their attempt to destroy and eliminate the serums, and this caused general decrease of activity of the cells throughout the body. This view had been, it seemed, substantiated by the experiments of the previous speakers. To establish the value of serum therapy, it must be shown that, instead of having the effect just named, it stimulated the living cell and caused it to assume a higher state of nutrition and chemical resistance against toxic agents; further, to justify the treatment it must be shown that serum therapy accomplished this purpose more thoroughly than other modes of treatment.

The facts were recalled that in man diphtheria was likely to be of mixed infection; that antitoxin was expected to act only in the pure form, and early in the disease. Yet, in the face of these statements and those which had preceded them, innumerable statistics were being published which appeared to prove that the mortality from diphtheria had been reduced by antitoxin. The real facts, however, seemed to him to be as follows: The diagnosis of diphtheria had been based upon the presence of the Klebs-Loeffler bacillus in the throat. The presence of the bacillus, even in the absence of clinical phenomena, had constituted the case one of diphtheria. This naturally swelled the total cases of mild diphtheria which would get well under almost any rational treatment. This factor had increased the total number of cases, while it had decreased the mortality rate. Further, the severe cases, not amenable to the antitoxin treatment, were eliminated, which again helped lower the mortality. Again, a large number of cases had pseudo-membrane, but examination showed no Klebs-Loeffler bacilli, and these being excluded also lowered the mortality.

Allowing for these facts, Dr. Porter thought the true mortality for diphtheria had not been lowered. On the contrary, he thought it had probably been raised since the introduction of the antitoxin treatment. Until all these differences of opinion could be scientifically adjusted, it was quite impossible to state exactly what was the true status of serum therapy, but the weight of evidence pointed strongly to failure along the whole line. Not but what serum might have its place in medicine, but it would have to assume the position of other compounds, which had value in some instances but were not specifics.

Serum in Health.—DR. W. H. PARK, in opening the general discussion, said he would keep closely to the effect of serum, perhaps also serum antitoxin, in health, and not touch upon its influence in disease. First, in animals, as Dr. Chapin had shown, we found moderate

reduction of the red blood-cells, the number increasing to the normal again within one or two weeks. There were no broken-down cells. From serum alone there was almost no reduction of the leucocytes, perhaps a slight, very temporary reduction from antitoxin.

As to the influence on the kidneys, Dr. Van Arsdale had told him that he could see hardly any difference in the kidneys of three rabbits, one having received injections of serum, the other of serum antitoxin, the third no injection. In the case in which he thought there was slight injection, another pathologist, examining independently, expressed the opinion that there was less change than in the other two cases.

But we had, fortunately, not to depend upon the changes found in animals so far as the clinical symptoms went, for in New York alone eight hundred and twelve children had been immunized by antitoxin against diphtheria. In a few there was rise of temperature; in a few, a rash; in about one-fifth there was albumin in the urine, but this lasted only a few days, usually only forty-eight hours. None of the children had shown permanent ill effects. Only the slight change in the number of the blood-cells, mentioned as occurring in animals, was seen in children.

It appeared, then, that the dangers of serum injections were very slight, and were much more than counter-balanced by the beneficial influence of antitoxin treatment of diphtheria.

Dr. J. S. Billings, Jr., said he had examined the blood in over twenty cases of diphtheria treated by antitoxin, and in a minority of the cases had found slight reduction in the number of the red blood-cells, no other change; in only a very few was the reduction in the red cells above half a million in a cubic millimetre. There was even a greater reduction in the control tests, cases of diphtheria treated outside the hospitals, without antitoxin. According to these observations it would appear that antitoxin did no harm to the red blood-cells, and caused no degeneration of the blood.

Dr. J. Ewing had seen some reduction of the number of leucocytes in diphtheria treated by antitoxin, and a similar reduction in healthy rabbits in which considerable serum was injected, and while the observations were not conclusive, he wished to call attention to this as one of the possible dangers in using antitoxin. He had not seen harm result from antitoxin treatment of diphtheria at Willard Parker, but, on the contrary, it had seemed to him to do good.

Dr. J. Lewis Smith gave results of antitoxin treatment of diphtheria at the Foundling Asylum. The conclusion arrived at was that it had proven beneficial in the cases of unmixed diphtheria, while apparent failures were attributed to mixed infection. An unusual proportion of the latter cases occurred there.

Dr. Vissman said the changes observed in his experimental rabbits were not present in the control rabbits, and therefore they must be attributed to the injections.

The Health of New York.—Dr. H. M. Biggs delivered the Wesley M. Carpenter lecture, choosing for his subject "The Health of New York." Extensive tabulated statistics of the morbidity and mortality of New York and large European cities were shown. The author presented not only the figures, but analyzed them, and explained their significance in relation to the public health, which was his main purpose in writing the paper. Formerly the mortality rate of New York per thousand was, in round numbers, 37; tracing the decrease by successive decades, it had fallen to 28, and finally for the past year to 22.7. While this was the real mortality rate of New York, the corrected rate was about 26.5 as made out in London. The death-rate for rural districts was less usually than in the cities, and, it might be said, was less avoidable, or depended less upon the art of man. The reduced mortality of the present over that of the past in New York and other cities, showed that the past greater mortality was due to preventable diseases. The mortality rate for London was at present considerably less than that for New York, and while climatic influences which were unavoidable might account for this in part, yet there could be no doubt but that causes were acting here which, with improved sanitary knowledge and appliances, would disappear. Liverpool and Manchester had a much higher mortality than New York, while Surrey had a smaller mortality than London. No city had as great a population for the same area as New York below the Harlem River, and to a certain extent the denser the population, the more difficult it was to avoid certain morbific influences. This rule, however, was not absolute even in different districts for New York. In the Tenth Ward, for instance, the mortality rate was only 20.5, while in some other wards with a much less dense population the rate was much higher. It was a significant fact that where the mortality was greatest there was also, as a rule, an unusually large proportion of cases of preventable diseases, such as tuberculosis, diarrhœal diseases, bronchitis, pneumonia. There was reason to hope that the death rate from these diseases, at least, might be reduced one-third during the next ten years. He had the most sanguine hope that New York, which had once been regarded as an extremely unhealthy city, would soon come to be noted for its unusual degree of healthfulness.

Therapeutic Hints.

Cannabis Sativa.—My greatest experience has been in the treatment of phthisis pulmonalis, and here I cannot speak of it too highly, for, while it most perceptibly relieves the cough, it aids the patient by its stimulating and exhilarating qualities, supplying a remedial agent in a manner which in my opinion no other drug can so beneficially do.—Lees.

Pruritus.—Itching must be treated empirically, by the employment of electricity, atropia subcutaneously, or the coal-tar derivatives, such as antipyrin and phenacetin, in gradually increasing doses.

McCall-Anderson.

The external causes of pruritus include local skin diseases and parasitic skin diseases, as well as the pruritus due to changes in temperature and alterations in blood-pressure. These are frequently the causes of irritation of the skin. Its treatment can be properly undertaken only when the underlying causes are taken into account.—Brooke.

Water.—When judiciously taken in half-pint doses as a laxative in the morning, as a sedative at night, as a diuretic with a cool skin, or a diaphoretic when the skin is warm, as an expectorant or a refrigerant, its value is remarkable. It makes no difference whether sulphates are taken in mineral waters at Epsom, or Carlsbad, or dissolved in water by a druggist and sold in eight-ounce bottles.—Pye-Smith.

Psoriasis.—Salicylate of soda, grains fifteen, three times daily, after or between meals. Stop it if epigastric pain is occasioned.—Crocker.

Arsenic is absolutely useless in eczema.—Jamieson.

The Pyrexia of pneumonia is brief, normal to the disease, unfavorable to microbic activity, and inasmuch as the growth of this germ was checked by a temperature of 104°, it was not advisable to reduce it when not excessive, and then not below 102.°—R. Douglas Powell.

Antitoxin in Diphtheria.—The report on antitoxin treatment in Germany, obtained by collective investigation, on a total of 10.312 cases occurring in a period of six months from October 1, 1894, gives very striking

results. Of the whole number 5,833 were treated with serum and 4,479 without it. The proportion of deaths in the former group was 9.6 in contrast to 14.7 per cent. in the latter. In 401 cases of children under the age of two years, in which the serum treatment was used on the first and second day, the mortality rate was 11.8, in contrast with 39.7 where under similar conditions it was not used. Of 2,556 children between two and ten years of age, the death-rate was four per cent. after antitoxin treatment, instead of 15.2 per cent. in the other group.

A New Method of Treating Pulmonary Tuberculosis.—It seems evident that the beneficial influence of beech creosote is due to an indirect action explained by the stimulation of cellular activity. It has seemed to me that the association of the essential oil of peppermint by inhalation with the administration of creosote or of its derivatives, combined with a good diet, ought to be a rational method of treating phthisis. In 1888 I began experiments in continuous inhalations. The inspiration should be deep and held for a moment, so that the vapors of the oil remain in contact with the respiratory tracts and their contents. A given proportion of the essential oil can be added to the creosote and, absorbed by the stomach, may prevent secondary infection of the digestive tract. In 43 cases there were 37 cures. The bacilli of Koch always disappeared from the sputa. Several cases of cure extend over five or six years. The inhalation apparatus is very simple, consisting in a linen bag five centimetres long and two wide, held under the nose by two bands passing over the head or attached to the ears. This is wet every three or four hours with four or five drops of the oil. It is to be worn day and night. For patients not far advanced a tube or quill with the oil upon a bit of sponge in one end, can be given to carry in the mouth, as the patient goes about. When inhaling by the nostrils for the first time irritant local effect can be prevented by the application of vaseline.—Dr. Carasso, *Director of Military Hospital of Gênes.*

Evaporated Milk for those on a milk diet who cannot take the required quantity. Heat the milk rapidly over a flame easily regulated. Diminish the heat before the boiling point is reached, stirring all the time even after the flame is extinguished. Thirty centilitres can be reduced one-half in half an hour.—Thin.

Endocarditis.—As soon as the heart-sounds in acute articular rheumatism begin to grow muffled, or a *bruit* is detected, give in addition to the salicylate, iodide of potassium 0.60 centigram three times daily. Also flying blisters over the apex and along the course of the fourth, fifth, and sixth intercostal nerves.—Caton, *Sem. Méd.*

Sycosis.—Apply two or three times daily as a wash with a cotton tampon, a one per cent. solution of corrosive sublimate in ninety-five per cent. alcohol. To allay the irritation which may be produced, cover at night with an occlusive ointment such as that of Hebra.—Tilé, *Bul. Méd.*

Nutritive Enema.—

Water	150 grams.
Dry peptone	10 grams.
Yellow of one egg.	
Glucose	20 grams.
Sydenham's laudanum	gtt. iv.

—Tournier.

Acute Articular Rheumatism.—I use the salicylic acid by inunction. The formula used by me was that of Bourget, viz., salicylic acid ten parts, lanolin ten parts, lard one hundred parts. Two drachms of the pomade were rubbed into several areas on the trunk and extremities every four hours, the total daily inunctions representing sixty grains of salicylic acid. The absorption was very rapid, requiring no more than ten minutes for the single inunction, and it was unattended with any irritation of the skin. No covering was employed.—Kinnicutt.

Iodine in Dermatology.—Good results are obtained from its topical use in ringworm, alopecia circumscripta, and tinea versicolor. In ulcerative stomatitis fungous gums, and various chronic anginas, painting with tincture iodine is an efficacious procedure attended by no inconvenience.—Comby.

Dropsy.—

℞. Diuretini..... gr. cx.
Aquæ menthæ pip..... ʒ ij.
Spirit gallici..... ʒ j.
Eucalyptoli..... gtt. xxv.
M. Sig.: To be taken during 24 hours.

—Best.

Nephritis.—I advise the treatment of nephritis by inunction of an ointment of pilocarpine nitrate—a procedure advised by me in joint disease in 1882. I in this way secured a purely local diaphoresis with a minimum dose of the alkaloid, and without the inconveniences and dangers which sometimes attend its subcutaneous injection.—Mollière.

Flatulence.—For the violent spasmodic attacks, with great distention of the stomach and bowels, to which some sufferers from flatulence are liable, the following is nearly always efficacious:

℞. Sp. cajuput..... ʒ ij.
Sp. ammon. aromat..... ʒ ij.
Sp. chloroform..... ʒ ij.
M. Sig.: The antispasmodic mixture. One teaspoonful in a glass of water every half-hour or every quarter-hour until relief is obtained.

When flatulence is associated with pain after food and coated tongue, indicating gastritis, the following prescription should be given:

℞. Potassii bicarb. vel sodii bicar..... ʒ ij.
Sp. ammon. arom..... ʒ jss.
Liq. strychninæ..... ʒ ss.
Sp. armoraciæ co. vel sp. caju..... ʒ jss. ʒ ij.
Sp. chloroformi..... ʒ j.
Infus. calumbæ vel gentianæ co..... ʒ xlviij.
M. Ft. mist. Sig.: A sixth part three times a day between meals.

—Stephen Mackenzie.

Alopecia after Fevers.—

℞. Alcohol..... ʒ vjss.
Veratrini..... gr. vijss.
Tinct. benzoin..... gtt. xv.
Acid salicyl..... gr. vjss.
M. S.: Apply locally.

—Kaposi.

Pruritus from Jaundice.—

℞. Ichthyol..... pts. 10.
Spts. vin, rect. dil..... pts. 40.
Ether..... pts. 40.
M. S.: Apply locally.

Menstruation, which occurs in all erect animals, is simply a shedding of the superficial layers of the endometrium, and is a kindred process to the moult in birds, to the dropping of the horns and hair in deer, and to the loss of dermal structures which occur periodically in so many animals.—Johnston.

Acne Rosacea.—

℞. Sulphur precip..... ʒ j.
Calaminæ prepar..... ʒ ij.
Zinci oxidi.
Glycerini..... āā ʒ j.
Aquæ destil..... ad ʒ iv.
M. Sig.: Ft. lotio. The lotion is to be shaken, then painted on with a camel's-hair brush at night.

In morning face is washed with a little warm water (no soap) and powdered over with the following:

℞. Acidi borici..... pts. 10.
Talci..... pts. 15.
M. Sig.: Ft. pulv. To be applied every morning.

—Jamison.

Gall-stones.—Statistics show that ten per cent. of men, twenty-five per cent. of women, and thirty-six per cent. of the insane have gall-stones. Of all these only one per cent. experience any symptoms therefrom. For such patients medicines are useless, and an early diagnosis of their condition is imperative, for they more often need reference to a surgical clinic than a trip to Carlsbad. They may be divided into two classes: 1. Those with stones in the cystic or gall-bladder. 2. Those with stones impacted in the common bile-duct. In the former, jaundice is the exception, while in the latter it is present and persistent.—WEBSTER.

Anasarca.—

℞. Sodium borate..... pts. 4-2.
Distilled water..... pts. 60.
Pot. bitartrate..... pts. 1-2.
A tablespoonful every two hours.

Psoriasis.—

℞. Ichthyol,
Salicylic acid,
Pyrogallic acid,
Aristol.....āā gr. xl.
Vaselin,
Lard,
Lanolin.....āā ʒ j.
A powerful ointment to be used in small quantities.

Menorrhagia and Metrorrhagia.—

℞. Extracti hydrastis fluidi..... ʒ ss.
Extracti ergotæ fluidi..... ʒ j.
Strychninæ sulphatis..... gr. ij.
Tincturæ ferri chloridi..... ʒ jss.
Sirupi simplicis.....q.s. ad ʒ viij.
M. Sig.: 3 j. t.i.d. after meals.

Biliousness.—

℞. Fellis bovini purif..... ʒ j.
Manganesii sulph. exsiccat..... scr. ij.
Resinæ podophylli..... gr. v.
M. et ft. pil. no. xx. Sig.: One pill three times a day.

—DA COSTA, *in Dominion Medical Monthly.*

Tobacco Cure.—

℞. Chloride of gold and sodium..... gr. $\frac{1}{4}$.
Strychnine nitrate..... gr. $\frac{1}{60}$.
Nitroglycerin..... gr. $\frac{1}{100}$.
Atropine sulphate..... gr. $\frac{1}{100}$.
Tincture digitalis..... 3 minims.
Capsicum..... gr. $\frac{1}{4}$.
Salicin..... gr. 1.
Cinchonidia sulphate..... gr. 1.
For one pill, to be taken three times daily.

—KEMPF.

Tic Douloureux.—Treatment consists in making subcutaneous injections of the following solution into the affected side of the face: Distilled water, 10 grammes (2½ fluid drachms); antipyrin, 4 grammes (1 drachm); hydrochlorate of cocaine, 0.03 gramme (½ grain). The face sometimes became much swollen, but soon resumed its normal appearance.—GRANDCLÉMENT.

Phthisis.—The following combination reduces fever, cough, and sweating, and exerts a tonic influence:

℞. Phenacetini..... gr. xl.
Strychninæ sulphatis..... gr. j.
Ammonii chloridi..... ʒ j.
Quininæ sulphatis..... gr. xxxij.
Pulvis capsici..... gr. x.
Pulvis digitalis..... gr. vj.
Ferri sulphatis..... gr. xx.
Atropinæ sulphatis..... gr. 1-130
M. ft. capsulæ no. xxxij.
Sig. One capsule four times a day.

—MAYES.

A Tonic Aphrodisiac.—

℞. Strychniæ sulph..... grs. 1-32
Acid. phosphorici dil..... ʒ j.
Aquæ destil..... ʒ j.
M. To be taken in water four times daily.

Cimicifuga.—Ten-drop doses of the fluid extract frequently repeated are said to cure the headache attending menstruation.

Lumbricoids.—

℞. Santonin..... 20 grs.
Podophyllin..... 5 grs.
Sugar..... 30 grs.
M. Sig.: Divide into five powders; give one every four hours until it acts freely on the bowels. The dose of podophyllum can be varied according to the age of the child.

—DERAY.

Pulmonary Tuberculosis.—

℞. Creosoti..... f ʒ ij.
Alcohol. rectificat..... f ʒ xvij.
Glycerin. pur..... f ʒ viij.
Chloroform..... f ʒ v.
Ol. menth. pip..... f ʒ ij.
M. Sig.: Tablespoonful in sweetened water before each meal.

—CAROSSO, *in La Médecine Moderne.*

Asthma.—

℞. Ammon. brom..... ʒ viij.
Ammon. chlor..... ʒ jss.
Tinct. lobeliæ..... f ʒ iij.
Spir. æth. comp..... f ʒ j.
Sir. acaciæ.....ad f ʒ iv.
M. Sig.: Dessertspoonful in water every hour or two during paroxysms.

—PEPPER.

Too True.—We can give the novitiates at the shrine o Æsculapius no better greeting than that of Abernethy, "God help you all."

Goitre.—Good results have been obtained from the parenchymatous injection of ½ to 1 drachm of a mixture thus composed:

℞. Iodoform..... 1 part.
Sulphuric ether,
Olive oil.....āā 7 parts.
M.

—GALEE, *in Revue de Laryngologie.*

Lavage.—When any obstruction is felt, one should cease for the moment to push the tube onward, and the obstruction, which is, of course, merely spasmodic contraction of the pharynx or œsophagus, will relax and the procedure can be continued without difficulty. To attempt to push the tube onward against the spasmodic obstruction causes the patient to gag, and may induce violent retching, so that the operation is frustrated. The greatest difficulty under which to attempt the introduction of the tube, is when a bed-ridden patient, who, for any reason, is unable to sit erect, is the subject. It is then better to turn the patient slightly upon the side, so that if there should be vomiting the fluids may readily run out of the mouth. The tube should never be retained in position while the patient is vomiting, as it may cause the entrance of the vomited material into the larynx. However, very little experience is needed to teach one the manipulation, and great skill is soon acquired.—*The Physician and Surgeon.*

Pneumonia.—In pneumonia we have the field where digitalis is the remedy *par excellence.* That recoveries from this disease will and do occur in greater numbers when it is treated by large and persistent dosage of digitalis, than occur without its use, seems to be the growing belief in medical practice to-day. In conjunction with strychnine, given in physiologic doses, digitalis is administered until the pulse comes down to 90 a minute. If it can be kept there, recovery will ensue in a shorter time, as a rule, than by the use of other methods of treatment.—FOSTER.

Fowler's Solution.—Fowler's solution, either in aqueous form or in the more convenient tablet, has been found to be an agent of great therapeutic value in cases where the mucous membrane seems to lack tonicity in the nose as well as in the lower respiratory tract.—HICKEY.

Lumbago and Strain from Muscular Exertion.—Tinct. iodini, liq. ammoniæ; collodion, p. e., painted on with camel's-hair brush.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

YESTERDAY'S MEETING OF ROYAL COLLEGE SURGEONS—THE REPORT—THE WOMEN'S QUESTION—HOSPITAL STAFFS—RADCLIFFE INFIRMARY—GUY'S HOSPITAL—MR. DELMAR'S BEQUEST—PUBLIC HEALTH.

LONDON, November 8, 1895.

YESTERDAY afternoon the annual meeting of the fellows and members of the Royal College of Surgeons was held. The report was presented and a motion made to thank the Council. To this the previous question was offered as an amendment, on the ground that the Council had done nothing for members calling for gratitude. This, on being put to the meeting, was carried by 17 votes to 5. Then came on a motion for certain reforms, advocated chiefly from the members' point of view. On the suggestion of the President the paragraphs were moved separately. The first demanded that no alterations in the constitution should be made without the consent of the body corporate (fellows and members) convened to discuss them. This was carried *nem. con.* The second provided that the annual general meetings should be made statutory, and no longer depend on the consent of the Council. This was carried with one dissentient. The third proposed to increase the number of councillors from twenty-four to thirty-two, the eight additional ones to be elected by the members. This was carried with two dissentients.

The way being thus cleared, the question of the admission of women to the examinations for the college diplomas was brought forward. The President said it was a very important question, and the Council desired the opinion of the meeting before coming to a decision. He further stated that, under the existing arrangements, no one could be a member without at the same time becoming a licentiate of the College of Physicians, though of course this was not finality, and the agreement between the colleges might be altered. It was moved that, as many portals are open to women, it is not expedient for this college to admit them. An amendment that they be admitted was made. This after discussion was defeated by 58 to 48, and the original motion carried. Thus for the present the women are excluded from both colleges, but as there are good qualifications open to them, this is really no great hardship, for the number of women students is small compared with that of men. The question excites considerable controversy now, but not so much as formerly, when it was rather whether women should be prevented following a medical career. Now they have gained that point, and the two parties take a different stand. The one advocating the claims of the women affect to believe they must carry every point; the other, more conservative, look upon the movement as a passing craze which will die out of itself. With such a change of position in the question it is obvious the heart is taken out of discussion. Looking at the numbers voting, we see how languid is the interest in college politics compared with what it was at the early meetings, when the theatre was crowded with indignant and eloquent orators demanding reforms. The Council then listened, offered no reply, and went on its way—a method of postponing the reforms which has succeeded and will probably be continued. Neither the fellows nor the members have any control over the Council. The fellows would like the members to help them gain certain points, but then, what would they do for members? Nothing. I am sorry to see that the *Medical Press*, which was once the stanch advocate of justice to members, came out on Wednesday with a "wobbly" leader recommending members to trust to the fellows for the future and help them in the present. I suppose the "wobble" comes from the gentleman who forgot to send in his nomination paper and so disappointed his party by his dilatoriness, for he is understood to control your contemporary on London college politics. He had better wake up, unless he thinks editorial responsibilities may be met by dreams.

The question to what extent the medical staff should participate in the management of a hospital is not always so easy to determine as many imagine; circumstances alter cases. I have many years of experience under different plans. At some hospitals all members of the staff are *ex-officio* members of the committee, and I have seen this plan work well even in small institutions. When, however, the staff is rather large, and the attendance at committees not more numerous, there may arise a difficulty. At other hospitals representatives of the staff have a seat on the committee. Lately an attempt was made, at the Radcliffe Infirmary, Oxford, to change to this plan from the former, on the ground that the committee was too unwieldly. I cannot admit such a plea, for I know that the most common difficulty is to maintain the regular attendance of committeemen. Some very large hospital committees, however, only admit one or two members of the honorary staff. A clergyman at Oxford declared he was afraid to point out the obvious dangers which might result if the staff could carry anything they liked. I have known no danger from such a position, though I have seen great evils arise from the staff being unable to persuade the lay members to adopt the best course. The proposal at Oxford was rejected by 23 to 4, so it must be presumed that the staff continue to enjoy the confidence they well deserve.

Guy's Hospital is losing about £20,000 a year through the falling of rents of its landed property. The agricultural depression is therefore seen to be affecting the sick poor in our cities as well as the laborers on the land. The founder directed his endowment to be invested in land, and at that time nothing seemed so safe or so little likely to depreciate. The lands produced about £40,000 a year up to 1880, since which the depreciation has continued, increasing to such an extent that at present half the income is swept away.

In these circumstances an appeal has been issued to the public for help, and Mr. Gladstone has written a letter for circulation with the appeal. In a matter of this kind Mr. Gladstone's recommendation will have great weight even with those who are politically opposed to him, and, as you may suppose, when he says he has inquired into the circumstances, he pleads with persuasiveness. Though the committee have lithographed his letter for circulation, they have done well to enclose a printed copy, for his manuscript is none of the easiest to decipher. London's boundless want is side by side with her boundless wealth, which must therefore come to the rescue. Mr. Gladstone, who is great at figures, vouches for the economy of administration which distinguishes Guy's.

Mr. F. O. T. Delmar died on October 14th, and in his will left £90,000 in trust, the interest of which is to be divided among such charities as his trustees select from time to time. Mr. Delmar expressed a special desire as to institutions for epileptic or cancerous patients, as well as for the Royal Society for Preventing Cruelty to Animals. The Middlesex Hospital Cancer Department was founded in 1792, and has greatly benefited sufferers. As the oldest and chief charity of the kind it is supposed a considerable share of the amount will fall to it, and no institution can be named which would better discharge the duty imposed by this munificent legacy.

Diphtheria is still prevalent, and some local outbreaks have been sudden and rapidly extending. The number of deaths registered from it last week rose to

72, being 34 in excess of the corrected decennial average for that week of the year.

Influenza has been threatening, and at Willarden many persons are its victims. The out-patient physicians at the hospitals are having a heavy time, and cases in the profession and society are under my notice.

OUR PARIS LETTER.

(From our Special Correspondent.)

SEROPATHIE—EXPERIMENTS AS A PROPHYLACTIC OF TETANUS—TREATMENT OF CANCER BY—TYPHOID FEVER AND CHOLERA.

PARIS, November 5, 1895.

THE treatment of disease by injections of serum seems to be engrossing scientific and professional attention more than ever on this side of the ocean. We know that, up to the present day, all efforts to cure tetanus by injections of antitoxic serum have failed. These failures are due to the fact that the injections can only be carried out at a period when intoxication has long since taken place, and if the quantity of toxin is sufficient, or if the toxin is sufficiently active, nothing can annul the effects of an intoxication that has been going on insidiously and rapidly for some days. We must therefore give up, at least for the present, all hope of curing a tetanus once declared, but we may diminish the number of cases of that disease by having recourse to the preventive treatment. That is what Dr. Nocard has tried to do, and with what success we shall now see.

During the first six months of 1895, Dr. Nocard distributed to the veterinary surgeons of Paris, 1,800 bottles containing each 10 c.c., or about one-third of an ounce of anti-tetanic serum.

He recommended them to inject into each animal threatened with tetanus consecutive to an operatory or accidental wound, 10 c.c., or about one-third of an ounce, of the serum as soon as possible after the traumatism; twelve or fifteen days after a second injection of the same quantity should be made. The results that I have been able to obtain were upon a total of three hundred and seventy-five animals, each animal having received two injections at intervals of fifteen days. In every case the serum proved innocuous and no single animal treated took tetanus. It is true that some will consider 375 cases very few to determine the efficacy of a preventive treatment, especially when it is a question of a disease as rare as tetanus. That objection cannot, however, stand against the facts that all the animals treated belonged to stables in which tetanus had destroyed animals a few days or a few months before, and many of them were in stalls adjoining others that had tetanus; moreover, in some cases the traumatism was produced at the same time and under the same conditions as in others that, without treatment, became tetanic. Finally, in the six months during which the treatment lasted, Dr. Nocard's twenty-six correspondents, who did not lose a single animal of the three hundred and seventy-five treated, observed fifty-five cases of tetanus among those not treated.

From this brief résumé of Dr. Nocard's work, we may at least conclude that if the curative treatment of tetanus remains still to be found, we may at least reduce in great measure the number of victims to that terrible disease, thanks to the preventive injections of antitoxic serum.

Treatment of Cancer.—Having personally had opportunity of testing the value of injections of serum in the treatment of intra-thoracic cancer, we are able to add our own testimony to that of Professors Richet and Hericourt, whose personal observations, coupled with others communicated to them, have enabled them to formulate some general conclusions taken from a large number of cancerous patients.

In the first place, there is a very marked diminution of the pain so frequent in those affected with malignant neoplasms; and this effect was entirely unexpected. In the second place, cancerous ulcerations become detergent, take on the appearance of a granulating wound, and cicaterization may take place over considerable of the affected area. A third effect of the injections of anticancerous serum consists in a notable diminution not only of the tissues surrounding the tumor, and of the lymphatic ganglia adjacent to the neoplasm, but also of the tumor itself. Finally, in some cases the evolution of the disease is retarded and at the same time there is a decided amelioration of the general condition. En résumé, in four-fifths of the cases of cancer it is impossible to deny a real improvement; unfortunately the effects of the serum stop short of curing, and after a certain time—one month, a month and a half, two months—the general health remains stationary and then retrogrades to the starting-point; new cancerous deposits appear and the disease progresses toward a fatal termination.

The question naturally suggests itself, is the serum a specific or not? It is difficult to reply with certainty; nevertheless, two of the cases observed and treated by Professors Richet and Hericourt caused them to incline to the opinion that it is a specific and that the serum from animals immunized is much more active than that taken from healthy animals. Our own experience in the case of intra throracic cancer above mentioned, coincided with that of the learned gentlemen. The pains, which had been so intense as to cause the diagnosis of tumor compressing the sensitive roots of the spinal nerves to be made, entirely disappeared after the treatment by injections of anticancerous serum was begun and there was a marked general improvement, accompanied by a disappearance of the swelling of the axillary glands.

In conclusion, it must be now admitted that if the seropathic treatment is not yet apt to cure neoplasms radically, it at least ameliorates them more than any other known method; perhaps by combining this treatment with operative measures, still more favorable results may be obtained.

Injections of artificial blood-serum in typhoid fever and cholera have given results equally as satisfactory.

THE ISTHMUS OF THE AORTA.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: While reading the English edition of Ziegler's "Pathology" (p. 107), I noticed the translator's note, and after investigating the subject believe his explanation of "isthmus" is not quite correct.

Lancereaux, in his "Traité d'Anat," Part ii., p. 839, says: "At one period of embryonal life, the true aorta, or ascending aorta, distributes the blood to the head and to the superior extremities, while the pulmonary artery, after having furnished two branches to the lungs, continues with the descending aorta by a prolongation which later will be the arterial canal. A narrow conduit connects the two halves of the aortic tree; this is the isthmus of the aorta, habitual seat of stenoses of congenital origin," etc.

Again, Professor Knox, in his "Manual of Human Anatomy," p. 337, states: "The third or descending portion of the arch is remarkable for occasionally presenting a slight contraction (connected with fœtal structures); it is here that the aorta has been known to become spontaneously obliterated."

So also, we find in Macalister's "Text-book of Human Anatomy," p. 346: "This portion of the aorta (descending arch) measures 46 mm. in length and is 24 mm. in diameter, contracting suddenly to 22 mm. at its termination (*gretnus aortæ*) immediately beyond the ductus arteriosus, etc.

A search through a considerable number of other

authorities, including Meckel, Cruveilhier, Cloquet, Delierre, Gegenbauer, Sappey, Todd and Bowman, Soemmerring, and others failed to reveal any other references.

Yours faithfully,

DR. X——.

THE CLIMATE OF COLORADO.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Residence of something over a year in Colorado serves to impress upon me very forcibly the fact that patients coming here with pulmonary tuberculosis are much in need of competent medical supervision after their arrival. It is needless to say that the atmospheric conditions differ very materially from those at the sea-level, and I am certain that these differences are not appreciated by many of the physicians in the East. A considerable number of patients with pulmonary tuberculosis who come to Colorado, think that it is simply necessary for them to live in this climate, and feel that they may pursue such life as seems fitting to them. They feel the stimulus of the clear, dry air and sunshine, they are invigorated by the tonic qualities of the atmosphere, and are easily led to commit grave indiscretions in undue exercise, unsuitable food, and the like. These indiscretions only too often result disastrously. These facts are well known by the physicians here, but, as I have said, I am sure that they are not duly appreciated by many physicians in other parts of the country. I feel that I can speak of this with good grace in the columns of the MEDICAL RECORD, as I do not myself treat pulmonary tuberculosis.

The climate of Colorado is a most valuable therapeutic agent which requires careful medical supervision in its employment. All who come here agree that it is the best climate for permanent residence which the average consumptive can obtain. Throughout the State are found careful, painstaking, conscientious physicians who have devoted many years to the study of tuberculosis, and who are well able to bring to bear upon the invalid every condition which can aid in effecting a cure; and it is because I see from month to month such a considerable number of patients coming from the East who do not feel it necessary to place themselves under medical supervision, that I feel impelled to again bring the subject before the profession in this way.

Very truly yours,

CHARLES A. POWERS, M.D.

DENVER, COL., November 15, 1895.

A LONG SURVIVAL OF A TERRIBLE WOUND, AND A STRANGE COINCIDENCE CONNECTED THEREWITH.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: About five years ago I received a letter from a man living in Pontotoc, Miss., giving me a history of the condition in which he found himself at that date, as a result of a wound received at the battle of Chickamauga, September 19, 1863.

John N. Sloan, captain of a company in one of the Mississippi regiments engaged in that bloody battle (said to have been the bloodiest since the invention of gunpowder), was struck by a cannon-ball, which completely tore away his chin and lower jaw, tongue, and some of the upper teeth. His wound being considered necessarily fatal, when he fell he was dragged a few feet behind a tree, and no further attention was paid to him. He was not even carried to the rear to a place of comparative safety. From that day to this he has lived upon liquid food, his nourishment being carried into the upper end of the exposed œsophagus by means of a rubber tube. Naturally, I became interested in the condition of this man, and made careful inquiry in regard to the information I had received, especially through members of my own profession living near him.

On the thirty-second anniversary of the battle of Chickamauga, there was a dedication of the National Park, to which all the survivors of both armies were invited. I had not visited the battle-field since the fight in 1863, and, of course, felt some curiosity to go over the ground again. It was very interesting, and, to me, a memorable occasion. The Government has macadamized the old country roads that traversed that section, not changing their routes in any particular, simply bettering their condition.

The line of battle was nearly eight miles long, and as we drove or walked over it, it was certainly unusual to see the men of both sides in that terrible struggle, wandering together about the various points where their commands had fought, and discussing incidents which were so indelibly impressed upon their mind; for when a man has stood face to face with death, it has occurred to me that a profound impression is made upon his memory, and it needs but the occasion to have it clearly recalled.

A doctor friend, who lives in Chattanooga, kindly devoted his horse and buggy and his time to me on this excursion. We found ourselves about one o'clock, taking luncheon at Crawfish Spring (now known as Chickamauga Spring), one of the most wonderful springs of pure, cold water gushing out of the earth I have ever seen. As we had a generous basket of luncheon, and seeing four or five ex-Federal soldiers who looked hungry, I invited them to share our basket, which invitation they accepted with avidity. As we were chatting about things in general, one of the Union soldiers, a Mr. S. S. Rich, who is now living at Moberly, Mo., and who was then serving in a Kentucky regiment, said that in this battle he had seen the most horrible wound that had ever come under his observation. (As he was an infantryman and had been engaged in all the great battles in the West in a regiment that made a fine record for gallantry, I am sure he had ample opportunity to see a great many ghastly wounds.) I asked him on what part of the line he was, and he indicated it by the known position in which his division fought on that day. He said that it was a Confederate soldier he had come upon in a charge in which they were engaged; and that this man was lying at the root of a tree, with his whole chin, lower jaw, and upper part of his throat blown away, seemingly by a shell, but that he was still living. He added that he knew he must have died, because no man could have recovered from such a wound.

I knew that this Mississippi regiment had fought just there, and that the man of whom he was speaking was my patient. I had written to the old captain in Mississippi to be sure to get to the Chickamauga reunion, and that we would go over the field and find out the place at which he was shot. I had then a letter in my pocket from him, saying that he would be there if his health would permit. I said to Mr. Rich, the ex-Union soldier, "You will be surprised to know that the man did not die, and that this letter is from that same individual. I expect him at any moment to meet me in Chattanooga or somewhere on the field."

You may imagine his surprise on finding that this man had survived such a horrible wound. As soon as I handed him the letter and said that the man was expected there, one of the other ex-Union soldiers of our party, who was from Indiana, but whose name I unfortunately failed to put down at the time and have since forgotten, exclaimed, "I'll bet anything that I saw that same man in the train coming down to the Park this morning! A number of old soldiers had gathered around him and he showed them the rubber tube through which he was fed by sticking it through a hole in his throat."

I unfortunately could not find my old friend in the tremendous crowd that was there, but I wrote to him on my return to New York, and received a letter stating that he had been there and had found the place where he was shot, and was very sorry he had missed me.

Naturally, this patient is aging rapidly, and now, although only a little over sixty years of age, by reason of the fact that he is compelled to live upon a fluid diet, his strength is failing him. He does not belong to that great army of pensioners which draw regularly upon the United States Treasury, but he is on the pension list of his old comrades throughout the South, who since the war, in all her poverty, take care that no incapacitated ex-Confederate soldier shall suffer for the necessaries of life.

JOHN A. WYETH, M.D.

NEW YORK, November 20, 1895.

New Instruments.

A RUBBER BAND FOR SECURING THE UMBILICAL CORD.

BY J. H. GREENE, M.D.,

DUBUQUE, IA.

I NOTE in a medical journal an advertisement of an instrument to secure the umbilical cord. For the past five or six years I have used a simple device, original, so far as I know, with myself. It is so effectual for its intended purpose, so cleanly, and easy of application, that I deem it worthy of mention. It is the ordinary rubber band of small size; and its utility lies in its manner of application. I use the "No. 8" Faber band, approximatively three-fourths inch in length. Passing it around the umbilical cord, it is given two or more turns upon itself. One of the loops at either end is then passed through its fellow and the band drawn taut by the finger through the free loop. The cord is then cut and the free loop passed over the end of the cord. Its effectiveness is so self-evident, further comment is unnecessary.

A NEW PUMP AND CAUTERY.

BY CHARLES GRAEFE, M.D.,

SANDUSKY, O.

FORMERLY ASSISTANT AT THE SURGICAL CLINIC OF PROFESSOR CZERNY AND THE CLINIC FOR DISEASES OF THE THROAT AND NOSE OF PROFESSOR JURASZ, HEIDELBERG; MEMBER OF THE AMERICAN MEDICAL ASSOCIATION; ASSISTANT SECRETARY OF THE OHIO STATE MEDICAL SOCIETY; SECRETARY OF THE NORTHWESTERN OHIO MEDICAL ASSOCIATION; AND PRESIDENT OF THE ERIE COUNTY MEDICAL SOCIETY.

IN modern therapeutics the application of sprays and powders in diseases of the throat, lungs, and ears makes it most indispensable for the specialist as well as the general practitioner who keeps abreast of the times, to have some means by which he can at all times and places fulfil these indications. The large pumps and reservoirs are not portable, the hand-bulbs always unsatisfactory, and such foot-power pumps as are on the market have not withstood criticism.

After some years of study, about a year ago, with the help of Mr. Waldkirscher, an expert in pump-making, I had a portable air-pump and reservoir combined made, which he had dubbed the "Graefe." It is made of brass, is four inches long and three inches in its other dimensions, and weighs less than two pounds. *A*, as will be seen by the cut, is the cylinder of the pump, roughened on its upper surface to keep the foot from slipping. *B* is the reservoir for compressed air, giving an equal pressure and when controlled by a valve cut-off as shown in the illustration, giving force enough for blowing powders, inflating the middle ear, etc. *C* represents the nipple to which the tubing is fastened for connection with the atomizer, and *D* a similar nipple to which an air-filter can be attached, or tubing, so that the air can be drawn from any source desired, avoiding dust, disease germs, etc. *E* represents the hinge and spring upon which the pump works.

In front of the case which I had made for the instruments, will be seen a gas cautery, which I invented a number of years ago but have never brought before the profession, because the rubber bulbs heretofore used for supplying compressed air have been unsatisfactory. *A* represents the point for the gas connection. *B* that for the air, *C* the platinum bulb, and *D* the opening for lighting the gas. It works perfectly with a slight pressure of gas and air, and can be handled by the operator without assistance. It does away with benzine and its dangers, the alcohol lamp, and the clogging of the Paquelin burners, as the platinum is hollow and has no meshes in its interior.

I claim many advantages for these instruments, which will suggest themselves to the profession, and think they will be as indispensable to others as they have been in my practice, if once used.

They are made by the Waldkirscher Pump Co., of this city, and are for sale by Meyrowitz, New York City, and Sharp & Smith, Chicago.

A Pathological Medical Club has been organized by the junior class of the Medical Department of the University of Worcester. The club is organized for the purpose of securing pathological journals and literature, and not literature and journals which are pathological, as the title might imply. The object is to have the members make translations and abstracts of important articles dealing with pathology and bacteriology. These are to be read and discussed before the club at stated intervals. The idea is in harmony with a suggestion made by Dr. Bayard Holmes, of Chicago, that there be established medical libraries and library clubs in connection with undergraduate medical study. The venture is a novel one, but will certainly prove useful if the students have time to pursue it as they should.

None in His.—"No!" exclaimed the fox, loftily; "I don't care for the grapes at all. Appendicitis? Not on your life!"—*Detroit Tribune.*

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending November 23, 1895.

	Cases.	Deaths.
Tuberculosis	119	118
Typhoid fever	32	7
Scarlet fever	71	3
Cerebro-spinal meningitis	2	3
Measles	168	10
Diphtheria	201	22

Syphilitic Headache.—Fournier points out that pain in the head is one of the most frequent manifestations of secondary syphilis, while the prodromal headache of tertiary encephalopathies is universally recognized and described. It is, however, unfortunate that the term specific cephalalgia conveys to many minds the impression of a single pathological process, when, as a matter of clinical fact, the lesions may be, and often are, widely diverse in their nature. The single symptom common to all is pain in the head. Thus, this pain may be due to specific neuralgia, affecting one or more of the cranial nerves, constituting what is called neuralgic headache. Or it may be due to a lesion in the cranial bone, such as periostosis, gummatous osteoma, causing bone pain. Or it may develop as neuralgia without bone lesion, in which case it is often impossible to locate it. In many respects it differs not at all from headaches due to causes other than syphilis. Finally, there is a headache which, though dependent on syphilis, is not syphilitic in its nature; in other words, it is a parasyphilitic neurosis. Syphilitic neuralgias are not headaches in the true sense of the word; the pain is located in the trunk or distribution of a given nerve, and is aggravated by pressure upon certain portions of this nerve, particularly points of emergence. The supraorbital is most frequently affected, extreme tenderness being elicited on pressure over the supraorbital notch. This pain may affect the upper branches of the fifth pair, or the auricular and mastoid filaments of the cervical plexus, or the occipital nerve, but it is most frequently observed attacking the fifth pair, and has for its type the supraorbital neuralgia. This affection is observed during the early stage of the secondary period—that is, in the first six or eight months of the disease. It is impossible to state whether or not it is dependent upon organic lesions. When it occurs during the tertiary period, it is nearly always due to a distinct lesion; often the pressure of a gumma or bony outgrowth. These specific neuralgias are characterized by almost identically the same symptoms, dependent on neuritis from other causes. They have, however, a tendency to become worse at night, and yield promptly to specific treatment. Indeed, the therapeutic test is the only means of making a positive diagnosis.

Pain due to bone lesions may occur in the early stages, during the height of the disease, or at a late tertiary period. It is most frequent in the tertiary period, and is readily recognized, since the lesions are gross, producing considerable deformity. Secondary lesions are slight, circumscribed, and readily overlooked, especially when they develop in the hairy scalp. They occur during this early period as periostitis, periostosis, or as ostealgias characterized by circumscribed areas of hyperæsthesia without appreciable lesion. These lesions are very common, especially in women, and are usually overlooked. The periostites produce slight circumscribed swelling of the bone, particularly in the parietal, temporal, and frontal regions. The involved areas are small—about the size of a ten-cent piece, sometimes as large as a fifty-cent piece—very slightly raised, sometimes obscurely fluctuating. They are painful and extremely sensitive. This excessive sensibility is a characteristic sign. Periostoses offer the same symptoms and are even more painful. They are, however, more dense and resistant and last longer. There is true bony proliferation on the surface of the bone. The ostealgias are characterized solely by pain. There is no swelling and no appreciable alteration of any kind. The pathological alteration occasioning this symptom is absolutely unknown. The pain of these bone affections is sometimes agonizing, and often radiates over a very large surface. The diagnosis is founded upon careful and thorough palpation of the entire cranium.

Headaches due to syphilitic affections of the brain or its envelopes are more diffuse and more deeply placed than those dependent upon bony lesions or upon neuralgia. It is impossible from the symptoms to decide whether they are dependent upon lesions of the meninges, the cerebrum, the blood-vessels, or whether all these structures are involved. Clinically, three varieties are recognized: Secondary encephalalgia, headache symptomatic of cephalic lesions, parasyphilitic headache due to hysteria or neurasthenia. By all odds the most important variety is the migraine preceding grosser symptoms of cerebral syphilis. In certainly two-thirds of all the cases of hemiplegia, amnesia, aphasia, epilepsy, coma, pseudo-paralysis, etc., dependent upon syphilis, there is this prodromal headache. A large percentage of these cases could have been saved from these grave accidents by vigorous treatment instituted during the period of prodromal headache. This headache differs from other cephalalgias, as, for instance, those due to neuralgia or epicranial rheumatism, from the fact that it is felt to be deep within the head. The character of the pain varies; there may be simply a sense of weight and mental hebetude, or there may be a constrictive pain, as though the head were screwed in a vice; or, finally, the sensation may resemble that produced by blows of a hammer, the suffering being very intense and the pain being deeply placed. These three types may be associated, or may succeed each other. The pain may be sharply circumscribed to an area not larger than a half-dollar. In this case it frequently indicates the formation of a gumma. Sometimes it is diffuse, occupying a general region, as the frontal, or temporal, or parietal, or occipital, or spread over two or more of these regions. Exceptionally it seems to involve the whole head. The fronto-parietal region is the one most frequently subject to this pain. This pain has three characteristics which should at least strongly suggest its nature. There is an habitual intensity, sometimes extraordinary severity, of pain. It is persistent, tenacious, long-lasting; there are nocturnal exacerbations. Even in mild cases the pain is less bearable than the ordinary headache: it harasses the sufferers, making them despondent, morose, excitable, sleepless, and interfering with general nutrition; or it may be so severe as to completely prostrate them. Exceptionally the pain amounts to a veritable anguish, comparable in intensity to that of hepatic or nephritic colic. Nocturnal exacerbations of pain, though the rule, are by no means invariable. In the secondary period this characteristic is most pronounced; in the tertiary period it may be wanting entirely; indeed, it may happen that there are nocturnal remissions. As a rule, syphilitic cephalalgia precedes the grave developments of brain syphilis by an interval of three to six weeks; it is, however, not uncommon for this pain to last three to six months; exceptionally the pain may exhibit remissions and exacerbations for two or three years. Under the influence of intermittent, mild, specific treatment, the headache may be temporarily cured, to recur time after time, till symptoms such as hemiplegia or epilepsy show that irreparable damage has been

done. The prodromal headache is a sign of inestimable value, enabling a treatment to be instituted in time to prevent grave lesions. This treatment should be instituted early, should be vigorous, should be long continued. It is not sufficient to cure the headache; the underlying constitutional taint must be eradicated in so far as this is possible.

This treatment should combine mercury and potassium iodide, each given in the most active form and manner possible. Every ten days an injection of a grain and a half of calomel should be given, repeated as often as is required. Internally, the iodide of potassium is to be administered, to a woman, one to one and one-half drachm a day; to a man, nearly twice this dose. This treatment should be long continued, with appropriate short intervals of rest, until there is good reason to believe that there is no likelihood of further recurrence.

Among the parasyphilitic affections causing headache may be mentioned the neuralgic migraine and the crises of pain often observed in tabes. The most important affection, and by far the most common, is neurasthenia. This is an ordinary sequence of syphilis, and among its multitudinous symptoms none is more troublesome or more frequent than headache. This parasyphilitic neurasthenic headache is characterized by very moderate intensity; it is not really a pain, but rather a sensation of weight or constriction, of dulled or imperfect cerebral action. As to duration, it usually lasts several years. It is present in the morning on rising; is sometimes better after meals, but shortly returns with its original intensity, or even with a slight excess of this; it is better at night, so that sleep is not disturbed. It is not benefited by specific treatment; it is usually located in the occipital region; and, finally, it is usually associated with other signs of neurasthenia. These are characteristics which sufficiently distinguish the cephalalgia from pain prodromal to the recognized cephalopathies; indeed, a headache which has lasted for several years almost certainly does not belong to the latter class, since apoplexy or some one of the serious symptoms denoting irreparable lesion is quite certain to develop long before the expiration of this period. Yet it may well happen that a differential diagnosis cannot be made. In this case the mixed specific treatment should be given one thorough trial. Should it fail, there should be no further effort in the direction of attempting cure by this treatment. Where the diagnosis of parasyphilitic neurasthenia is firmly established, minute attention to general hygiene, a thorough hydrotherapy, especially with douches of brief duration, or warm-bath treatment, massage, and change of surroundings represent the best methods of ultimately accomplishing a cure. The only drug which is of the least service, aside from the tonics and nutritives, is bromide of potassium; this sometimes relieves the headache.—*Therapeutic Gazette.*

Professor König, of Göttingen, has been chosen to fill the post of the late Professor Bardeleben, Professor of Surgery at Berlin.

Horse Meat in Germany.—It is said that nearly one-half of the flesh consumed by the people of Germany, in the larger cities, is horse meat. The German butchers used to buy worn-out horses at five dollars to ten dollars apiece, but they now have to pay from forty to fifty dollars. Even at this price, they are able to furnish meat at about seven cents a pound. The flesh is consumed salted and smoked, as well as fresh.

Infant Stomach Trouble.—About seven times more children, says Douglas, die from stomach and bowel affections during the first year of their birth than during the second year.

Dr. Smith.—The name "Smith" is the popular monosyllabic appellation of 1,284 practising physicians in the United States.

Sick or Ill.—Mr. W. D. Howells discusses, in a humorous way, the fact that there is a tendency in America to use the word "ill" in place of the word "sick," following the English fashion. To the Englishman, the word sick implies, as we understand, a morbid state especially connected with the stomach and with nausea. The American uses the word sick to indicate all kinds of morbid states. The word sick is a good, honest Anglo-Saxon term, and has answered the purpose very well during these last two hundred years. But Mr. Howells seems to think that it has got to go, and that in time there will be no sick people in America, but only persons who are ill.

The Dangers of Thyroid Feeding.—It has come to the notice of physicians, that the thyroid tablets are being used somewhat by the laity, and especially by women who are desirous of ridding themselves of superfluous fat. Some dangerous symptoms have been observed, we are told, as the result of this treatment. Dr. A. Eulenberg, of Berlin, reports a case in which the patient took six tablets a day, with severe nervous and cardiac symptoms as the result. There can be no doubt that the use of the thyroid tablets is dangerous, and should only be employed under careful supervision.

NEW BOOKS RECEIVED.

While the MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

A MANUAL OF OPERATIVE SURGERY. By Dr. Lewis A. Stimson. Third Edition. 12mo, 594 pages. Illustrated. Published by Lea Brothers & Co., Philadelphia, Pa.

TWENTIETH-CENTURY PRACTICE. An International Encyclopædia of Modern Medical Science. By Leading Authorities of Europe and America. Edited by Thomas L. Stedman, M.D., New York City. In twenty volumes. Vol. IV.: Diseases of the Vascular System and Thyroid Gland. Published by William Wood & Co., New York.

THE PATHOLOGY AND SURGICAL TREATMENT OF TUMORS. By Dr. N. Senn. 8vo, 709 pages. Illustrated. Price—cloth, $6; half morocco, $7. Published by W. B. Saunders, Philadelphia, Pa.

STATE COMMISSION IN LUNACY. Sixth Annual Report, October 1, 1893, to September 30, 1894. State of New York. Transmitted to the Legislature May 24, 1895. James B. Lyon, State Printer.

THE ART OF COMPOUNDING. A Text-book for Students, and a Reference-book for Pharmacists at the Prescription Counter. By Wilbur L. Scoville, Ph.G. 8vo, 264 pages. Price, $2.50. P. Blakiston, Son & Co., Philadelphia, Pa.

HANDBOOK OF THE DIAGNOSIS AND TREATMENT OF SKIN DISEASES. By Arthur Van Harlingen, M.D. Third Edition, enlarged and revised. 12mo, 577 pages. Illustrated. Price, $2.75. Published by P. Blakiston, Son & Co., Philadelphia, Pa.

LABORATORY MANUAL OF INORGANIC PREPARATIONS. By H. T. Vulte, Ph.D., F.C.S., and George M. S. Neustadt. 12mo, 180 pages. Illustrated. Price—half leather, $2 net; interleaved, $2.50. Published by George Gottsberger Peck, New York.

THE DISEASES OF CHILDREN'S TEETH: THEIR PREVENTION AND TREATMENT. A Manual for Medical Practitioners and Students. By R. Denison Pedley, M.R.C.S., L.D.S. Eng., F.R.C.S. Edin. 12mo, 268 pages. Illustrated. Published in London by J. P. Segg & Co., and in America by S. S. White Dental Manufacturing Company, Philadelphia, Pa.

AN AMERICAN TEXT-BOOK OF OBSTETRICS FOR PRACTITIONERS AND STUDENTS. By Various Authors. Illustrated. Royal octavo, 1009 pages. Price—cloth, $7; sheep, $8; half Russian, $9. Published by W. B. Saunders, Philadelphia, Pa.

THE PRACTICE OF MEDICINE. By Dr. William C. Goodno. With Sections of the Nervous System. By Dr. Clarence Bartlett. Vol. 2: Diseases of the Circulatory, Respiratoy, Urinary, and Digestive Systems; Diseases of the Blood, and Constitutional and Parasitic Diseases. Royal octavo, 981 pages. Illustrated. Published by the Hahnemann Press, Philadelphia, Pa.

MANUAL OF GYNECOLOGY. By Dr. Henry T. Byford. 12mo, 488 pages. Illustrated. Price, $2.50. Published by P. Blakiston, Son & Co., Philadelphia, Pa.

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NEW YORK.

MR. PRESIDENT, MEMBERS OF THE ACADEMY, LADIES, AND GENTLEMEN: It is my privilege to address you this evening, and while I have felt that some one with more oratorical power might have been chosen, yet it was not possible to refuse the request of the President, who put it in the light of an unavoidable duty. In going over the ground for a subject which might be of general interest, and yet more, one from which lessons of importance to the welfare of the Academy might be drawn, the speaker has selected the progress of medicine. It is not the intention to pass in review the gradual advances of medical science, but to limit our theme to a time sufficiently recent to be within the memory of a number, and the knowledge of all—that of the last thirty years. The theme will be somewhat discursively considered, in order to touch on a number of points.

If we commence with the study of medicine as now conducted in this city, and compare it with that which obtained thirty years ago, we will notice a marked improvement, which, however, is not perfection, because of certain limitations of time, and of number of students to be instructed within that period. Thirty years ago the time required for the study of medicine was three years, comprising two courses of lectures in a medical school, the last of which was to be in that institution which issued the diploma. A considerable part of the study and of the practical work was supposed to be done in the office of a practitioner with whom the student entered, and who was usually too busy to give more than a very slight oversight on the progress of the aspirant for medical honors. Much of the work in those days, far more than at present, when there is yet too considerable, was in the direction of what is called teaching, cramming, etc., consisting in making the student memorize facts from books and lectures, and not education in its truest sense. The idea of the difference between a true educator and a teacher in the ordinary acceptation of the word, does not enter into the conception of many medical students, and is possibly absent from the sphere of some teachers of medicine. In the coming era the demand will more and more be for educators, not for the ordinary teacher, who will simply cram the student with facts, theories of disease acceptable to himself, and plans of treatment of which he approves, as the only possible things which the student must remember. The facts may not all exist, the theories be false, and the plan of treatment one which is but the fad of the present, or possibly even of a past, to be discarded later; nevertheless the student is obliged to learn these things. How many a student in after-life has wondered at the difficulty of shaking off false conceptions of disease because of the thoroughness with which they had been ingrafted during the stage of pupillage! How different this plan of dealing with the youthful medical mind from that which should obtain if the best growth of which each is capable is to be obtained. The true educator takes the student (speaking now of one branch as illustrative) to the disease as it exists in the living patients, showing him the different aspects in which it may present itself, letting the student note the condition of the mind in delirium, scan the state of the eye and pupil, and of the expression of the features, see the variation of temperature, feel the different characters of the pulse, note the phases of eruption, listen to the varying sounds to be heard in the heart and lungs, and palpate the conditions capable of such method of demonstration in the different parts of the body. Moreover, as he trains the student to observe he will try also to impress upon him the importance of these observations by applying them to diagnosis and to treatment. But here we can discern the great and radical difference between a teacher and an educator. The former will strive to impress upon the student that such and such is the case because I say so, or it is my way of doing, the ego being ever so large as to obscure the true object of teaching, viz., to develop the student into a correct thinker, not a dwarfed reproduction of the teacher. On the other hand, the educator will go over the varied manifestations, striving to make the student think out first the conditions, and next the method of combating these, so that with each case seen he may ever be a better reasoner, and be more capable of recognizing such subtile differences as may determine this or that to be the preferable plan of procedure.

In the death of your late President, Dr. Alfred L. Loomis, one of the prominent teachers and educators has been removed. The curriculum of each of the medical colleges of this city (speaking for our branch of the profession) has been lengthened, until now, in one, it consists of a compulsory four years' graded course, extending over eight months of the year, with a large portion of the time devoted to laboratory work and to practical study of disease. In the other two colleges for men the compulsory course is of three years' duration, for six months of each year, with an addition of two months of permissory study under the direction of the faculty. The medical college for women has as rigid requirements as those for men.

In all the colleges much of the practical teaching for which formerly an extra charge was made is now a part of the regular course. In by-gone times students were at times given diplomas entitling them to practise medicine, when they had never heard the morbid sounds of disease, applied a bandage, or helped at the introduction of a new life, but had only crammed the theory of these things from books. Each decade has witnessed a striking improvement in this direction. Some may say that there were clinical lectures given in all the colleges, but what did those students learn, who were on the back seats in a crowded amphitheatre, of many of the subjects presented. It should be added here that the medical colleges of other cities have also advanced in their requirements and plan of study, or have, as the Johns Hopkins, only had that method of medical instruction *ab initio*. Most of you, moreover, realize the additional burdens which have been placed upon medical students in the newer and the more extended branches of study, compared with what obtained thirty years ago. At the present

[1] An anniversary address delivered before the New York Academy of Medicine, November 21, 1895.

time more or less of histology, normal and pathological, is required in all our colleges, and in considerable degree this is a practical course. In one school compulsory laboratory study of bacteriology has been added. Thirty years ago the former may have been in a measure permissible, were the student so mindful and could get the opportunity; of the latter practically nothing was known. Now, moreover, each of the colleges has laboratories and microscopes, the former the gift in each case of some citizen (of this city), who should ever have pleasure in the contemplation of having done his share in placing our medical colleges in the position of truer educational centres. Volumes are now written upon the subject of bacteriology in each language, where formerly none existed, and the importance of this new branch constantly increases. Yet there is a singular confession of our ignorance to be made here. We are as yet unable to teach the student the name, or to know ourselves the organism productive of some of the most contagious of diseases.

With the growth of knowledge in different directions there has come more or less of a necessity of separating the teaching faculty of our colleges into those devoting themselves to the scientific subjects and those who teach what are called the practical branches. Formerly a professor might teach physiology or pathology, and at the same time practise medicine; but, owing to the rapid and widening growth in these branches, some of the colleges have the professors of these chairs devote themselves to the study of the subject and not engage in practice, in consequence of the inability to do their best work under the distractions incidental to the practice of medicine. The growth of physiological chemistry is so considerable, and the study of pathology, and especially of bacteriology, is so time-robbing, that in case the professor desires to be an educator he must devote himself to the subject. My object in thus briefly bringing before you this matter, its importance, and the necessity which exists or will exist in all our medical schools of having men devote their time to the consideration and teaching of these scientific subjects, instead of making them accessory to the practice of medicine, is to call attention to the necessity of urging the endowment of these chairs on scientific subjects in such colleges as have not the means of properly remunerating these chairs. The professor of what is called a practical subject is enabled to improve his position and to increase the pecuniary return from the work and time he bestows on teaching.

Hence the necessity exists, and the question comes from whence are the colleges to obtain their endowment fund? In Germany the government provides, but in our country we must look to our wealthy citizens not alone to build colleges and laboratories, but also, what is of more importance, to endow chairs in these institutions, at least those of a scientific nature. At a recent meeting of the American Academy of Medicine resolutions were adopted which looked toward the discouraging the building of any more hospitals and dispensaries, on the ground that enough, or more than enough, already existed, and that their effect was to interfere with the returns which the number of physicians now in this country should obtain from the practice of their profession. It may well be asked also if there are not too many medical colleges, especially those in small cities, turning out too many physicians, some of them poorly equipped for their work, but yet competitors with the better educated for a livelihood.

However, the establishment in different States of the requirement of a license from a body of examiners appointed directly or indirectly by the State, and issued only after an examination, has acted in some degree as a safety-valve, for a fair percentage of candidates fall short of the requirements. The practice of medicine, moreover, owing to a license being required in most of our neighboring States from its own board, is hedged with more restrictions than formerly, and it is a matter for consideration whether some inter-State courtesy or reciprocity will not be a necessity. New Jersey, I am told, will allow a licentiate of New York to file his certificate from the latter State and practise thereon, but he must pay double the fee over what would be required if he passed an examination.

It behooves me to speak with emphasis upon the benefit the medical profession has received from the employment of efficient trained nurses. The Bellevue Hospital training-school is the parent institution, and only twenty odd years old.

Two schools now exist for the teaching of those graduates of medicine who wish to avail themselves of the rich clinical material in New York City in a short space of time. Few of us appreciate the immense strides in our knowledge of some departments of medicine. In no branch have greater achievements been reached than in neurology. Numerous systematic treatises now exist upon the subject, several authors being members of the Academy, and it is taught as a special course instead of, as formerly, being grouped with general medicine.

Thirty years ago multiple neuritis was unknown, the most astute observers considering the manifestations as indicating a subacute general spinal paralysis, and writing the methods of diagnosis of this complaint. To-day a medical student is readily taught the means of discrimination, and in that bygone time not a few cases of cured progressive muscular atrophy and locomotor ataxia were to be referred not to the cure of these latter conditions, but to a mistake between those conditions and a disease not then recognized. Gradually, too, in these years the term neurasthenia, first employed by a member of this Academy, has come into general use. The monotony of having only malaria for obscure states of the system has been wonderfully relieved by the complex of conditions comprised under this head, and with lithæmia they divide the debatable ground.

I fear that a number of my hearers have never read the book upon spinal-cord troubles which was much resorted to in those days, the brochure of the lamented and brilliant Brown-Séquard. In this work we were taught to distinguish between meningitis, myelitis, congestion of the cord, and reflex paralysis. This was a very simple matter compared with the terms and the diseases of the spinal cord which the student must to-day comprehend. I shall not weary such of my auditors as may not be familiar with the long list. We are indebted for the progress to many workers, each adding something to the structure, though no name stands out so prominently in the whole field as that of the late distinguished French physician, Professor Charcot. So much has he been identified, both by writing and teaching, with diseases of the nervous system, that many are unaware that he contributed articles on the diseases of the liver and kidneys; and, in fact, after Moneret, was the next to employ the term fever intermittent hepatic of biliary obstruction, years before lectures were delivered and articles written about this condition in English; at a time, in fact, when most of our text-books were teaching that fever did not occur with biliary colic and pointed to some other condition. Pardon me for the digression, but I thought that this brief notice might be of interest.

In no direction have greater advances occurred, moreover, than in the ability to locate the area of disturbance in the brain. The fight for localization was a long and arduous one, whose beginnings date beyond this era, in the discovery of the connection between aphasia and disease of the third frontal convolution of the left side. Yet he who reads an article on aphasia of to-day, and such a masterly one as that contained in Trousseau's clinical lectures, will note the growth of our knowledge on this subject. The writer recalls the amazement of a friend well versed in neurological knowledge at the time, on noticing the

record of an autopsy in a case of aphasia, in which the lesion was found in the left temporo-sphenoidal lobe, and his insistance that a mistake had been made in not noticing some connection of the disease with the third frontal. This is an illustration of the importance of paying great attention to such cases as deviate from the general type and the ordinary phenomena of a recognized disease; for he who carefully scans all the features of such a case with sufficient knowledge may discern a new law or bring to light a subdivision of importance. We now understand word-deafness and its relation to disease of the temporo-sphenoidal lobe. Had my friend, who made the autopsy in that case, also been possessed of all the facts in the ante-mortem history, he might have been one of the earliest describers of word-deafness. Moreover, we have been very considerably indebted to vivisection for the advance in this direction. Without this method of investigation the writer cannot see how the increase of knowledge which has occurred would have been possible. Undoubtedly it has required the careful and painstaking research of numerous autopsies on those dying of disease of the brain, to confirm in the human being the observations made on the lower animals; but these alone would not have sufficed to place the theory upon a firm foundation. The brain surgery of to day is in consequence a very different affair from that which obtained in the sixties. In certain instances we feel that it has led enthusiasts too far, and that a certain proportion of such operative interferences might far better not have been attempted. Our distinguished ex-president, Dr. Jacobi, has drawn attention to this in his address "Non nocere." Yet the outcome has been that lives have been saved by the ablation of tumors, by the opening of abscesses, and by the removal of clot, whose location was only recognizable by study of rules growing out of the work of Hitzig, Ferrier, Munk, and others.

The railroad spine, or concussion, has also been a product of these last thirty years, Erichsen having launched the term greatly to the regret of numerous railroad companies and corporations, who have been in many cases mulcted of large sums owing to the elasticity of the term. A disease indeed with varied symptoms, but having in one respect a close resemblance to dipsomania, viz., in that a certain proportion of the cases are best treated and restored by the gold cure. So, too, in this connection there was recorded unfortunately that first instance of abnormally high temperature in the case of the young lady thrown from her horse, and while the temperatures recorded in her case, and some more remarkable of subsequent dates, have always puzzled the writer and many of his friends, they believe them only explainable by juggling with the thermometer.

Not alone has the list of diseases of the spinal cord been increased by our expanding knowledge, but many of supposed functional character have been found to be of organic nature; the difficulty earlier having been the lack of autopsies in appropriate cases, and in addition the want of accurate methods of investigation in such a structure as the spinal cord. Within this period also the choked disk became noted as a pathognomonic sign of tumor of the brain, and though it was soon discovered that tumor of the brain might occur without this, yet it took considerably longer to dispel the idea that tumor was the cause of trouble should a choked disk be found. So much was this the case that when one had been noted, and the subsequent course of events demonstrated the inaccuracy of the statement, attempts were made to draw a distinction between the appearances in the two conditions. Now we know that the condition is not pathognomonic. However, later on we will allude to this same sort of error in disease of another organ. The first observer draws attention to the existence of a certain state in some disease, others note the same thing, and soon an enthusiast, or better, a dogmatist, announces such a condition is a sign of such a disease, and years are spent in undoing the evil.

The term myxœdema has also come into use, indicative of a disorder not dreamed of thirty years ago, and it illustrates the method of discovery of relationship between an organ and a state of the system long overlooked, and for which a remedial measure has been found in the feeding of the sheep's thyroid. The names of Gull, Ord, Horsley, and Murray stand out prominently in the gradual description, recognition, understanding of the pathology, and treatment of this state.

It has been a matter of interest, too, to note how little of apparent notice our German friends took in a diseased condition worked up by English physicians; though Kocher, of Berne, in describing the results of the removal of the thyroid described myxœdema and helped to bring into relief the true cause of the complaint.

The method of mediate percussion introduced by Avenburger, and that of auscultation taught by Laënnec, gave, in addition to the other, though not so essential, means of examination, an early insight into the diseases of the heart and of the lungs long before the period of which I write. The chief additions to our knowledge during this period have been by the explanations bacteriology has given as to the etiology of disease. Of course, pathological examinations have gradually increased our comprehension of the intimate changes of disease, but no such marked increase as has been noted in the case of the nervous system has occurred.

Actinomycosis has been made out. Explorations with needle and syringe have enabled us to tell at an early date the nature of fluids in the chest and pericardium. Moreover, I believe that this method was more employed in New York at an early period than abroad, and though liable to abuse by careless use of unclean instruments, or by lack of forethought as to the nature of the process for which used, it has proved of marked benefit. The introduction of aspiration by Dieulafoy has simplified the withdrawal of fluid from the pleura and from the pericardium, while free drainage has gradually helped to cure cases of empyema in a shortened period of time. We understand, moreover, ulcerative endocarditis, have had the terms tachycardia and bradycardia replace the simple names of rapid and slow heart. Moreover, it seems to the speaker that at the present time greater attention is given to a consideration of the condition of the heart muscle, and the importance of the study of this as contrasted with that of the adventitious sounds or murmurs which were formerly so apt to monopolize attention, or else receive too considerable thought.

The use of the stomach-tube for investigation and for treatment of disorders of this viscus has been the means of widening our knowledge of stomach disorders, and also of proving a very important aid in bringing about cure or amelioration of its diseases. This is sufficiently familiar to you, as is no doubt that other production of erroneous diagnostic rules based upon its employment. For no sooner was it found that free hydrochloric acid was absent from the stomach in cases of carcinoma, than it was assumed that the absence of free hydrochloric acid meant carcinoma. The dogmatist laid down the law on an insufficient basis, only to discover later that the methods were at times inaccurate, and that other conditions could at times produce the same result.

Perhaps no greater improvement in our consideration of abdominal disorders has taken place than in the recognition of appendicitis as a diseased condition of frequent occurrence, and that a very large proportion of what had been formerly termed perityphlitis in a loose way, was in reality periappendicitis, and that the exudate in the majority of these cases was intra-peritoneal. Moreover, it has proved the means of lessening largely the cases of so-called idiopathic peritonitis, the ma-

jority of them being dependent upon perforations or disease of this apparently unnecessary (unless to the surgeon) portion of our anatomy. A former member of this Academy, Dr. Willard Parker, laid down the rules of guidance for perityphlitic abscess—and it was reserved for another, Dr. McBurney, to urge the importance of the early operation in the cases of appendicitis. Moreover, from what has come to my knowledge here, compared with that of which I have information on this subject abroad, I believe that the surgeons and physicians of New York City and of the United States have had a much truer conception of the process and of its proper treatment than have those of other countries. In fact they have only within a recent period waked up to a just realization of this matter. It has hardly been necessary to remind you of this advance in view of the number of times that you have been addressed upon it. So, again, the recovery from tubercular peritonitis as a result of a simple laparotomy is a progress whose real explanation eludes us as yet.

When we come to consider the etiology of disease, and particularly of the infectious disorders, we at once appreciate our true conception of these conditions. Thirty years ago we were still as those who see through a glass, darkly, in this matter, though in the past there had ever been those who felt the need of some organized body with life and capability of division, to explain this infectiousness and contagion. Any who will look up the literature of influenza will be struck by the soundness of reasoning of some of the observers of epidemics of this disease in the last century—a soundness of reasoning that ought to put the blush on the cheek of some writers on influenza, who indulged in speculations as to the cause of the disease when it made its first reappearance some five years ago. For this purpose I can commend Symes Thompson's historical survey, and particularly the extracts from Gray and Haygarth, and the statement of Heberdeen about Haygarth's communication in reference to the outbreak of 1782. It would take too long to reproduce here Haygarth's method of reasoning in his own words, but it is of particular interest to note that his communication in regard to the outbreak of 1782 was not published until 1803, on the occasion of another epidemic.

Haygarth gives the following interesting reason for the publication of his communication, after twenty years, regarding the influenza of 1782, and his reasons for considering the influenza to be due to contagion: "The contagious nature of the influenza had, as I thought, been sufficiently proved by many physicians. . . . But a contrary and, as I think, a very pernicious opinion, has lately been supported by physicians of great respectability, and authors of the highest reputation, not indeed in this, but in other enlightened nations, have ascribed not only this, but many other epidemics, even the plague itself, to a morbid constitution of the atmosphere, independent of contagion. To determine whether this doctrine be true or false is of the highest importance to mankind. Knowledge in this instance is power. So far as it can be proved that a disease is produced by contagion, human wisdom can prevent the mischief. But the morbid constitution of the atmosphere cannot possibly be corrected or controlled by man."

The younger members of the Academy will not remember the long controversy regarding the possible infectious character of tuberculosis, including phthisis. There was only a small minority of physicians who admitted this prior to 1882, when Koch announced his discovery of the germ of tubercular affections. As often happens, not a few of the laity, judging from what came under their observation from time to time, had accepted the theory; moreover, there was a strange superstition, or perhaps fancy would be a better word, in different parts of the country, that in case an invalid with the disease could give the malady to an animal he might recover. This idea was undoubtedly founded upon the observation that at times one of the lower animals, in contact with a person suffering with phthisis, contracted the disease. Moreover, even after Koch had announced his discovery, and even after its confirmation by many different observers, it required still much controversy to cause its more general acceptance. As so often happens, those physicians who made a special study of the disease were found in certain instances the most difficult to convert. Especially were such arguments used as, that we have had charge of a hospital for the disease (Brompton Hospital), or a hospital in which the disease was treated, and neither our house staff, our nurses, nor our attendants, nor other inmates, were affected in any such manner as to prove the idea. This is the argument always used by those who dislike to admit the force of reasoning relating to improving conditions dependent upon acceptance of a theory adverse to business interests, or to theories previously taught and held. As a theory it has proved dangerous, because those who have become ill in this way are not to be looked for among the present workers in places of nuisance, nor in the case cited in hospitals and wards for consumptives. They have either given up their places or have been laid where alone the tombstone will speak. The writer had in his earlier practice collected a number of instances pointing toward the dissemination of phthisis from sick to the well in families, in houses, in institutions, and in one case from one patient to four successive dogs. In coming to the conclusion some years before he published his conviction that there was a contagious element in phthisis, he found very few among the leaders of medical thought in this city who accepted the idea. And even after Koch promulgated his proofs about the tubercle bacillus, the statement was that this germ found favorable soil in the diseased parts, was not cause, but simply concomitant—the same argument which had been used years before by some dermatologists to prove that the parasite in parasitic skin diseases was not cause, but only an outcome of a favorable nidus.

At the present time but few deny the infectiousness of tubercle. Thirty years ago there was still much argument as to the unity of tubercle and of varied tubercular affections, and much question existed as to the relationship between miliary tubercle and tubercular pneumonia, or, as it was called, tubercular infiltration. Anatomical differences were drawn, by means of which we should discriminate. How simple it seems to the student of to-day, as contrasted with that one of thirty years ago. The attempt was made by this and that reason to make plain what the professor himself was not assured of. Moreover, this discovery of Koch's has, by assigning a definite cause for the tubercular affections, drawn attention to the necessity of preventive measures in dealing with the excreta which contain the bacilli. The prevalence of phthisis is so great, the apathy as regards careful attention to this matter on the part of some of our profession is still so considerable, and the numbers of those ill adapted to resist the inroads of so prevailing and insidious an enemy, owing to inherited or acquired weak frames, is so great, that we do not wonder that, notwithstanding our knowledge of the bacillus is thirteen years old, at the death-rate from this cause. The writer calculated that there must be nearly fifteen thousand cases of the disease in New York City, and that a very considerable portion of these are peripatetic. Yet in preparing a paper on overcrowding, for the County Association, two years ago, he was gratified to find that both in New York and in Philadelphia the number of deaths from phthisis had diminished instead of increasing during the last ten years, as contrasted with those gone before. Nor could this diminution be ascribed satisfactorily to other causes. We hope to see a careful statistical table on this subject at no distant date, which shall comprise most of the large cities, in order that we may be better

able to judge as to this improvement. And it is hoped by the writer that each member of the Academy will do all in his power to teach those suffering with the malady, or their friends, the importance of destroying the secretion from the affected parts, and thus aid the efforts made in this direction by the Board of Health. We do not expect to see the disease completely eradicated, but we feel that with medical insistance and the increase of popular knowledge in this regard, that we shall witness a much more considerable check to the ravages of this fell destroyer.

We cannot believe that the density of population permitted in New York City, twenty or twenty-four families on a twenty-five by one hundred foot lot, betokens medical progress, nor does it point to as successful an issue in the struggle with tuberculosis and other infectious diseases as may be the case in less crowded places, providing that equal vigorous measures are adopted looking to the destruction of the bacillus. The fifteen, twenty, and more story high office buildings are also fraught with danger in the same direction. So many people are brought together in confined areas that one tubercular invalid, if careless, has much greater chance of spreading the disease. The papers point at these lofty structures, attempting to compel tribute from the sky, with civic pride, but we feel that they are an added source of detriment to health and cannot be considered as medical progress.

Koch may justly be proud of his position in aiding in the progress of medicine. A practising country physician outside of the university, studying carefully with Cohn microscopic botany, he discovered first the link which was sought to complete the life-history of the bacillus of anthrax, a matter which was needed to throw light upon its method of entrance into the system. This was the existence of "dauer sporen." Then he worked out much about septicæmia, and later cholera as well as tuberculosis yielded up to his search the cause of their being. Moreover he, more than any other, taught the true method of bacteriological research. Many names admit of honor in this regard. Pasteur, his predecessor, for his long work in the same direction; Eberth, discoverer of typhoid germ; Fehleisen, of the erysipelas coccus; Laveran, of the malarial plasmodium; Obermeer, of the relapsing fever spirachele; Nicolaier, of the tetanus bacillus; Hansen, of leprosy bacillus; Loeffler and Klebs, of the diphtheria bacillus; Fränkel, of the pneumococcus; and Friedländer, of the first variety superseded in great measure by Fränkel. Moreover, a variety of germs capable of exciting suppuration have been made out by different observers, Ogston, Rosenbach, Passet, and others. Finally, it has been reserved for Kitasato, the Japanese bacteriologist who had worked with Koch and who had with Nicolaier studied the tetanus bacillus, to work out the bacillus of the plague. He went to China to engage in those studies, which resulted in the discovery, conducting them according to the rules laid down by Koch. This certainly betokens medical progress, and how gratified would Haygarth be, were he living, to know that this argument was correct, though the finding of the organism had occurred over one hundred years after his utterance. More surprised he would be to know that the discoverer was a Japanese, for the plague organism, while Pfieffer had unravelled the secret of influenza in finding a bacillus as cause.

If, without going into detail with each of these, we ask whence the gain from this knowledge, we may well answer, much in every way. The discovery of the cholera spirillum has put in the hands of sanitary authorities a means of distinguishing the disease at an early period, and of taking precautions in consequence of certain knowledge that formerly would have required time and the development of additional cases. In this way, aside from the value attaching to knowledge in the abstract, it has proved of immense importance and will gain in this respect, should the immunization experiments meet continued success.

With reference to typhoid fever we are enabled to know more accurately the conditions favorable to the life of its causative organism, and thus to increase our means of preventing its spread. This knowledge, alas! has robbed us of some of the satisfaction with which we eat raw oysters in the fall of the year, when typhoid germs are being discharged from sewers whose openings in rivers may be near the floats on which the oyster is being fattened or freshened. Medical progress may demand that oysters shall be freshened only in such places as shall be free from liability to typhoid contamination. Previous to the discovery of this organism much of what we now know had been adduced by careful and painstaking study of the method of origin of the disease; and it has served to direct attention away from sewer-pipes, defective traps, etc., to what was eaten and more particularly drunk, water and milk as the main sources of etiological importance. As far as the writer can see, our knowledge of the pneumococcus is as yet of scientific interest more particularly, though it serves to prove the right of those who, as my former distinguished and revered colleague, the late Professor Austin Flint, claimed pneumonia as an infectious disease prior to the discovery of an organism —and also for possible antitoxin production. The proof of the existence of germs causative of suppuration has in part helped to revolutionize surgery. We say in part, because prior to the proof such far-seeing men as Lister had reasoned out the probability, and laid down rules for the prevention of their entrance in operations, etc. Rules which are now discarded, because the surgeon has learned the value of cleanliness. Cleanliness is next to godliness is the motto, but alas! in bygone times the lack of cleanliness on the part of the surgeon led many a poor soul to learn the mysteries of another world. The writer dreads to think of the number who have succumbed in this city, prior to the era of aseptic and antiseptic surgery.

The treatment of internal diseases has not apparently made so considerable an advance as has the surgical. This is entirely owing to the fact that asepsis has allowed the surgeon to achieve results impossible previously. Yet, when we come to consider that the physician aims at two entirely different results as the issue of his increased knowledge of the etiology and course of disease, we will be struck by the progress which has occurred. He aims, in the first place, to prevent the spread of contagious and infectious disorders, and through foresight, so far as may be, to forestall the influence of deteriorating conditions in individual cases. On the other hand, his duty is to carry the individual patient through his sickness, whatever it may be.

Though much of the work of protecting the community has been placed upon boards of health, yet it must be recognized that these owe their origin, development, and efficient activity to medical men. A large measure of advice has still to be given by the practitioner to the families under his care, as to the proper methods of procedure against contagion. We have not been able as yet to secure so effective a protection against the other dangerous contagious disorders as vaccination has achieved against small-pox. In this city, during the last thirty years, a study of the statistics will show a remarkable gain in this regard by the establishment of a permanent corps of vaccinators under the control of the Board of Health. Previously to 1875, when an epidemic of small pox occurred, then a corps of physicians was assigned to the work of gratuitous vaccination among the poor of the city. Since that date a permanent corps has been maintained, and it can be proven by the results to be the only wise course in a large city. The epidemic of 1874 died out in 1876, and while since outbreaks occur from time to time, when enough unprotected people exist to form a chain after the exposure of the first to the exciting

cause, yet these have not attained the magnitude formerly possible. A careful study of the statistics of small-pox in New York City will convince any reasonable person, not alone of the immense value of vaccination, but also that a permanent corps of vaccinators employed by the city is as essential for the control of the disease. Fortunately, the vaccination law is not compulsory in this city, and hence the anti-vaccination cranks have never been able to reach any considerable number nor obtain any marked influence. They are like the smut on the corn in a field with a large crop, here and there a dark spot, in the wonderful progress of prevention in this disease achieved in this city during the past twenty years. But this era has been marked by the attempt to control other diseases by a protective influence not like vaccination. Pasteur, who had obtained successful results in dealing with animals by the use of attenuated virus, succeeded in his attempts to find a means of immunizing animals against the hydrophobia by the use of attenuated poison derived from the desiccated spinal cord of rabbits. He also applied this method to human beings, with a result which has given him world-wide fame. Insomuch as in both vaccination and in inoculation for small-pox the germ itself is introduced, grows, and by producing on the one hand vaccinia and on the other a mild attack of small-pox, we may question whether in these protective vaccinations against hydrophobia, with gradually increasing strength of virus, it is not a gradual toxin introduction rather than of the germ of hydrophobia which has not so far been isolated.

Since this time numerous workers have endeavored to solve the question of immunity. The results of vaccination, the fact that human beings and animals recover from infectious diseases, and that one attack of some infectious diseases protects for more or less of a lifetime against subsequent exposures, and in other diseases against a speedy return, led to the search for the method of cure and of a means of immunization against diseases of this nature. It was reserved for Behring to study out and bring to public notice the demonstration that the blood serum contained in tetanus and in diphtheria a substance which has been termed antitoxin, which in each of these diseases had the property to so far antagonize the toxin of disease as if injected previously, with or very shortly after the toxin in sufficient quantity and strength, to prevent the poisoning of the system by the toxin. Kitasato worked with him in the study of the tetanus immunity. Thus was laid the foundation for the serum therapy of diphtheria and of tetanus. In the case of diphtheria, because of the frequent occurrence of the disease, because of its severity and of the number of deaths due to it, this method of treatment has acquired world-wide attention. When we consider the number of deaths from diphtheria, including croup, occurring in New York each year, this city has a vital interest in the matter. The Board of Health, at the suggestion of Dr. Biggs, and with the co-operation of Dr. Prudden and the work of Dr. W. H. Park, his assistant, began and continue the production of this antitoxin gratuitously for the poor. At the meeting of this Academy on April 3d of this year the subject was presented to the members, and the results then achieved at the Willard Parker Hospital and in the city detailed. Such arguments as could be urged in opposition were presented by Dr. Winters. Since that time the use of antitoxin has continued, and the speaker said he could not allow this opportunity to pass by without stating the reasons why, when asked, he advocates its use. The statistics of the death-rate from diphtheria and croup in Paris prior to and since the use of antitoxin serum, which is there prepared by Roux, who, after Behring, principally drew the attention of the profession to its value, are so strikingly favorable that, till disproved, no other should be needed. So again, the statistics on the same subject furnished by institutions and physicians in Germany in the great majority are arguments for its use. A very able paper by Professor William H. Welch, of Johns Hopkins University, embodies his views, and is based upon a careful study of seven thousand cases treated by this means. The result is decidedly confirmatory of its merits. Moreover, a number of physicians, in whose judgment and ability the speaker has confidence, have stated to him its favorable effect in extremely severe individual cases of the disease. The papers presented at the meeting of the Academy on April 3d are arguments for its employment. More recent statistics than these in journals of recent date confirm me as an advocate for its employment. The occurrence of forty-three deaths from diphtheria and croup in this city during the week ending November 9th make the speaker fear that this method is not receiving a prompt and fair trial. Moreover, previous to this date the deaths from the disease have not decreased as have those in Paris.

We would not be understood as stating that there are never any disagreeable sides to this treatment. These the advocates of the method admit, but the speaker does not believe that all the evils which follow the use of antitoxin are of necessity due to the antitoxin. When we consider that the horses used for the production of antitoxin are of a very different constitution, though young and free from disease so far as can be made out, yet the fact that some serums far more than others are attended by urticaria, and by joint pain or rheumatic-like attacks, suggest the idea that if one set of observers find results at variance with those of the rest or many of the rest, we have a right to conclude that some of the differences are dependent upon the horse from which the serum has been obtained. The possibility that some of the horses had rheumatism is suggested. Neither should such distresses as are to be fairly attributed to it be allowed to outweigh the advantages, when employed early.

Tetanus is fortunately a comparatively rare disease, so that the same interest does not attach to the use of the serum therapy for the possible cure of this disease. Yet the results obtained by animal experimentation stand on the same footing of success as is the case with the diphtheria antitoxin. However, there is the difference that the amount required is larger and greater the longer the symptoms have existed. The cases so far treated in tetanus give a hope that, early and promptly employed, success may at times be obtained to a greater degree than would otherwise be the case. Yet it will require a very careful gathering of statistics to inform us of the absolute value of the remedy.

Experiments in animals have also been made with the organism and toxin of cholera, and recently experiments made in India seem to show that Hafkeine has succeeded in proving a probability that he has immunized those exposed against this disease.

Claims are now being made for the success of this method for other infectious diseases—pneumonia, typhoid—and more recently for the pus-exciting organisms. There is undoubtedly much of promise in this field, but a liability also to allow our enthusiasm, due to the success in one or more directions, to lead us astray in claiming too much or against a process for which it is not calculated to prove serviceable.

For the last few years, associated with the struggle to prove that carcinoma and sarcoma are not simply outcomes of the bodily development, as a result of unused embryonal tissue stored up in some nook of the body, but are due to the influence of a parasite, animalicular or vegetable, there has gone on an attempt to check its growth by the use of toxins of erysipelas, etc., or the serum of animals treated with such toxin. Our colleague, Dr. Cooley, has been an enthusiastic worker in this direction, and feels confident of some success from his work. The writer has not personally been able to witness a case which has turned out successfully, though he has had them subjected to the trial. In view of the fact that successes have occurred,

it seems that we will be obliged to assume in these cases a difference of structure or of etiological substratum, such as does not reveal itself to the microscopist. The writer trusts that either by the means now used, or by the intervention of some additional agencies, we may be enabled to add to the progress of medicine in other directions that of having achieved a victory over the malignant tumors.

The attempt to cure consumption (tuberculosis) has been oft repeated, and in view of the prevalence of the disease, which kills five thousand people annually in round numbers in New York City alone, no wonder is excited by the frequent appearance of a new method for which great promise is made. Thus, of late years especially, the hot-air inhalation, the Bourgeron carbonic-acid and sulphuretted-hydrogen injection, and last the tuberculin plan, have come successively before the medical and lay public with great pretensions. The two former quickly sank to their proper level of inefficacy; but the latter came heralded by the name of one who has done so much for the medical progress of the last twenty years that it was not alone the hope for a cure of this dreaded disease, but interest that the discoverer of the germ of origin of the disease might also be the finder of the means of its destruction, that gave intensification to the announcement. We must regret the eager striving to be the first to use this new remedy, product of difficult and prolonged research on the part of its renowned projector, which rather marred its introduction. At present it is but little used, though there are those who, like my friend, Dr. Trudeau, are making continued tests in those who desire to make trial of it; and I am told that Professor Koch is himself still at work endeavoring to secure some method by which it may be employed with success. The writer, and I have no doubt all his auditors, wish him Godspeed in his efforts. As it is, we find no better method for the cure so far than the effort to develop the patient's internal powers of resistance by suitable climate, air as free as possible from the germs of suppuration, improved nutrition, and appropriate medication in such better atmosphere where as much as possible an out-door life may be led.

A visit to the sanitarium at Saranac Lake would well repay each of my auditors. The cottage plan has been adopted except in the oldest structures, each holding four inmates, with a common living-room and a separate bed-room. The outlook is over an unbroken forest, save a hill, to protect from the worst winds, situated behind. Here eighty patients receive treatment and board for a price which has to be supplemented by the gifts of the charitably disposed. Moreover, in his laboratory there Dr. Trudeau continues his experimentations upon tuberculosis. This laboratory is a surprise to those who have not seen it before; it is the gift of the late Mr. George Cooper to replace one which had been burned.

Not alone has the present era witnessed the introduction of these new agencies, of which our fathers in medicine did not even dream, and at which they would have stood aghast, but it has largely increased the number of agencies to be used in disease. It has become a habit to decry the use of the coal-tar series in the treatment of febrile disorders, but the writer has found them, judiciously used in appropriate cases, of service, and he does not hesitate to say that he still sanctions their employment under these conditions. How can we admit the claim of those who formerly saw great results from their use, and now say that they have no value? Many undoubtedly have employed excessive doses, and have attempted their employment in such doses unguarded, in unsuitable cases, with at times unfavorable results, but this is no argument against the statement made above, nor to their own previous claims. No one method of treatment can be at all times applicable to all cases. While this is true, the very general trend of medical work in fevers has been to substitute the use of cold water in one or another way for the medicinal agencies in bringing about a reduction of temperature. First, sponging and use of the coil, then the pack, and now more than formerly the use of the tub-bath is the plan adopted. The use of the tub-bath is not alone for reduction of temperature, which does not of necessity occur, but as much for its effect on the circulation, nervous system, and with a view to prevent the ill effects brought about by the stagnation of the circulation in the lungs and limbs. But in this connection how much better would the ounce of prevention be than the pound of cure. Certainly we must urge that boards of health, so far as is possible, shall have the power to inspect the water-supply, of all communities, and also of every kind, of each dairy furnishing milk for consumption in their towns or cities—and in case there is a suspicion that the conditions are liable to be dangerous as regards any water-supply, whether used for washing milk cans or otherwise, that they prohibit such dairy from supplying milk so long as such danger exists. If such inspection had been effective with a law of the above nature, the outbreaks of typhoid fever in Stamford and New Milford, Conn., and in Montclair, N. J., and Watertown, N. Y., would have been prevented. These were all due to water-contamination of milk, said only to have come about by washing cans.

It would require too much of time and impose on your indulgence should I go over the list of new remedies of a strictly medicinal nature which have come into use, as strophanthus, iodoform, sulphonal, trional, ichthyol, cocaine, etc., not to speak of the change which has in particular resulted from the success of the thyroid feeding to make up for the deficiency of the normal secretion from the gland, as bone marrow in anæmia, suprarenal capsules in Addison's disease, the use of extracts of certain organs in diseases of those organs, further than to say that our credulity is largely borrowed on at times by the reports which are in circulation and also in print. If some of these remedies are so efficacious, why not resort to the raw egg, from which certainly the whole system of the chicken is built up—bones, blood, brain, spinal cord, muscles, etc. The old-fashioned egg-nog had a virtue evidently based upon a theory of which our grandmothers were ignorant, when they would administer this to a convalescent. Moreover, those who ascribe such dangerous bilious-producing properties to the yolk of egg, in many cases the result of this syllogism, bile is yellow, yolk of egg is yellow, hence yolk of egg is liable to induce biliousness, must beware how they slander so powerful a food. The growth of specialism has undoubtedly tended to medical progress, and this has been largely an affair in certain directions during these past thirty years. There are some parts of the body which more than others call for special treatment, because the dexterity acquired by constant practice makes one largely excel another who is more occasional in his work. The eye, the ear, the nose, and throat claim attention, and gynecology and andrology have come to be branches of special study. Moreover, the field of internal medicine is split up into subdivisions under the control of specialists and especialists; hence we have neurologists, cardiologists, pneumologists, gastrologists, enterologists, hepatologists, hæmatologists; and not to lengthen this list of words, which are deserved if not applied, those who devote themselves to the latter end.

The writer does not believe, except in some of the fields to a certain extent, that a man can be a first-rate specialist who has not had a broad enough foundation of knowledge to appreciate the relationship between diseased states of organs and the secondary results of such states, both on the general economy and upon other organs, as well as the reverse of this. And it is also true that many specialists have been obliged to extend the sphere of their work because of this interdependence of parts. The aurist and oculist find that the brain will claim attention, and that the condition of the general health is of great importance. Moreover,

it is the writer's conviction that by considering too exclusively the disorders of one part all morbid phenomena are liable to be referred to errors of this part. The speaker would not advocate giving up specialties, but he would advise young medical men not to start as specialists until they have acquired a broad general knowledge of the effects of disease upon the body.

Along with the growth of specialism has come with the progress of our time the medical expert. He existed before, but not to the extent that he has of late years. The medical profession is at times surprised to find who are experts upon certain questions, and also to find what diametrically opposed opinions experts will express in regard to the same condition of affairs. One expert will swear that a man was insane because at such and such a time he did so and so, acted in such a way, spoke such words, saw perhaps hallucinations, or what were regarded as these; while another alienist or neurologist will explain these as compatible with sanity. In a trial some ten years ago three experts called for the defence in a case of nervous trouble due to an injury to the spinal column resulting from a fall, each swore that the man had a complaint different from what his associate had considered it, and all swore that he did not have what the speaker and Professor Sayre swore to, viz., that he had Pott's disease and subsequent pachymeningitis. Moreover, one of these medical expert neurologists wrote an article in which he took us to task for the character of our testimony. An autopsy in the case two years after the trial showed Pott's disease.

The patient won his suit and recovered $25,000 damages. It does not, however, do for the lawyers to rail at us in view of the court after court to which cases are taken and retaken, the judgments upset and confirmed, to be upset on appeal, and the court of highest resort not infrequently divided in its decision, and at times even practically deciding against the judicial soundness of an opinion previously promulgated. We may well say to the lawyer, don't point your hoary finger at us, but correct your own infirmities which are many, including the tendency to ever-recurring delay and postponement, the *bête noire* of the medical witness.

Whether in the future some plan can be devised which will avoid this conflict of testimony, by arranging for the selection of several physicians so chosen that they shall represent the best attainable medical intelligence upon the condition of the person about which there is a dispute, may be open to question, owing to the laws relating to trial by jury. There is, however, not the least doubt about the desirability of such a change. A medical expert who goes on the stand for a particular side, no matter how firm his intention of telling the truth, the whole truth, and nothing but the truth, is very apt to be biassed in favor of the view advocated by his attorney, and moreover, to be, in a measure, unwittingly antagonistic to the lawyer of the opposite side, who is to cross-examine him. Expecting an attack upon the opinions he has expressed, he mentally endeavors to foresee the method of meeting such attack.

In view of the facts which I have so briefly touched upon, showing the progress of medicine in so many directions, requiring of the busy practitioner, as well as of the medical student, increased effort to keep up with the ever-increasing mass of knowledge, and of which he may readily find the information in the books and journals belonging to the Academy of Medicine; it does seem as if this Academy might be able to give to its fellows, without encroaching in the least upon the provinces of the laboratories attached to our medical colleges—a laboratory in which there might be the means of investigation of the different pathological discharges, and in which there should be also exemplifications of the recent advances in scientific research. By reading, he is told what someone else has seen and done. I would have him part owner of property in which he could witness the thing itself. How extensive such a laboratory should be would become a matter for discussion after it had been decided to have a laboratory. The writer believes that upon a proper presentation of the advantages likely to accrue, not only to the physician himself but also to his patients, from his increased efficiency, funds could be secured from those of the members interested in the best welfare of the Academy, and also from those friends of the Academy who are neither members nor physicians—citizens of New York desirous that its medical institution shall be the best equipped for their work of any in the land or world.

Objection may be urged against this plan upon the ground that a debt exists at the present time, and that funds are needed for the library, which should be extinguished before any new enterprise is undertaken. Then let us endeavor to extinguish this debt, to secure our laboratory, if the members decide that they wish one, and to obtain as large a library fund as possible, even a library and laboratory building, if our friends will avail themselves of the opportunity of bestowing upon a hard-worked profession the means for its truest recreation.

A NEW AND ORIGINAL METHOD OF OBTAINING MATERIAL FOR SKIN-GRAFTING.[1]

By ZERA J. LUSK, M.D.,
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AMONG the various methods of obtaining material for skin-grafting, none are so universally employed at the present time as those of Reverdin and Thiersch. The credit of healing raw granulating surfaces by the application of minute pieces of cutaneous epithelium is generally conceded to Reverdin,[2] who published his discovery and experience about twenty-six years ago. The subsequent methods reported, differ only in the manner and source of procuring epithelial tissue. Dr. C. B. Kibbler,[3] of Corry, Pa., reports having had excellent results with thin slices of calloused or indurated epithelial tissue taken from the palmar surface of the hands or plantar surface of feet, recording several cases successfully treated after this method. Especial emphasis was placed on its being easily obtained, causing no pain or discomfort to the donor.

Dr. John T. Hogden[4] claims to have successfully used "scrapings of epithelium and shavings of corns." The success of these methods has been frequently verified by published reports, all of which indicate that healthy granulating tissue, by some inherent power, imparts life to cuticular epithelium. The contemplation of this fact, under circumstances which I will hereafter describe, suggested an experiment which proved eminently successful in a recent case of mine, where nearly six hundred square inches of raw granulating surface was healed in less than six weeks by grafts furnished by patient.

On January 14th, Emile Silskey, native of Russia, twenty-three years of age, robust constitution, laborer at Hawley Salt Works, was trying to separate a salt crust adhering to the bottom of the pan, when the heavy iron bar, which they use, slid without the expected resistance under the crust and he lost his balance, falling head foremost into a pan of boiling brine. Those working near hurried to his assistance, and had nearly succeeded in getting him out when they lost their grip and he fell backward again into the boiling brine. By another effort they succeeded in getting him out.

I saw him very soon after the accident. He was

[1] Read before the New York State Medical Association, October 17, 1895.
[2] Bulletin de la Soc. Chirurg., 1869. Gazette des Hôpitaux, 1870.
[3] Railway Surgeon, August 14, 1894, vol. i., p. 126
[4] International Cyclopedia of Surgery, vol. ii., p. 288.

lying on his back with no covering except a sheet loosely thrown over the lower part of the body. Great bags filled with serum hung from his sides and other parts of the body. Both arms were completely stripped of epithelium, which hung in shreds about the wrists, having been scraped down in his efforts to get out of the pan. The thick calloused skin of the palmar surface of both hands was torn and in shreds. The dorsal surfaces were covered with sacks full of serum. There was a raw, bleeding surface six inches wide extending from the left arm to the middle of the right scapulæ; one of the same character and size covered the lumbar regions. The buttocks were covered with large blisters, but more superficially. The skin on the lower extremities hung in shreds, bleeding in many places, especially about the knee and ankle joints. The genitals were very œdematous, and covered with bullæ. There were numerous small vesicles on the face and neck, and large erythematous patches over the chest and abdomen, but no vesication except in the right infra-clavicular region, where there was a blister four inches in diameter. It is unnecessary to state that there was profound constitutional disturbance, and that no hopes of his recovery were entertained.

However, after a liberal use of strychnine hypodermically, together with the application of artificial heat, his pulse became stronger, when dressings were hurriedly applied, and he was left in the care of competent nurses. The gravity of this case may be understood when we consider that the area of burned surface covered more than two-thirds of the body—indeed, there was no part where the blush of super-heat was absent; yet, contrary to expectation and precedent, recovery has taken place. His condition seemed

hopeless until February 11th, when favorable symptoms appeared, and for the first time I thought the man might possibly get well. He was extremely emaciated, with nearly one-fourth of his body a raw granulating surface. The only cutaneous covering on the left leg was seven inches wide at the trochanter major, narrowing to two inches at the knee, covering one-third of the leg to within two inches above the ankle. The right, eleven inches wide below the trochanter, narrowing to a point two inches above the right knee, commencing two and a half inches below, covered one-third of the leg, narrowing to one inch over the ankle. The right knee, from two and one-half inches below to two inches above, had no dermal covering; left the same, except two inches on the

outer surface. The upper extremities were covered only by narrow strips on the outer aspect, except at the elbows, both of which were denuded of skin. An elliptical space over the lumbar region, five by nine inches, and one of about the same diameter over the left shoulder, were without dermal protection. There were in many places deep gangrenous sloughs, the underlying tissues resuming a more healthy appearance. The question now was, where could material be obtained sufficient to heal these large ulcerating surfaces. None could be provided by the patient. I could not utilize the Thiersch method, as no one could be found who would consent to give strips of skin.

I made a beginning on February 13th, by applying eight grafts taken from the indurated tissue on the palmar surface of the hand of an attendant. The next day, when I wanted to repeat the operation he declined, said his "hand was tender," that I had "cut too close, and though it did not bleed, was sore." As nothing more could be done, I concluded to await the results of the grafts made the day before.

In the meantime, while reviewing the various methods employed, an idea occurred to me, suggested by the following condition: There were numerous patches of exfoliated epithelium, the remains of vesication. They were hard, dry, and crisp, having for nearly five weeks been separated from the cutis. Why could not this material be utilized for skin-grafting? I had faith to believe that it could, and on February 16th, in the presence of attendants and others I made grafts, using the following material: Attached to the dorsum of the

right foot by one edge, the other being free and raised one-fourth inch, was a patch of dry exfoliated epithelium, extending nearly across over the surface, near the distal end of the metatarsal bones; the floating part was from one to one and a half inch wide. From this I clipped off a piece one inch square, softened and sterilized it in warm boric-acid water, and divided it into twelve grafts, which were applied to the anterior granulating surface of left thigh. The result was eminently satisfactory. Seven out of the twelve grafts took, and rapidly developed into vigorous islands of skin. The subsequent treatment consisted in using this dried epithelial tissue with which these large raw surfaces were covered with substantial skin, by April 1st.

The man began sitting up a few days prior to this date, and with the attendant's aid could walk about

the room. He improved rapidly during the month of April, and on May 1st began doing light work at the salt works.

The following experiments were made in the presence of my assistant and others: A little to the right and two inches below the trochanter major of the left leg, there was a raw surface three and one-half inches in diameter. At the proximal end of the great toe there was a dry, bleached patch of epithelium which had been thoroughly isolated from the body seven weeks, being held only by ends of hair. With this material this raw surface was completely healed in twenty-one days.

At the spring meeting of the Wyoming County Medical Association, I had the pleasure of exhibiting my case, and reporting the method of treatment. Dr. Roswell Park, of Buffalo, who was present as our guest, complimented me on my discovery, commenting particularly upon the integrity and firmness of skin, the perfect use of the joints, and the entire absence of cicatricial contraction.

In reporting my case I mentioned the difficulty experienced in properly shaving the skin in the Thiersch method, and how liable we are to snip too deep in that of Reverdin. I also made the following statement, which I have since verified, which was that the epidermis raised by vesication could be successfully employed in skin-grafting. By this method the cuticle is separated from the cutis, giving us the ideal material—indeed the same employed with successful results in the case reported. An opportunity of demonstrating practically this method occurred on August 3d, when I was consulted by Mrs. M——, married, aged fifty-two, housekeeper, who had a large varicose ulcer two and a half inches in diameter, three inches above the ankle on the outer surface of the left leg. She had worn elastic hose and tried all kinds of ointments for the last eight years. The granulations were unhealthy and bathed with a foul-smelling discharge. The treatment consisted first in thorough curettement, followed by stimulating applications, so that by August 13th the granulations appeared healthy. A surface on the left thigh near the anterior superior spinous process, was made aseptic, on which was applied a piece of emplastrum cantharides two inches long by one inch wide (it being first moistened with carbolized oil). Vesication was produced in six hours, when the plaster was carefully removed. The epithelium was detached at the edges of the blister, washed in boric-acid solution, after which all moisture was absorbed with sterilized cotton, and it was suspended in a four-ounce salt mouth bottle (aseptic cotton being used for a stopper), and kept at a temperature between 55° and 70° F. It was thoroughly dry in three days, when a piece one inch square was divided, making twelve grafts, which were applied in the usual way. The results were extremely gratifying. Nine of the twelve grafts took nicely and grew rapidly, so that by September 3d this ulcerated surface was healed, having a substantial epithelial covering.

A great many experiments have been made to ascertain the limit of vitality of the skin after its removal. Dr. J. H. Girdner[1] claims to have successfully used grafts removed six hours after death, from the body of a young man who died from hemorrhage. Dr. E. P. Brewer,[2] of Norwich, Conn., found that thirty-six hours was the limit of vitality, out of eight trials in which he used pieces of skin from amputated limbs. George S. Marten[3] experimented with grafts kept at different temperatures, claiming that grafts retained their vitality ninety-six hours, at a temperature just above 32° F.; that confined air gave better results than free air.

I can see no practical object of the first two experiments, for very soon after death chemical changes occur by which ptomaïnes are formed, which would destroy the vitality of the skin, even making it dangerous for experimental use. So far as the temperature is concerned in maintaining the vitality of grafts, if they are properly separated, sterilized, and dried, they can be kept almost indefinitely at a temperature between 40° and 90° F., and before using they should be softened and sterilized, preferably in warm boric-acid water; and when applied to a healthy granulating surface they will become revitalized, developing rapidly into substantial tissue coverings.

Just how these small epithelial grafts are revitalized when applied to granulating surfaces, has never been fully explained. In an article on "Leucocytes and Nuclein," under the head of "Nutrition," Dr. T. O. Summers,[4] of St. Louis, writes:

"The conversion into tissue, or imparting molecular activity to material lifeless in itself, is a wonderful phe-

[1] MEDICAL RECORD, vol. xx., p. 110
[2] Ibid., vol. xxi., p. 483.
[3] Encyclopædia of Surgery, vol. i., p. 543.
[4] Journal of the American Medical Association, vol. xxiv., p. 963.

nomenon. We cannot explain the affinities by which certain kinds of pabulum are accepted and rejected by the several tissue-cells of the body. We know this, however, that the change that goes on is the elaboration of a vitalized, cellulized substance which is capable of entering at once into tissue as soon as it meets the various cells which have this power of elective assimilation."

In briefly reviewing, I desire to report the following observations: 1. The best results were obtained from the thin transparent epithelial tissue. It made no difference, whether one or both edges were attached, just as satisfactory results followed the use of dried patches, with no attachment except at distal ends of hair. 2. The certainty of their attachment when properly applied, and rapid development. 3. The absence of cicatricial contraction, the skin being loose, and in many places, especially on back and thighs, so natural as to require close examination to discover its artificial nature.

THE TYPHOID-FEVER EPIDEMIC IN STAMFORD IN 1895—ORIGIN AND COURSE.[1]

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CITY HEALTH OFFICER, STAMFORD, CT.

About the middle of April; 1895, when the general sanitary condition of Stamford seemed to be in a very satisfactory state, there were noticed by the physicians of the city a number of typhoid-fever cases, all arising at about the same time. A casual exchange of observations quickly disclosed the fact that there were a large number of cases existing, and the remarkable number of children affected led to the conclusion that an article of food consumed by children as well as adults must be the carrier for infection. Milk being such an article it was readily ascertained that these cases had been supplied almost without exception by one dealer named B——.

A meeting of the physicians was called at the office of the health officer, and an informal report on Sunday, April 21st, showed that there were eighty cases then existing. The origin of the infection being so forcibly suggested, the milk-dealer was at once directed to stop selling milk and an investigation was instituted. It was ascertained that B—— did not own a single cow, but purchased all his milk from three dairymen, who delivered their supply in cans furnished by B——, and kept at his place, where they were washed when empty and then sent to the dairymen. The premises where the empty cans were washed, and where the milk was kept until delivery, are located in a thickly inhabited, low, and poorly drained vicinity. The so-called dairy consisted of a small frame structure, containing a stable, wagon-shed, and a tank with a pump and well. The well is what is known as a dug well, walled up with stones not cemented, and covered with a loose board platform six inches above the ground. The well was thirteen and a half feet deep, and the water stood within one foot and nine inches of the surface of the ground. All the houses in the vicinity were provided with privies, one very foul one was situated twenty-five feet west of the well and on somewhat higher ground.

An inquiry into the conditions of the dairies from which the milk was supplied to dealer B—— showed them to be in good sanitary condition, and although no original case of typhoid fever could be traced, there is overwhelming presumptive evidence that the origin of the epidemic must have been in that well. By the middle of July, 1895, there were reported 406 cases, of these 352 occurred in families who received their milk-supply from B——. Twelve were known to have used it at the café supplied by him, 2 obtained milk at a bakery supplied by him, and 2 obtained B——'s milk in other indirect ways, making a total of 368 cases, or $95\frac{3}{10}$ per cent. of the total number of undoubted primary cases.

[1] Read before the New York Academy of Medicine, Section on Pædiatrics, November 14, 1895.

The ages of the affected persons were as follows:

Under 5	68	From 30 to 35	33
From 5 to 10	72	" 35 " 40	15
" 10 " 15	54	" 40 " 45	14
" 15 " 20	42	" 45 " 50	6
" 20 " 25	56	Over 50	10
" 25 " 30	36		

The number of males and females was about the same.

The number of cases reported as to date were:

From April 15th to 22d	72
" " 23d " 29th	78
" " 30th " May 6th	47
" May 7th " " 13th	164
" " 14th " " 28th	33
" " 28th " July 15th	12

Of the cases of children under ten years of age the reports were as follows:

April 15th to 22d	20
" 23d " 29th	21
" 30th " May 6th	18
May 7th " " 13th	56
" 14th " " 28th	8
" 29th " July 15th	17

The number of deaths from typhoid fever up to July 8th were 27; the ages of these fatal cases were as follows:

Under 5	1	From 20 to 30	13
From 5 to 10	1	" 30 " 40	9
" 10 " 15	0	" 40 " 50	0
" 15 " 20	1	" 50 and over	2

The dates of death were: April 27th, 2; May 1st, 2; May 3d, 1; May 4th, 1; May 5th, 1; May 9th, 1; May 10th, 1; May 12th, 2; May 13th, 1; May 14th, 2; May 15th, 1; May 16th, 1; May 23d, 1; May 26th, 1; May 28th, 1; June 2d, 2; June 3d, 1; June 4th, 1; June 9th, 2; June 12th, 1; June 14th, 1.

One child dying on May 15th, and another on May 26th.

It is a noteworthy fact that in some families every member was stricken down with the disease, and I have personal knowledge of one house where there existed nine cases, two households with seven each, and several with five cases.

When the extent of the epidemic was fully realized, a meeting of the Health Board was called, and a relief committee organized. The Hon. Edwin F. Scofield, Mayor of Stamford, was elected chairman of the relief committee; Dr. Samuel Pierson, secretary; and Mr. E. C. Willard, Superintendent of Schools, treasurer. An appeal to the citizens was issued, and within a very short time the sum of $5,000 was raised for the relief of the sufferers from the epidemic. With the fund a temporary hospital was established, about fifty trained nurses were engaged to take care of the sick in the hospital as well as in the families where it was otherwise impossible to procure proper care, and it is to the devotion and skill of these nurses that we must largely attribute the small death-rate of the epidemic.

The temporary hospital as well as the St. John's Hospital did noble work, and those in charge deserve the highest praise and the thanks of the community for their untiring devotion.

Medicines and articles of food were provided to the needy, and though a good deal of distress was caused by the epidemic the work of the relief committee did wonders to alleviate it. The physicians were notified by the health officer that disinfectants would be furnished free of charge to any person or family presenting a physician's order for the same. Instructions

were given to the people how to avoid infection, and every possible precaution was used to limit the disease.

After the cessation of the epidemic all the premises where cases had existed were systematically disinfected as far as feasible, and into the privy vaults, cess-pools, and drains were introduced disinfectants to destroy the germs wherever they could be reached. At the same time circulars were issued to all the inhabitants, cautioning them against the use of well-water without previous sterilization by boiling; besides this numerous wells were ordered closed.

It is a fact that since the epidemic not more than ten cases per month have been reported, although we have just passed through the period of the year when typhoid fever is most prevalent.

THE CLINICAL HISTORY OF THE STAMFORD TYPHOID-FEVER EPIDEMIC.[1]

By SAMUEL PIERSON, M.D.,

STAMFORD, CT.

In attempting a clinical history of the Stamford typhoid-fever epidemic, which would be of any value for its statistics, method of treatment and results, it is manifest that a history of each case, as reported by the attending physician, is necessary. To achieve this result the following plan has been adopted:

From the physician's reports to the Health Officer a list was made of all cases, together with the name of the attending physician. The different physicians were then personally seen, and each case was gone over in detail, noting all symptoms, complications, treatment, etc., and from these reports were tabulated the various results herein given. By this method the absolute reliability of the figures is assured.

From April 15th to May 6th, two weeks after the sale of the infected milk was stopped, 253 cases were reported; after this date the number rapidly decreased, showing that in the early cases the poison was much more active than in the later ones. During the next three weeks only 135 more cases were reported, and nearly all of these were of distinctly milder type.

From this time until the middle of June, 20 more cases were reported, and some of these were secondary cases, being nurses and members of the family having the care of the sick, making the total number of cases 406.

The differential diagnosis was at first somewhat difficult, as many cases had distinct chills, followed by fever and sweating, recurring daily. Malarial possibilities were eliminated by large doses of quinine, which usually had no effect upon the temperature; in nearly all the cases the diagnosis was not considered certain until the rash or diarrhœa appeared; so it is certain that no malarial cases are included among those reported as typhoid.

Ten cases were infected by drinking a single glass of milk; one of these, a very malignant case, was under my care in the hospital; the patient had high temperature, delirium, repeated hemorrhage, and finally died of perforation thirty days from the beginning of his disease. The autopsy showed perforation of the ileum about twelve inches from the ileo-cæcal valve, numerous ulcers of the lower part of the ileum, spleen much enlarged, general peritonitis. This case is interesting as showing virulent infection from very slight exposure.

Sixty-nine cases were under ten years, and 65 were under five. Statistics show that sporadic typhoid is almost unheard of in children under three years of age. The large number of children infected in this epidemic would show that where the poison is overwhelming they too succumb.

[1] Read before the New York Academy of Medicine, Section Pædiatrics, November 14, 1895.

The period of incubation was somewhat uncertain, but the majority were under fourteen days. The longest of which I have personal knowledge was twenty-eight days. Nose-bleed was not a very constant symptom, but was present in 117 cases, twenty-eight per cent. of all; it was more frequent in children than in adults. Diarrhœa was present in 364 cases, eighty-nine per cent. of all, and was usually followed by constipation in the second and third week. In some cases constipation was present from the start. Tympanites was noted in 297 cases, seventy-three per cent. of all, but rarely was it a very serious or troublesome symptom. The rash was very constant, and was present in 360 cases, eighty-eight per cent. of all, varying in amount from a few scattered spots on the trunk to hundreds of petechial spots all over the body; in the majority of cases the rash was only on the trunk. Delirium, more or less active, was present in 142 cases, thirty-five per cent. of all. Hemorrhage occurred in 73 cases, 17.9 per cent. of all. Of these cases 61 recovered and 12 died. This percentage is largely in excess of any reports that I have been able to find, and seems to have been due to the virulence of the poison; it occurred repeatedly in several cases, and 12 of the fatal cases had one or more attacks.

Bronchitis or pneumonia occurred in 40 cases, 9.8 per cent. of all, and a very annoying bronchial cough was present in many more.

Relapse and reinfection occurred in 26 cases, 6.4 per cent. of all. The majority of cases that recovered terminated by lysis rather than crisis. I can recall no typical text-book case in temperature range. Many ran a continuous high temperature for four or five weeks without complication, or apparent cause. A sudden fall in temperature was invariably the precursor of some complication, usually hemorrhage. In many cases, apparently convalescent, the temperature would suddenly shoot up and remain elevated for several days, and then slowly return to normal. This recrudescence was supposed to be due to reinfection. These cases were often given full doses of quinine without favorable results. In the severe cases the temperature ran high, from 104° to 106° F., with irregular remissions, and it was frequently noticed that the high temperature gave the patients no discomfort, nor did it seem to have any specially bad effect on heart or nervous system.

Acute nephritis occurred in 9 cases, 4 of which were fatal.

Delivery at term occurred in 2 cases; both died. One was delivered in the latter part of the second week of her typhoid; rash, diarrhœa and enlarged spleen were present at the time; the presentation was breech, but the labor was not severe; the lochia was normal, and involution good, but the patient died one week after delivery, of exhaustion. The child is still alive and well. The other was delivered during the stage of incubation. The typhoid symptoms, rash and diarrhœa, soon developed. Abscess of both breasts occurred, and the patient died of exhaustion three weeks after delivery.

Abortion from the third to the fifth month in 6 cases, all recovered. Pregnancy in 4 cases was not disturbed by the fever, although the temperature and symptoms were of average severity. Perforation occurred 7 times, with six deaths, one recovery. A short account of this case may be of interest.

The patient was a woman, aged thirty-eight. She had been ill three weeks with a most malignant attack, had suffered three hemorrhages, the last two days before the perforation. Suddenly in the night she was seized with intense pain in the right inguinal region, which she described as more severe than any she ever experienced; this was followed by nausea and vomiting. When I saw her, a half hour later, she was almost in collapse; thready pulse, cold perspiration, semi-comatose; abdomen markedly distended and

very tender. Under free stimulation, hypodermics of morphia, and ice-bags, she finally rallied. The next day the abdomen was still greatly distended. Recovery finally occurred after twelve week' illness. This patient also had a mild type of insanity, lasting for some weeks after recovery, but which has now entirely disappeared.

Phlebitis in a mild form was seen in several cases. In one otherwise mild case there was an intense phlebitis of the internal saphenous vein, great swelling and tenderness of the leg, and entire inability to use the leg for weeks after convalescence was established. At present the leg is still one-third larger than its fellow, but no hardness can be made out over the course of the vein.

Many ambulatory cases were seen; one of these died of sepsis the day after coming under observation. There were quite a number of abortive cases that, after a usual onset and unmistakable symptoms, in the second week would soon return to normal. The condition of the spleen was noted in so few cases that it is not worth recording. Dry and cracked tongue and sordes were rarely seen in cases that received proper care and nursing.

Of the 40 cases which came under my care at St. John's Hospital and the temporary hospital adjoining, nearly all were of a severe type. One aborted at the fifth month during the second week of the fever; the temperature at the time was 105° F., the placenta was adherent, and the hemorrhage free. After removing the placenta by peeling off the adherent portion with the finger, the uterus was thoroughly curetted, washed out with boiled water, and packed with iodoform gauze. There was profound shock following the operation, and while the specific temperature remained there was never any symptom of uterine infection. Lochia normal and without odor throughout.

Several cases had repeated reinfection, delirium, incontinence of fæces and urine, and 15 of the 40 had hemorrhage. Heroic stimulation was used in 4 cases; three pints of whiskey each, daily, for eight days. There were four deaths among the 40, but of these two were in collapse on admission and died in a few hours, one from perforation, one from hemorrhage. The third, a baby, twenty-two months old, died of bronchi is within twenty-four hours of admission, so that really only one patient died under treatment, 2.5 per cent. of all. One child of twelve years had twenty boils on different parts of the body.

Autopsy was performed in three cases; one on a child of twenty-two months, who died of bronchitis, was made by Dr. Northrup and will be reported by him. Another was in the case already mentioned, who died of perforation on the thirtieth day; both showed the characteristic lesions.

The last was upon the lamented Dr. Edwin J. Meeks, whose case presented some unusual points of interest. His was the longest undoubted period of incubation, twenty-eight days from the last drinking of the infected milk to the first onset of symptoms. He was removed to the Presbyterian Hospital, New York, for treatment, and the record there shows rapid pulse and high temperature from the start, on which tubbing had no effect. During the latter part of the second week the temperature ran lower, but reinfection occurred a few days later, with sustained temperature between 104° and 105° F., persistent rash, repeated hemorrhage, and general sepsis, followed by death twenty-eight days after admission. The autopsy showed extensive ulceration in the lower two feet of the ileum, and a few ulcers were also found in cæcum and ascending colon. The ulcers were ragged and extended to the muscular layer, in one instance only the peritoneal covering remained. In the six feet of ileum above this there was a later crop of lesions, a general swelling and sloughing of the Peyer's patches; large blood-clots were found in this part of the intestine; the spleen was much enlarged.

There were in all twenty-seven deaths, including that of Dr. E. J. Meeks and Misses Clark and Begg, nurses, who died in the New Haven Hospital, martyrs to their profession. This would give a mortality of 6.6 per cent. in 406 cases, which is very much below the average in severe epidemics.

The causes of death were—confinement, 2; perforation, 5; hypostatic pneumonia, 6; exhaustion from hemorrhage, 8; toxæmia early in disease, 3; nephritis, 3.

The general treatment employed varied greatly. One physician, who treated fourteen cases without a death, gave absolutely no drugs or treatment of any kind for any symptom or complication; no baths, no heart stimulants, no antipyretics, no attempt to check excessive diarrhœa or hemorrhage, and very slight regulation of diet. Four of these cases had hemorrhage, and five relapses or reinfection. The plan generally followed was to give a cathartic at the commencement of the disease, usually calomel. By some this drug was used in small doses throughout. At the hospital we relied entirely on enemas of warm water for constipation after the first week.

No tub baths were used during the epidemic for the reason that the majority of cases were in very poor families where the household conveniences were so limited that even ordinary care was difficult. At the hospital and annex it was a physical impossibility to carry out this treatment with the nurses at our command, so that such results as we had were attained without this means, considered so indispensable by many. Personally I saw only 6 cases, out of 80 or 90, where it seemed to me bathing would have been desirable in relieving high temperature, delirium, bronchitis, and flagging heart.

Alcohol and ice-water, sponging and rubber-blanket baths were generally used, and certainly had a decided effect in reducing temperature, quieting delirium, and inducing sleep.

The experience with the coal-tar antipyretics was the usual one of sweating and depression; but later on in the epidemic I found that in all except septic cases one-half grain doses of phenacetine, repeated every hour when the temperature was above 103° F., would act promptly, and without sweating or depression, in reducing it one or two degrees.

Intestinal antisepsis was attempted by most of the physicians; the drugs most used were calomel, carbolic acid, bismuth, salicylate and subnitrate, and salol. At the hospital this treatment was early abandoned in favor of large draughts of cold water, except in those cases where the diarrhœa was very profuse, when bismuth and opium were given. For hemorrhage, free hypodermics of morphine were the main reliance. Ergotole, also by hypodermics, was used in some cases, as were the vegetable astringents hamamelis, tannic acid, and the like; ice-bags to the abdomen and moderate alcoholic stimulation did good service. For tympanites, turpentine stupes and sometimes small turpentine enemas were used.

Digitalis was rarely used as a heart stimulant; our main reliance was on strychnia by hypodermic or per oram in from $\frac{1}{40}$ to $\frac{1}{30}$ grain doses every four hours, for lasting effect. For quick action, nitro-glycerine, grain $\frac{1}{100}$ every hour, and alcohol.

One physician reports brilliant results from protonuclein, grains five every three hours, and further states that since he began its use, late in the epidemic, he had no complications whatever, and in many cases the progress of the disease has been checked, temperature and other symptoms subsiding early in the second week. It is to be regretted that this remedy, to fully test it, could not have been used early in the epidemic when all the cases were of more severe type.

The usual rule during convalescence was to keep the patient in bed and withhold solid food for one week after temperature was normal; but in some cases in which

moderate temperature persisted with no apparent cause; if the tongue was clean, the eruption had disappeared, and the tympanites and diarrhœa had ceased, solid food was allowed; usually a normal temperature was soon observed. Apparently the temperature was due to post-typhoid anæmia.

The striking characteristics of the epidemic may be summarized as follows:

1. Its source traced to contaminated milk, the sale of which was cut off within one week from its first appearance. 2. The almost complete cessation of new cases within two weeks after the sale of milk was stopped, showing that incubation is usually not more than fourteen days. 3. The large proportion of patients having well-marked rash, eighty-eight per cent. 4. The large number of young children infected, sixty-nine under ten years and sixty-five under five. 5. The unusual number of hemorrhagic cases, 17.9 per cent. 6. The low death-rate, 6.6 per cent., which was attained without the use of tub baths in any case. The best results claimed for this method of treatment being seven per cent. 7. That the general history of the cases proves it to have been an epidemic of virulent type.

In conclusion, my thanks are due to each physician in Stamford for his cordial co-operation, without which it would have been impossible to have given a clinical history of the Stamford typhoid-fever epidemic.

THE NEUROLOGICAL ASPECT OF ASTHENOPIA.

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In the extensive literature on the influence of eye-strain upon the nervous system, but little mention is made of any other factors concerned except the refractive condition of the eyes. Some authors, indeed, write as if the various nervous symptoms observed in some patients, in consequence of an ocular defect, were the inevitable results of such a cause. Yet a critical study of any series of patients with anomalies of refraction shows that other circumstances besides the optic condition must be taken into consideration in order to account for the variability of the subjective complaints. For why is it that the same degree of optic imperfection causes only fatigue of the eyes and blurring of sight in one person, while in others it leads to headaches of various types and other nervous symptoms? and why is it that some persons can tolerate without discomfort an amount of refractive error which forces others to the use of glasses?

The case-book of any oculist can furnish numerous illustrations of different forms of headaches, of a feeling of dull pressure in the head, of spells of dizziness, and even of nausea, due to eye-strain. The ocular origin of these complaints can be easily proven in proper cases by the permanent relief afforded by spectacles correcting the optic defect. These cases are so common that illustrative instances from my own practice would be superfluous. But, alternating with these patients, every oculist sees also many people who, with the same degree of refractive anomaly, do not complain of any annoyance beyond fatigue or discomfort in the eyes on close work and blurring of sight. If we extend our observation to those patients who do not call on us on account of asthenopic symptoms, but whose eyes we examine in the course of other diseases, or whom advancing age compels to apply for glasses, we will find that nervous symptoms in consequence of optic anomalies are, after all, not as common as an exclusive office-observation might suggest. Compared with the frequency of optic anomalies as shown by all systematic examinations of schools and military recruits, patients with nervous symptoms resulting from eye-strain represent but a small minority of ametropes.[1] Moreover, if we study the refraction of people who do not complain of asthenopia, we will find a very noticeable percentage with low degrees of hypermetropia or astigmatism who are not annoyed at all by their defect.

It is thus taught by actual observation that refractive errors (outside of simple myopia) disturb the majority of ametropes only by the fatigue of the eyes and unsteadiness of sight which they cause, and that the lower degrees[2] do not, as a rule, interfere to any practical extent with the use of the eyes. There is, however, a small class of patients who are sensitive to the lowest measurable optic anomaly, and in whom eye-strain can lead to various nervous symptoms.

For the purposes of this paper it may be well to term that degree of discomfort which is the regular and inevitable consequence of a given refractive error *normal asthenopia*, and to refer to the eye distress in excess of this limit or due to unproportionately small optic anomalies, as well as to any resulting nervous symptoms, as *excessive*, *unproportionate*, or *exaggerated* asthenopia. It must be understood, of course, that there are all possible degrees of exaggerated asthenopia, and that there exists no sharp dividing line between normal and unproportionate eye-strain.

If we compare the general health of ametropes with normal asthenopia with that of patients complaining of unproportionate symptoms, we will find the former representing the more perfect physical type of mankind. If hence an anomaly which, according to its degree, is either tolerated without discomfort, or causes only local fatigue and distress in healthy persons, leads to much greater discomfort or even distant nervous disturbances in certain patients, we cannot but conclude that in the latter class other factors besides the refraction are concerned in the etiology. This view is confirmed by the history of those patients in whom the unproportionate asthenopia began abruptly after the occurrence of unfavorable environment, or followed some debilitating disease. It is also confirmed by the possibility of recovery from the exaggerated form of asthenopia while the refractive error remains the same.

Inquiries concerning the health, past history, and habits of patients with unproportionate asthenopia reveal that many of them possess the so-called "nervous" or neurotic disposition. Their nervous system reacts to impressions made upon it in a different manner from that of average healthy subjects. Many are excessively disturbed by minor annoyances of sensory or mental nature. They may complain inordinately of trifles like the pressure of the spectacles on the nose, or of any itching skin lesion present at the time. Indeed this irritability coincides with the popular notion of "nervousness." Of course, those persons who have cultivated mental discipline may not betray the annoyance produced by trifling causes, but they feel it subjectively. Emotions are very easily aroused in most of these people, and in some the emotional activity is revealed at the time by vaso-motor and cardiac disturbances. Quite often such patients have poorly developed muscles. Even if strong for momentary efforts they tire easily. But neither this one nor any of the other evidences of the neurotic disposition are present in all instances.

There is nothing characteristic about the nutrition of these patients, at least in the case of adults. Among the children of this class I have, however, found a large proportion delicate and below average weight.

In some instances more definite proof of an unstable

[1] It is well to call attention again to the fact that most eyes are hypermetropic at birth, according to numerous observers (Ely, Schleich, Horstman, and others), and that hypermetropia is the predominant state of refraction during early childhood.

[2] On the strength of my own experience I would state the average limit of tolerance to H. and Ast, without annoyance, at about two Dioptrics up to the tenth year, about 1.5 D. up to the thirtieth year, and perhaps 0.75–1 D. at the fortieth year of life. Myopic astigmatism is rarely tolerated after puberty if it exceeds 1.25 D.

nervous system is given by the history of past (or even present) nervous affections, such as chorea (or habit spasm) in childhood, or nervous prostration at some period of life. The more thorough the neurological training of the observer, the more readily will he detect in many of these patients evidences of an imperfect condition of the nervous system. Yet it must not be expected that we can demonstrate the neurotic tendency in every case of unproportionate asthenopia. In some we can only infer it through the family history. A few times I have seen the hidden neurotic tendency manifest itself later in life by the occurrence of nervous affections, although the examination made when the patient applied for glasses on account of exaggerated asthenopia did not show any anomalies of the nervous system at that time.

Just as we may find all gradations from normal to highly exaggerated asthenopia, so, too, will we find transitions from the normal stability of the nervous system through slight "nervousness" up to extreme want of nervous resistance. I have, however, observed but little connection between unproportionate asthenopia —in the sense employed in this paper—and hysteria. For I am referring now only to those cases in which all the symptoms are removed by correction of the optic error. It is true, some few of my patients belonging to this category have been hysterical subjects, but not any large proportion. On the other hand, asthenopia, often associated with muscular anomalies, is not a rare condition dependent on hysteria, but this form is not remediable by glasses.

The condition of the nervous system manifested by unproportionate asthenopia may result from a number of different influences. While I have tried to inform myself regarding the causes leading to this state in most of my patients, my preserved records are not sufficiently complete or uniform to be presented correctly in a statistic form. My statements, however, are based on the examination of about three thousand cases of hypermetropia and astigmatism, of which between one-fourth and one-third complained of exaggerated or unproportionate asthenopia. This figure does not represent the real proportion between normal and exaggerated asthenopia in a community, since a large number of ametropes without nervous symptoms are fitted with glasses by opticians and are not seen by any oculist.

Perhaps the most frequent etiological condition leading to exaggerated asthenopia is inherited instability of the nervous system. For obvious reasons it is difficult to learn much regarding the family history of adults in office examinations, but in the case of children brought by their parents, inquiry reveals very often the existence of the neurotic disposition in one of the parents. It is, of course, necessary to inquire systematically for headaches, chorea, asthma, and other morbid reflexes, nervous spells, and nervous prostration. I have met but little with organic disease of the nervous system in these family histories, probably because it is much less common than functional neuroses. Parental alcoholism has likewise played a very small rôle. My interpretation of the results of these inquiries may be questioned on the ground that a neurotic parent can be found in many families, the children of which do not suffer of exaggerated asthenopia. I know of no statistics to prove or disprove this view. But I have often noticed the coincidence that the family history was especially bad in the more pronounced cases of unproportionate or exaggerated asthenopia. I have furthermore been led to think that in children, who have not yet been exposed to the vicissitudes of adult life, heredity is a more important factor than when exaggerated asthenopia appears later in life.

Even in the absence of hereditary disposition the neurotic basis of exaggerated asthenopia may be created by various diseases. Of acute infections I have often seen measles the precursor of asthenopia, unproportionate to the age or the optic defect of the patient. This applies also to influenza, as seen in the last few years. As to typhoid fever, tuberculosis, and other debilitating diseases, I have only seen that patients were made more sensitive by them to moderate refractive errors than they had been previously, but I have not seen them followed by nervous disturbances.

Of coexisting diseases none have as often prepared the way for exaggerated asthenopia, within my experience, as anæmia and chlorosis. The importance of the impoverished blood I have often seen illustrated by recovery from exaggerated asthenopia in consequence of hygienic measures and the use of iron. I have records of numerous young people who, after their recovery from anæmia, could either lay aside their glasses entirely (in the case of weaker numbers), or were at least able to dispense with them except in reading; while previously they had found their continuous use essential for their comfort.

Not very often, but at least in a dozen instances, does my case-book show that children who had required glasses were again comfortable without them after a hypertrophy of the pharyngeal tonsil had been removed by an operation.

Functional disturbances of digestion, especially symptoms referable to the stomach, were frequently mentioned by my patients. From some it was learned that the more pronounced their dyspeptic complaints, the more conscious they became of their eye-strain. In a few instances under my observation the asthenopic symptoms diminished or ceased entirely after recovery from the digestive disturbances. The dyspepsia, as far as I was able to learn, was in very few of these patients indicative of serious gastro-intestinal disease, but generally of the type of nervous dyspepsia.

I have found, besides these patients, representatives of all the different forms of neurasthenic manifestations. But I do not claim that any large proportion of patients with unproportionate or exaggerated asthenopia present manifest neurasthenia to any pronounced extent.

Although in more than one-half of the patients with the more pronounced exaggeration of symptoms, systematic inquiry showed some other abnormal reactions on the part of the nervous system, or some deviations from the standard of perfect nervous health, still in others no further evidences of nervous disturbances could be ascertained at the time of the examination. In these persons the asthenopia out of proportion to the optic defect, or nervous symptoms induced by eye-strain, seem to me in themselves evidence of imperfect health of the nervous system.

The disposition to exaggerated asthenopia can be fostered by unhygienic habits. The histories I have collected mention but too often the baneful influence of persistent eyework, confinement indoors, and lack of muscular exercise. It is common ophthalmic experience that asthenopic complaints—normal or exaggerated—increase with the amount of eyework. An optic defect which is tolerated without symptoms by a healthy person, who does not use his eyes much, may begin to annoy him as soon as he taxes his eyes with more work. Moreover, asthenopic complaints started by the use of the eyes at short distances can persist after reading or other work has been discontinued for hours, or even for a few days. In illustration of this fact I have seen some elderly presbyopic people, with ideal emmetropic eyes, complain of more or less steady discomfort even during the period of rest of the eyes, on account of the strain while reading, and have removed such persistent annoyance by the use of proper reading-glasses. Personal observations, however, have led me to consider continuous eyework rather as a condition which makes the exaggerated asthenopia manifest than as a productive factor in its etiology. For I have repeatedly enabled patients to continue their eyework without the use, or at least without the steady

use, of glasses, after inducing them to take up more outdoor exercise. The influence of confinement indoors, and insufficient muscular exercise, is also shown by the vocations principally represented among my patients, viz., bookkeepers, typewriters, and other office-employees, female teachers, advanced pupils, and girls of comfortable circumstances leading an indolent life at home. While, besides, I have seen occasional instances among many other business pursuits, it has certainly seemed noticeable how very few of the patients with exaggerated asthenopia do manual labor. Yet I see normal asthenopia quite often among the laboring classes, and do find exaggerated forms of eye-strain among their children raised in the large city, and among their wives who are closely confined in the house.

According to some of my histories, the unproportionate eye-strain was first observed after long periods of interrupted sleep, especially in nursing mothers. Mental worry has also figured to a small extent in my records.

The observations upon which this paper is based suggest that the duty of the physician is not entirely fulfilled if he contents himself with a prescription for glasses for the relief of unproportionate or excessive asthenopia. Whatever real benefit can be obtained from spectacles the patient should certainly receive. But glasses, after all, are merely optic "crutches," which in vigorous health are not necessitated by the lower degrees of ametropia. Whenever we find the complaints of the patient out of proportion to his optic defect, we should also search for the influences which have undermined his powers of resistance, and remedy them if possible. For, by fortifying his health at the time when the first indications of nervous weakness are manifested, we can guard him against subsequent other nervous accidents which glasses cannot remedy.

Progress of Medical Science.

Syphilis and Blood Serum.—Dr. Vieviorovski has made some experiments on the treatment of primary syphilis by means of blood-serum from individuals affected with gummata or other tertiary forms of the disease. Blood was obtained from the median basilic vein and serum prepared from it. Five patients were experimented upon, all of whom were suffering from the symptoms of the early stage of syphilis. The primary symptoms disdisappeared under this treatment, but it had no effect upon the development of secondary symptoms, and the experiment may be considered a failure.

Transmission of Typhoid Fever by the Air.—Investigations on this subject have been made by Dr. Licard, of Beziers, whose plan of experimenting was to have patients suffering from this disease breathe through tubes into water that had first been sterilized. Specimens of water thus treated were frequently found to yield the bacilli under cultivation. The bacilli were not always found, but this is not a matter of surprise when it is considered that the best bacteriologists frequently fail to find them under conditions strongly suggestive of their presence. Dr. Licard's results were, however, sufficiently uniform to warrant an inference that the expired breath of typhoid patients, like that from those having typhus, may serve as a channel for fever infection. The vast majority of typhoid infections have their origin in a contaminated water-supply, but every observer has been puzzled more or less by cases of the disease which have arisen apart from any known inculpation of the drinking-water. These cases of obscure origin may originate from two causes whose bacillar contact is atmospheric—not simply by means of the breath of the sick, but also by emanations from sewers, cess-pools, and other receptacles of typhoid dejections.

Beriberi.—Three cases, that varied greatly in clinical outline, were recently reported by Dr. J. Hill Abram before the Liverpool Medical Institution. The disease is uncommon in Europeans, and women and children usually escape. Weakness, inability to stand, unsteadiness in walking, ability to go only a step or two without assistance, were the first symptoms complained of by a sea-captain, thirty-six years of age. There was marked ataxic gait; and the man could not stand with the feet together, even when the eyes were open. Slight ataxia was present in the arms. Muscular power was poor in the upper and lower extremities, especially in the extensors of the forearms and flexors of the ankle; wrist-drop and foot-drop were therefore present. The patient was unable to rise in bed without assistance; the grasp was weak. There was coldness in the limbs, and sensations of pins and needles. Pain, touch, heat, and cold, all forms of sensations, though usually distinctly recognized, were markedly delayed in the legs up to Poupart's ligament; the delay in the arms was less, and sensibility normal above the elbow. Marked tenderness in the calves existed on deep pressure, in the posterior surfaces of the thighs, and the flexor aspects of the forearms. There was absence of knee-jerk, of wrist- and elbow-jerk. Superficial and organic reflexes were present. The trouble began by a feeling of lassitude and pains all over the body, followed by œdema gradually extending up to the knee; disappearance of this after five days in bed, and gradual increase of pain and paralysis. There was marked palpitation during this time. The second case was the mate on the same vessel. The symptoms were slight ataxia, leg muscles weak, no obvious wrist-drop, sensation delayed, marked muscular tenderness in lower limbs, all reflexes present, heart enlarged, and double aortic bruit. His trouble began by pain in the back, which had been present in some degree for about twelve months. Then there was œdema in the left leg followed by general dropsy. Pains in the limbs, and unsteadiness and weakness in the legs and arms came on later. The third case, the ship's carpenter, was practically well when seen; calf muscles were tender, and the man complained of tiring easily. In all these cases of peripheral neuritis the trouble had begun in the legs, not the arms, as in alcoholic neuritis. The men were total abstainers, just home from a two months' stay on the coast of Brazil, and without evidence of malarial sporozöon in their blood, which was carefully examined. The diagnosis of beriberi was therefore plain. The treatment consisted of absolute rest in bed, good feeding, the administration of iron, strychnia, and massage. The morbid anatomy of beriberi is practically limited to the nerves, the muscles, and the heart. The nerves show the characteristic parenchymatous inflammation, and the muscles and heart varying degrees of fatty degeneration (Scheube, Baelz, Pekelharing, and Winkler). The disease prevails endemically in Japan, India, Burmah, Java, Ceylon, and the Malayan Archipelago, the west coast of Africa, and South America. Excessive proportion of rice, fish, impure water, etc., have been considered predisposing causes. The exciting cause is now looked upon as an organism, and the nerve changes as due to the absorption of a toxin, the organism not being present in the nerves themselves.

Typhoid Fever in Connecticut.—The report of the Connecticut Board of Health for October shows an unusual prevalence of typhoid fever in the State. Out of 168 towns in the State, the disease is recorded in 50, the total number of cases reported being 189.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

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ELUSIVE KIDNEY DISEASE.

THERE are circumstances in the study of disease well calculated to mislead the most careful physician. Among them are those vague symptoms of small value as isolated facts, often set down and cavalierly dismissed as neurasthenic or hysterical, and not taken into account when summing up evidence. Another class, also dangerous to the diagnostician, are symptoms that point directly to the confirmation of a preconceived idea. These obscure diagnosis and delay proper treatment. The patient who does not sleep very well, eat very well, or see very well, may no doubt be neurasthenic or hysterical. On the other hand, insomnia, disorders of vision, and digestive disturbances are associated also with organic changes that it is wise to recognize early. Added to the discomforts already mentioned, there may be headache, mental depression, rheumatic pains, or neuralgia; or more marked nervous symptoms, loss of memory, anorexia, nausea, vomiting, frequent urination, and attacks of diarrhœa. In any new case presenting these features, wholly or in part, the urine is analyzed as a matter of course, not once, but many times. Results are negative: no albumin, etc., and kidney disease is therefore eliminated. Another complains of auditory troubles, loss of strength that interferes with the business of life and with personal obligations, of drowsy, dull, stupid attacks, and some fever afternoons. Temperature may be subnormal mornings, rising to 100°, 101°, or 102° F. toward evening; or it may be one or two degrees above normal in the morning, and one or two degrees still higher in the afternoon. Again, the only variation may be a subnormal temperature mornings. These temperature variations may continue for days, weeks, or months, at intervals. Urinalysis reveals nothing. There is growing weakness, however, pallor, some loss of weight, and even night-sweats. What is really the matter? Tuberculosis? Cancer? Irregular malarial fever? Causes wide of the mark are sought for the emaciation, the constant weakness, and the change in the character. The symptoms mean so little or so much, that a correct diagnosis is made perhaps for the first time on the day of the patient's death. Just as life is ending, or perhaps later, a cause is suddenly discovered for apparently insignificant and unexplainable phenomena.

What Bartels calls a "singular nephritis" in describing it, can give rise to this varied and irregular train of symptoms. Interstitial nephritis, often the most misleading and elusive of renal disorders, develops insidiously, perhaps by jumps and starts, and in unexpected ways. It is one of the most stealthy of all diseases in its approach. Dropsy does not occur, though there is often œdema of the eyelids, and sometimes of the ankles. Disturbances of the nervous system are very marked, and appear early. The most amiable and sanguine dispositions may become morbidly depressed, peevish, suspicious, and impatient, with sometimes hyper-excitation of the nervous system almost maniacal in character, and suicidal tendencies may also develop. In no form of kidney trouble are uræmic accidents (Charcot) and hemorrhages (Millard) so common. Hemorrhages may be from the nose, the stomach, and into the cranial cavity. In 111 cases of death from apoplexy at St. George's Hospital, interstitial nephritis existed in 55. Apathy and semi-torpidity of physical and mental powers occur in the advanced stages. Coma is more likely to exist than epileptic seizures. Patients often appear to get well after acute attacks; then all the symptoms return, weakness increases, and death may take place from pure exhaustion. The duration of the disease cannot be known, since there is no necessary relation between the development of the kidney lesions and the appearance of the symptoms. Certain foreign writers seem to believe that the limit of duration lies somewhere between ten and twenty years.

The urine may be examined at frequent intervals for days, weeks, and months, without albumin being discovered. The quantity is always small, and often in fully developed cases it is temporarily absent altogether. When detected, it is usually in the evening urine. Dieulafoy regards albuminuria as a very unreliable symptom of Bright's disease. In sixty cases under treatment in his wards during recent years, albuminuria was absent in one-fourth. That nephritis really existed was often proved post mortem. Millard calls it crude to base a diagnosis upon its presence, and quotes Semmola: "We must absolutely give up the idea still current in practice, that albuminuria must always exist with nephritis." And Francis Delafield states that though albumin is a very common symptom of renal disease, it is least abundant and least constant in certain special forms of it, of which interstitial nephritis is one. But how about specific gravity? Is it unaltered? Does this also defy all preconceived opinions? Listen again to Delafield, in "Pepper's System of Medicine": "Atrophied kidneys give rise to a great variety of clinical histories. It is impossible to describe all the ways in which the disease may begin and run its course, but some of them may be enumerated." Ten such ways are then described. This is one: "For several months the patients do not feel well; the appetite is lost, there is nausea, occasional vomiting, they become pale, anæmic, do not sleep well at night, are irritable and easily worried, and are troubled with headache. The urine continues normal, or is of low specific gravity, or contains a little albumin. They suddenly become worse and the regular symptoms are developed." In pronounced cases specific gravity ranges from 1.010 to 1.016. With heart failure and consequent diminution of the volume of

urine the specific gravity rises somewhat, and may even approach again the normal standard, after having remained for years constantly reduced (Purdy). Delafield says the urine is regularly increased and of low specific gravity (others say, "usually," "generally"), except in uræmic attacks, when it is diminished; uræmic attacks may come on when the patient is passing from thirty to forty ounces of urine of a specific gravity of 1.020. The urine itself is clear, often pellucid, and sometimes soapy-looking. Tests show that it has lost much of its toxic property. Deposits are remarkably free from cellular elements. When epithelia appear, it is the exception and not to be expected (Millard). The regular and absolute amount of urea suffers diminution from the beginning. Phosphates are also diminished, almost constantly (Purdy). Uric acid is increased and calcium oxalate, both of which are often to be noted together. Occasional hyaline casts are often the only evidence, as far as the urine is concerned, of interstitial nephritis. Hypertrophy of the left auricle of the heart is a frequent complication; but Dr. Delafield has not found it in as large a proportion of cases in New York as it is described by English and German writers.

The most important symptom is constant weakness. Next in order is headache. Then comes digestive disturbances, anorexia, nausea, vomiting, flatulence, and so-called bilious attacks. Intractable rheumatic pains and persistent neuralgia are both highly suggestive of interstitial nephritis. Ralph states that this intense pain has often led him to a correct diagnosis. It is well known that disorders of vision are common, with or without discoverable lesions. Minor symptoms are: Auditory troubles, vertigo, itching of the skin, muscular twitchings, cramps in the calves, especially at night, and sensitiveness to cold, especially of the lower limbs.

What to do when this elusive kidney disease is strongly suspected or actually discovered? Remove all strain from the heart, arteries, and kidneys. Life must henceforth be quiet, yet interesting, with gentle but not excessive exercise. Cold and damp are distinctly dangerous. The ideal condition demands a residence in some warm, equable climate from November till April. Treatment is hygienic and symptomatic, combining knowledge and experience and that superior insight known as common-sense.

WOMEN HEALERS *VS.* WOMEN DOCTORS.

A CELEBRATED surgeon in Vienna, Hofrath Professor E. Albert, has recently published a monograph upon the subject of women and the study of medicine, in which he makes a very elaborate argument against the admission of women to the medical art. Professor Albert's kind of reasoning is not a particularly new one. All professional careers, he says, from the beginning of the world, have been pursued by men alone. Since the origin of mankind, woman has had only one purpose, to bring children into the world, to nurse them, and to care for them; hence, concludes the Professor, this must be the purpose for which women were born. The difference between the mental characteristics of men and of women are dwelt upon, the smallness of her head, and the expansiveness of her imagination; the fact that she has made no great mark in literature, science, or art is again thrust ungallantly into the argument. So far, he says, the making of medical women has not led to the production of any scientific results. Medical practice requires power of thought and the capacity for work. Few male students unite both gifts, and how much fewer, the Professor asserts, the female students, in whom thought is so inextricably mixed with emotion. The writer would not even admit that women should become specialists in the eye and the ear, or the throat, since he says, in order to become good specialists, they must first of all acquire the knowledge and assume the responsibilities of a general practitioner. But Professor Albert would not exclude woman entirely from medical work. He kindly recognizes the many admirable peculiarities of woman—her constant willingness, her tenderness, her deep sympathy for the suffering, her sharp observation, etc. He would have woman educated so as to be able to take the position of a kind of medical assistant, a grade a little higher than the nurse, and little lower than the doctor. A young woman should, for example, receive training in a public school, then spend some years in special training in various directions, as nurse in the hospital, as midwife, as head-nurse, as assistant in operations upon the eye, ear, throat, teeth, and so on. She might be taught how to deal with cases of urgency, such as sudden acute attacks of disease or poisoning, and she should understand the elements of medicine and surgery, midwifery and gynecology, besides some physics, chemistry, anatomy, and physiology. Professor Albert would give to this presumably most useful class the title of "Heilfrau."

We fear that Professor Albert's protest against the admission of women to the medical profession is somewhat belated. His arguments are true enough for the large majority of women, but there is always a percentage of the gentler sex who possess qualities which enable them to work successfully as physicians. This has already been proven, and needs no argument. Whether, by giving them freer opportunities, this percentage will become larger, it remains for the future to determine. But, at any rate, we see no advantage in constructing a category of "Heilfrauen," who could never be more than trained nurses. In fact, the good trained nurse is already a Heilfrau, and possesses all the qualifications which Professor Albert has indicated.

Asafœtida in Obstetrics.—Warman (*Der Frauenarst*, August, 1895) finds that this drug is a most valuable therapeutic agent in midwifery. It is a direct sedative to the pregnant uterus, and exercises no evil influence over the general system. It is of particular value when abortion is imminent, as it controls uterine irritability. On the other hand, it is of no use as a prophylactic agent in such cases, and must not be relied upon when the abortion has proceeded so far as to require manual interference. In habitual constipation, and also in nervous conditions during pregnancy, asafœtida is highly beneficial.

AN ANTI-NOISE LEAGUE.

THE city of New York should turn itself reverently toward the town of Phœnix, Ariz., a place little known to fame, but worthy of it. The citizens of that progressive municipality have organized what is called an "anti-noise league." Whether this is meant to suppress the rumbling of heavy drays over the cobbled streets, or the thunderous jars of elevated trains through the public thoroughfares, or simply to prevent the irritating effect of the noise of pistols and shotguns discharged by excited citizens, we do not know; but, whatever the specific purpose, the general object is a most praiseworthy one. There have been many attempts to suppress the noise of this metropolis, but so far without avail. Perhaps it is because the attempts have not been organized, and perhaps because it is difficult to get statistical evidence that noise is deleterious to the public health. Noise is like tobacco: it is a slow poison, and however much harm it does, it does not do it dramatically or sensationally; therefore it does not appeal to the reporter and the chiefs of the Sunday press. We can only infer from analogy that the continual impact of dissonant sounds upon the human ear must have some slight exhausting effect, even though these sounds do not always rise into consciousness.

EARLY MARRIAGES.

THE recent marriage of a young woman of wealth, aged eighteen, to a young man of title, has given rise to infinite discussion on matrimonial alliances and matrimony in general. So far as we have noticed, however, none of the commentators upon the great current hymenial events have brought up the question of early marriage in its relation to health. Yet this is perhaps one of the most important of the subjects which could possibly concern those proposing to enter the new estate. It seems almost pathetic that not one of the reporters on the daily press came across the striking remark of Dr. Clouston to the effect that "the young man who marries before his beard is fairly grown, breaks a law of nature, and sins against posterity." The subject of early marriage, and the proper time, so far as age is concerned, for marriage, has often been discussed, and medical opinions upon the matter are numerous enough. Very few physicians, however, have really investigated the matter in the careful method which physiological science demands. Dr. Mathews Duncan is one of these few. A short time before he died he wrote some elaborate article bearing upon this subject, and from his studies and his experience he drew the conclusion that below twenty years of age woman is immature. If she marries before that time, she runs considerable risk of proving sterile. If she bears a child, she runs a comparatively high risk of dying in childbirth. In addition to this, he found that an early marriage had other disadvantages associated with a more frequent tendency to have uterine disorders.

The most elaborate statistical investigation of the subject, however, has been made by Josef Carosi, of Buda-Pesth. His investigation was a purely statistical one, based upon the percentages of deaths, diseases, the births, and so on, in connection with age and marriage. He concluded that immature persons have a tendency to bring forth a degenerate stock; in other words, that persons who marry before they are mature have a larger percentage of cripples, consumptives, idiots, and criminals. The age of maturity is placed at twenty for the woman, and for the man, at twenty-five.

Dr. Farr states, in his "Vital Statistics," that the mortality among wives under twenty years is much higher than that among wives in the period between twenty and thirty, and this same author found that the mortality-rate from accouchements between the ages of fifteen and twenty-five was 1 in 149, while between the ages of thirty and thirty-five it was 1 in 235. Such statistics were collected, however, before the day of antiseptics, and it is possible that they might tell a different story now.

According to a writer in *The Hospital*, the experience of breeders of all kinds bears out the view that the progeny of immature animals has a tendency to be weaker than those of mature. Against all this may be offset the fact that a great many people who marry young have healthy children and live happy lives, and the further fact that if marriage is prolonged too late, perhaps even more disastrous results might occur, to the woman, at least.

The facts regarding early marriages in India might also be cited, as showing that they do not, at least particularly, change the character of the race.

THE ARMY MEDICAL SERVICE.

WE learn from our English contemporaries that the present head of the English army, Lord Wolseley, is inclined to carry out the same policy toward the army medical service which was adopted by his predecessor, namely, that of snubbing and keeping down, whenever opportunity offers, the medical officers. At a recent inspection in Dublin, Lord Wolseley objected to the medical corps carrying swords, because, he said, they were only civilians.

The army officers do not seem to keep in touch with the spirit of the times, which tends constantly to bring into greater prominence the work of civilians, and to attract into civil life the best minds of every civilized country. In particular, the standard of education and intelligence in the medical profession is everywhere steadily rising, while we judge from the various exhibitions of the intelligence of army and naval services that these branches are not any longer drawing the best class of men into them. Yet, in the apparently desperate effort to maintain the prestige of the army and navy, the officers do all they can by artificial regulation to keep down men who are, by education and natural intelligence, their equals, and perhaps their superiors. We believe that, in the end, the importance and social value of the medical services in our armies and navies will be recognized at their true worth, and, meanwhile, we hope that the contest will be kept up until justice is secured.

Peekskill has a new hospital, the Helping Hand Hospital.

News of the Week.

St. Joseph's Hospital, New York.—Dr. John Dorning has been appointed consulting physician to St. Joseph's Hospital.

The Presbyterian Hospital, New York, in Debt.—The expenses of the Presbyterian Hospital during the past year exceeded its receipts by $97,625.71, and the usual appeal for donations is in order. In this connection it may be proper to quote a remark made by Mr. J. C. Carter, at the recent anniversary of the Woman's Hospital of this city: "The whole chain of charitable institutions ought to be put under a system. If persons able to give to charity could be assured that their gifts would be made judicious use of they would give more freely." In other words, too much so-called hospital charity sometimes brings its own reward.

Association of Assistant Physicians of Hospitals for the Insane.—The second meeting of this Association was held at the Michigan Asylum for the Insane, Kalamazoo, Mich., October 24, 1895. The membership, originally composed of medical officers of the staffs of asylums of Michigan, Illinois, and Iowa, was extended to include the assistant superintendents and assistant physicians of all asylums. The next meeting will be held at the Asylum, at Independence, Ia., during May, 1896.

The Alvarenga Prize.—The College of Physicians of Philadelphia announces that the next award of the Alvarenga Prize, amounting to about one hundred and eighty dollars, will be made on July 14, 1896. Essays intended for competition may be upon any subject in medicine, but cannot have been published, and must be received by the Secretary of the College on or before May 1, 1896. Each essay must be sent without signature, but must be plainly marked with a motto and be accompanied by a sealed envelope having on its outside the motto of the paper, and within it the name and address of the author. It is a condition of competition that the successful essay, or a copy of it, shall remain in possession of the College; other essays will be returned upon application within three months after the award. The Alvarenga prize for 1895 has been awarded to Dr. Guy Hinsdale, of Philadelphia, for his essay entitled "Syringomyelia."

The Idaho Medical Society.—In a notice of the annual meeting of this Society, in a recent issue, it was stated that the President is Dr. W. D. Springer, and the Secretary, Dr. C. L. Sweet. The positions are reversed: Dr. Sweet is President, and Dr. Springer, Secretary.

Noble Doctors. — Count de Goyan, a prominent royalist of France, has taken the degree of Doctor of Medicine. So also has the Duke de Rivoli as well as Count de Sinety, and Baron Henry de Rothschild is said also to be a medical student.

New Hospital Organization.—The attending physicians and surgeons of Bellevue, and those of the other hospitals belonging to this city, have organized themselves into an association.

The Ovary.—Absent in body, but present in spirit.

Ophthalmic Consultations Free.—On the front advertising page of a leading local medical journal of a neighboring city appears the announcement of doctor, optician, and jeweller, all in one, who gives free consultations to all applicants. This may be business, but it is not ethics. We cannot serve two masters.

London Physicians' Fees.—The weekly paper, *Tit-bits*, states that not a few fashionable doctors in London make from $1,500 to $2,500 a day for weeks together; that some half-dozen of London medical men make $200,000 a year.

Muscular Strength of Woman.—Dr. J. H. Kellogg, of Battle Creek, has devised what he calls a "universal dynamometer," and he has published a very long list of tables showing the strength of the different groups of muscles of the body in men and women. He states that the relative strength of the muscles of the thighs and legs in women is greater than that in men. These statements, according to the medical press, agree with the facts shown by Quetelet and Sargent, that the thigh is not only proportionately, but actually, larger in women than in men. This increase in size of the thigh is, in fact, one of the earliest of all the sexual characteristics, of a physical nature, which appear as the girl approaches puberty, and it seems to be due to greater development of muscles as well as to the great accumulation of adipose tissue. The fact of the relatively greater strength of the thigh and leg muscles in woman might easily be seized upon by those who favor the bicycle for women, since it is the thigh muscles especially which are brought into play in that sport.

Changes in the Staff of the Philadelphia Hospital.—Dr. William B. Porter has resigned after twenty-five years, and Dr. Alfred C. Wood has been appointed as his successor; Dr. J. C. DeCosta has been appointed surgeon, and Dr. E. B. Sangree, pathologist. Dr. Copeland, who was formerly pathologist, has accepted a chair in the Vanderbilt University, at Nashville.

Medical Department of the American University.—It is announced that the Rev. Christian B. Stemen, Professor of Surgery in the Fort Wayne College of Medicine, has been authorized to develop and organize the Medical Department of the American University, at Washington, D. C.

Typhoid Fever again threatens to become epidemic in Chicago. More than one thousand five hundred cases occurred in one week.

Homœopathy.—According to Dr. J. Lester Keep, there are in the United States 6 National societies and 1 sectional society of homœopaths, 143 State societies, 112 homœopathic hospitals, 59 dispensaries, 35 homœopathic medical journals, 20 colleges, and 14,000 practitioners. In England a new homœopathic hospital has just been opened, which cost in its construction and appointments over a quarter of a million dollars. The practice of homœopathy, he says, has gained a strong foothold in Mexico, where a law has been recently adopted placing both schools of medicine on an equal footing.

Dr. J. N. Bloom succeeds the late Dr. Edward R. Palmer to the Chair of Genito-urinary Diseases in the University of Louisville.

Reviews and Notices.

TWENTIETH CENTURY PRACTICE. An International Encyclopædia of Modern Medical Science by leading authorities of Europe and America. Edited by THOMAS L. STEDMAN, M.D., New York Citv. In Twenty Volumes. Vol. IV., Diseases of the Vascular System and Thyroid Gland. New York: William Wood & Co. 1895.

THE fourth volume of this work begins with a lucid exposition of diseases of the heart and pericardium by Professor Whittaker, of Cincinnati. The article is an exhaustive treatise on cardiac affections, occupying a little more than half of the volume. It evidences on the part of the author not only a practical knowledge, derived from long experience, of this most difficult subject, but also an unusually extensive acquaintance with the literature. Dr. Whittaker is well known as a clear and direct writer, and he has put his best work into this treatise. We can recall no monograph on cardiac affections since the appearance of Fothergill's classic which has presented the subject in a clearer light and in a more instructive manner than this. The only fault we have to find is the absence of a bibliography such as is usual in encyclopædic articles. However, the treatise itself is such a finished product that the reader hardly feels the need of references to other works.

The second article, of equal merit, though naturally not of equal length, is one on diseases of the blood-vessels, written by the leading English authority on the subject, Dr. Ernest Sansom, of London. The interesting and important topics of atheroma, arteriosclerosis, and aneurysm are here presented in a way that leaves nothing to be desired. The section on diseases of the veins is also deserving of special mention.

Dr. Bertrand Dawson, also of London, is the author of a comparatively brief article on diseases of the lymphatic vessels. We do not know this writer, whose reputation on this side of the water is not as great as that of the other contributors to the volume. His article, however, is a good one, and a perusal of it forces us to admit that the editor has made a wise selection in securing Dr. Dawson as one of the collaborators.

The closing article of the volume is one on diseases of the thyroid gland, written by Dr. George R. Murray, of Newcastle-on-Tyne. The author includes among his subjects, in addition to myxœdema, cretinism, and goitre, exophthalmic goitre, which he regards as essentially an affection of the thyroid gland. The neurologists will probably dispute this point with him, but we must confess that he advances a goodly array of arguments in defence of his position. The most interesting section, by far, of this article is, however, that on myxœdema, of which Dr. Murray has the right to speak with authority, since it is to him that we owe the successful treatment by means of thyroid extract. The article has the freshness characteristic of all writings in which original discoveries are described at first hand. The illustrations showing the results of treatment in some of Dr. Murray's early cases are striking witnesses to the efficacy of thyroid extract in this disfiguring disease.

ANALELE INSTITULUI DE PATOLOGIE SI DE BACTERIOLOGIE DIN BUCARESTI. VICTOR BABES. Profesor la Facultatea de Medicina Bucuresci. 1894.

THIS work, published in the two languages, Roumanian and French, gives the results of pathological and bacteriological work done in the Bucharest Institute. It is the fourth volume of the series of such reports. There are a number of colored plates dealing with bacteriological subjects.

THE PATHOLOGY AND TREATMENT OF VENEREAL DISEASES. By ROBERT W. TAYLOR, M.D., Clinical Professor of Venereal Diseases at the College of Physicians and Surgeons (Columbia College), New York; Surgeon to Bellevue Hospital, and Consulting Surgeon to City (Charity) Hospital, New York. With Two Hundred and Thirty Illustrations and Seven Colored Plates. Philadelphia: Lea Brothers & Co. 1895.

A WORK upon a subject of this kind must of necessity lose something when the responsibility for the views contained is shared by two authors.

Dr. Taylor is, therefore, to be congratulated upon being the author of his own book, and it appears that this is all his own, with the exception of a chapter upon syphilis of the eye, which was originally written by the late Dr. Loring for Bumstead's work, and the chapter on syphilis of the ear, which is credited in the preface to Dr. J. A. Andrews.

While based upon "Bumstead and Taylor" this can in nowise be regarded as a revision or reproduction, but is a new work stamped throughout with the author's individuality, though here and there, notably in the chapter upon affections of the nervous system, portions have been retained which are as true and appropriate to-day as when they were written for the older joint treatise. Many changes have occurred since their collaboration, and the advances in knowledge, whether due to modern discoveries, bacteriological investigations, improved surgical methods, or newer and better modes of treatment find an adequate reflection in these pages.

It is not a work to be taken up lightly. Indeed its weight is the first thing that strikes one who has been in the habit of reaching down his well-worn copy of Bumstead and Taylor. He finds 1,000 pages instead of 835, but not so many more words to the page, whose space is freely encroached upon by pictures; hence it must be the added weight of the words themselves.

The illustrations, while lending beauty and attractiveness, and proving the advance which has been made in this direction since 1879, may carry with them, too, a certain weight. Not only are the plates numerous, but many of them are excellent, especially some of the colored drawings, and those showing palmar lesions; while that on page 608, a reproduction from the plate illustrating the author's article in the *Cutaneous and Genito-Urinary Journal* of 1890, fails to give any clear idea of the condition present. It is impossible within our limits to discuss the author's views upon the leading unsettled questions in venereal diseases. We can only say that he has stated them clearly and unequivocally, while giving at the same time the opinions of those who differ with him.

The work is one which reflects much credit upon its author.

A PLEA FOR A SIMPLER LIFE. By GEORGE S. KEITH, M.D., F.R.C.P.E. London: Adam & Charles Black. 1895.

AFTER fifty-five years a physician, and once associated with Sir James Simpson in practice, the author now points out some of the evils which have affected medicine during the present century.

Though most readers of this little book may not agree with all of the author's views, still no one can be harmed by reading it, and if the advice is followed to give less medicine and pay more attention to diet, their patients will undoubtedly be the gainers. Americans, however, need such advice perhaps less than their English cousins.

ATLAS OF THE DISEASES OF THE SKIN. In a Series of illustrations from the Original Drawings, with Descriptive Letterpress. By H. RADCLIFFE CROCKER, M.D., F.R.C.P.; Fasciculus XII. Edinburgh and London: Young J. Pentland. New York: Macmillan & Co.

THE subject of purpuric erythema is illustrated by a figure of peliosis rheumatica, and one of erythema hæmorrhagicum, both excellent, one showing the arm, the other the leg. "Eczema" has three figures: one of E. pustulosum with crusts over a man's face; one of E. urbrum of the leg, designated as scrofulosorum; and a small figure representing the early stage of Paget's disease of the nipple.

Psoriasis follicularis occupies the whole of the next plate in a striking figure, in which follicular elements scattered here and there are almost overshadowed by circinate and gyrate forms. Under "Telangiectoses" there are two interesting representations of rather rare conditions; one the telangiectic form of erythematous lupus upon the cheeks; the second figure showing small multiple telangiectoses scattered over a girl's face.

In the text, which usually contains an account of the case from which the portrait was made, it states that electrolysis is the proper treatment, but that "the patient was too young for electrolysis to be attempted," patient then being seven years of age. The writer would state that he has repeatedly operated by this method upon multiple telangiectoses in youthful subjects as well as upon various forms of nævi in infancy, and knows of no contra-indication.

Fibroma and F. pendulum have characteristic pictures calculated to cause a layman to exclaim "How terrible!" Adenoma sebaceum, a rare condition, which Rayer called *Végétations vasculaires* and Vidal designated as *Nævi vasculaires et papillaires*, is shown occupying its characteristic location, the central portion of the face. Fig. 2 shows a follicular fibroma of the back from the same patient. The present fasciculus is quite up to the standard of those previously received and mentioned in these columns.

PHYSICAL, INTELLECTUAL, AND MORAL ADVANTAGES OF CHASTITY. By M. L. HOLBROOK, M.D., Editor of *The Journal of Hygiene* and *Herald of Health*, etc. New York: M. L. Holbrook & Co. London: L. M. Fowler & Co.

THE author believes such books will eventually do for purity what works on agriculture are doing for farming interests, etc. "What I Know About Farming" once did much toward adding to the attractions of life, and made one more resigned to struggle on. What the author knows about chastity may not produce such results. What "he most desires," as he says in his preface, is to inspire "especially the young," etc. In our opinion parents had better read the book carefully before entrusting it to the son or daughter for their sexual education. There are many truths in the book, and they are often told openly and plainly.

ANATOMY OF THE HUMAN HEAD AND NECK. Graphically illustrated and Described by DR. SCHMIDT. Revised and Edited by WILLIAM S. FURNEAUX, Author of "Animal Physiology," "The Outer World," etc. New York: Thomas Whittaker.

MODEL of superimposed parts, giving to the young an excellent idea of anatomy. It might be used to advantage by the first-year medical student for reference and ready reminder.

WHITTAKER'S ANATOMICAL MODEL. A Pictorial Representation of the Human Frame and its Organs. With Descriptive Text by DR. SCHMIDT. English Edition, by WILLIAM S. FURNEAUX. New York: Thomas Whittaker.

THIS is intended for school children, to take the place of plaster models. Children old enough not to tear out the viscera might profit. There is not sufficient scientific accuracy and detail for medical students at all advanced. The descriptive text is very simple.

A HAND-BOOK OF MEDICAL DIAGNOSIS FOR STUDENTS. By JAMES B. HERRICK, A.B., M.D., Adjunct Professor of Medicine, Rush Medical College; Professor of Medicine, Northwestern University Woman's Medical School; Attending Physician to Cook County Hospital; Assistant Attending Physician to Presbyterian Hospital, Chicago. Philadelphia: Lea Brothers & Co. 1895.

THIS is a very well arranged guide to diagnosis, and one that ought to be of great assistance to the advanced student, for whom it is primarily intended, or to the young practitioner when confronted with a puzzling case. The author deals with all the aids to diagnosis—chemical, microscopical, and physical—and illustrates his work with excellent cuts. There are two colored plates of the blood in malarial and other diseases.

RAPPORT ET MÉMOIRES SUR L'ÉDUCATION DES ENFANTS NORMAUX ET ANORMAUX. Par DOCTEUR E. SÉGUIN. Préface par BOURNEVILLE, Médecin de la Section des Enfants de Bicêtre. Paris: Bureaux du Progrès Médical. 1895.

DR. SÉGUIN'S well-known book appears in French translation as the third volume of the *Bibliothèque d'Éducation speciale*, in the hope that its valuable precepts and elaborated principles, so successful in the education of idiots and deaf-mutes, may be brought to the careful consideration of directors of schools and of teachers, and thus in time become also the privilege of ordinary normal children. In the preface is the certificate of Esquirol and Guervant as to Séguin's great success in a case observed by them; and also an account of the lamented author's death in 1880, and the speeches made at his funeral by Brockett, Wilbur, Brown, and Marion Sims.

The book is divided into four parts. The first treats of the education of the child during its nursery years; the *Salles d'Asile*, or school, where poor children from the age of three to six or seven acquire ordinary knowledge; the *Jardins des Enfants*, or kindergartens; and education in the Physiological School for children. A most interesting and instructive chapter is devoted to the education of hand, eye, ear, muscles, touch, taste, etc., according to the well-known principle, "There is nothing in the mind that was not first in the senses." Toys and object-lessons are of great importance in physiological education. What normal children do spontaneously is an indication of how they may be led into knowledge. To learn through doing is their natural method of mental development. Destruction of toys, etc., has a meaning other than wilfulness; it comes from a desire for knowledge, just as the apparently senseless proceeding common to infants of touching all objects with the tongue is the first effort toward an acquaintance with the outside world. Part II. treats of the education of deaf-mutes in different parts of the world, and of the good Abbé de l'Epée, who, when sixty years old, opened a school in 1770, to teach deaf-mutes to hear with their eyes and speak out loud. In Part III., methods and schools for the instruction of idiots in different civilized countries are described and fully explained. Then, in Part IV., popular education as usually carried on is critically reviewed and the philosophic author's own principles of general education given with force and convincing logic. Two memoirs close the book: one, on the psycho-physiological training of the idiot eye; and the other on the psycho-physiological education of the idiot hand, both illustrating a system of human development that Séguin was first to put into actual practice and publish to the world. It must never be forgotten that the late Dr. Séguin passed the richest and ripest years of his life and labors in the United States, and that America shares with France the honor of appreciating him while he lived. In any language and any country, whatever he has written must, of necessity, retain its original and permanent value.

PREGNANCY, LABOR, AND THE PUERPERAL STATE. By EGBERT H. GRANDIN, M.D., Consulting Obstetric Surgeon to the New York Maternity Hospital; Consulting Gynecologist to the French Hospital, etc.; and GEORGE W. JARMAN, M.D., Obstetric Surgeon to the New York Maternity Hospital; Gynecologist to the Cancer Hospital, etc. Illustrated with Forty-one Photographic Plates. pp. 261. Philadelphia: The F. A. Davis Company. London: F. J. Rebman. 1895.

THE favorable reception accorded to the previous volume on obstetric surgery by the same authors would alone insure a similar one for its companion. When the two are published together, which we understand is the intention, the present monograph will form the first part of a work on obstetrics.

The subjects discussed, though less attractive to many readers than those treated so ably in the "Obstetric Surgery," are nevertheless set forth in a thoroughly practical as well as pleasing manner. The history of successful books in this age of competition, whether in fiction or in science, proves that it is not so much originality which wins many readers as it is the presentation of familiar facts in a fresh and attractive form. This the authors have succeeded in doing even when dealing with apparently outworn themes. The central idea of their former work—facts as opposed to themes—is kept steadily in view throughout. For example, every medical student can rattle off glibly the signs and symptoms of normal pregnancy, but only the mature accoucheur realizes how often "all signs fail." In Chapter I. attention is called to numerous minor points, which are seldom or never referred to in the text-books, and yet are of vital importance at the bedside. The anomalies of menstruation, fœtal movements as felt by the examiner, softening of the entire cervix, rather than the tip alone, and other practical hints will be noted. The short section on the care of pregnant women (pp. 27 to 31) is replete with sensible advice. Chapter II. is devoted to a comprehensive review of the pathology of pregnancy, the introductory section on the pernicious vomiting of pregnancy being especially helpful. Chapter III., on obstetric palpation, pelvimetry, etc., is richly illustrated and contains a large amount of useful information condensed within a few pages.

Part II. is devoted to labor and includes four chapters on the mechanism and clinical course of labor, the management of normal and abnormal labor, and the care of the new-born. The general practitioner will find the third chapter of great value, since it is filled with hints which represent the results of years of experience in the lying-in chamber. As an example of its judicious teaching reference may be made to the use of ergot after delivery (pp. 161, 162), and of chloroform during labor (pp. 144, 145). The details of the first examination of the parturient are presented most happily in the same chapter. The concluding chapters on the normal and pathological puerperium are most commendable. It is impossible in the brief space allowed to us to call attention to all their excellent points. The reader will note as especially good in Chapter I. the remarks on nursing (p. 211), and on artificial feeding. In Chapter II. the etiology of puerperal septicæmia is discussed at length in the light of recent bacteriological investigations. The symptoms are graphically set forth, and the remarks on diagnosis (pp. 236, 237) are clear and practical. The concluding section on mastitis is brief, but full of useful suggestions.

One of the most prominent features of the book is the number of plates, especially those illustrating the management of labor. This is a favorite method of supplementing medical teaching at the present day, and whatever criticisms may be urged against it on the ground of propriety, it cannot be denied that a single photograph showing exactly how a thing is done is worth pages of description. They certainly add to the value of the present volume, especially with the class of readers for whom it is intended. The favorable criticisms applied to the literary style, arrangement of the subject-matter, and the general make-up of the "Obstetric Surgery" can only be repeated, and we prophesy for it an equal success.

Society Reports.

MEDICAL AND CHIRURGICAL FACULTY OF THE STATE OF MARYLAND.

Semi-Annual Meeting, held at Belaire, Md., November 19 and 20, 1895.

THE meeting was called to order with Dr. C. Birnie, Vice-President, in the chair, and Dr. A. K. Bond, Secretary. The Society was welcomed by Hon. Walter Preston, of the Belair bar, and Dr. W. L. Smith, of Jarretsville, President of the Harford County Medical Association, and was responded to by Dr. C. Birnie.

The Surgical Treatment of Laryngeal Tuberculosis.—This was the subject of remarks by DR. JOHN N. MACKENZIE, of Baltimore. He referred to the papers read before the American Laryngological and British Laryngological Societies on this subject. Krause, of Berlin, and Hering, of Warsaw, had done the best work on this subject. The surgical treatment of tuberculosis of the larynx is carried out by total and by partial curettement of the lesions, with the application of lactic acid. Usually the tissues are first curetted out with specially prepared instruments, and then the acid is rubbed in. The Germans use a fifty per cent. solution of lactic acid, while others use it pure, and some operators rub the acid in without curetting, provided ulcerations exist, for the acid will not go through the intact mucous membrane. The tissues may also be injected with a solution of the acid. The results of this treatment by curetting and lactic acid are wonderful. The ulcers may heal even when the lungs are far gone. When the infiltration is circumscribed and in the epiglottis, portions of the tissue may be excised. The subsequent treatment is to paint the surface with pyoktanin, or lactic acid may be used. Sometimes the whole diseased area is not easy to get at. These wounds generally heal very well. Sometimes there is hemorrhage, but this may be stopped by application of equal parts of lactic acid and perchloride of iron. Some operators use the scissors to cut off the diseased part when this is possible, and some use the electrolysis, putting one pole in the lesion and the other on the neck. The galvano-cautery is also used. In stenosis intubation has been suggested, and tracheotomy is a last resort in some conditions, but this is only justifiable to prevent suffocation. Thyrotomy has been practised under some circumstances, and even it has been proposed to extirpate the whole organ. As the disease is rarely primary in the larynx (only about five cases having been reported) this operation is not advisable. Such cases usually die. Most observers agree that the effect of this treatment is beneficial to the lung disease, and a few have the opposite view, but it seems rational that it must do good. It does not effect a cure, but it does prolong life. Relapses occur. In hectic fever, and when the disease is diffuse, this operation is contraindicated.

DR. WILLIAM B. CANFIELD thought these facts very interesting for the specialist and general practitioner. He would like to know something of the technique of these operations. How strong was the cocaine solution used before curetting and how applied?

DR. MACKENZIE said this was very simple. The cocaine was in ten to twenty per cent. solution, and the pyoktanin used was a two per cent. solution. Special instruments had been devised by Hering, of Warsaw, and he had sent for some, but the curetting and application of the lactic acid was not difficult.

Management of Advancing Corneal Ulceration in Gonorrhœal Ophthalmia.—This was the subject of a paper by DR. HIRAM WOODS, of Baltimore. The danger in this disease lies in the involvement of the cornea, and this danger is in proportion to the extent of the inflammation in the ocular membrane, and is greater the earlier the cornea is affected. Corneal trouble may come from—1, interference with the circulation; 2, direct infection; and 3, pressure on the cornea from pus or the swollen eyelids. The latter is most usually met with. The pus must be let out. To prevent infiltration use leeches, cold, and scarification. Nitrate of silver may also be used in the strength of ten grains to the ounce. This should be applied very thoroughly. The crayon-stick may be applied once in twenty four hours. Dr. Woods said further that just as most of the curable cases of blennorrhœa yielded to the two per cent. silver solution, so most of the manageable cases of corneal complications are amenable to milder methods than cauterization. At the other extreme stand cases hopeless from the beginning. A small area of infection rapidly destroys the weakened cornea. Efforts to stop its progress, successful usually in primary infection, not only fail, but seem harmful. Probably defective vascular supply is the trouble. Between the two there is a third class, to which the cases he related belong. The presence of purulent inflammation demands something more than corneal disinfection.

Tears of the Cervix Uteri; their Significance and Repair.—This was the subject of a paper by DR. J. M. HUNDLEY, of Baltimore. He thought surgeons were too ready to repair torn cervices when often the mere suturing of the laceration was not so much needed as strong tonics and attention to the general health. He recited cases tending to show that the cervix had been sewed up too tight, and related other cases showing that the cervix would often heal kindly after a difficult birth, even when it was badly torn, without operative interference. He thought it was meddlesome surgery to be too ready to operate on every little tear, and to attribute every kind of ill feeling a woman had to a small tear in the cervix. These tears came most usually from the use of the forceps, and were at times not to be prevented.

DR. JOHN MORRIS, of Baltimore, said this was a most sensible and practical paper. He had had a large number of labor cases in his professional life, and many times he had applied the forceps, and he endorsed Dr. Hundley's remarks thoroughly. Too often such interference is meddlesome.

DR. A. K. BOND, of Baltimore, had delivered a woman in whom he had found a dense band of tissue across the cervix, and when he examined it he found it was the result of suturing an old tear, the stitches having been put through the canal. He cut this fibrous, cicatricial band and the labor proceeded without complication. He related a case of lacerated cervix where the tear was constantly suppurating and at the birth of a child its eyes became infected with this matter. He asked what was the connection between a lacerated cervix and defective lactation.

DR. JOHN NEFF, of Baltimore, related several cases of difficult labor which he delivered after great trouble, and in which a laceration healed without operation and one in which pregnancy followed.

DR. WOODS said that because a new-born infant had ophthalmia, it did not follow that the mother had had

gonorrhœa. It might be a non-specific ophthalmia which usually gets well with little or no trouble. In the cases related by Dr. Bond, Dr. Woods thought that the child might have had inherited syphilis or some post-partum affection not from the mother.

Dr. Bond said he had eliminated both of these sources.

Dr. Morris said he thought Dr. Bond's ideas were heretical. He thought some other trouble must have affected the infant's eyes than the mere lacerated cervix.

An Epidemic of Typhoid Among Children.—This was the subject of a paper by Dr. A. K. Bond, of Baltimore. These cases he had seen in an institution for destitute children, and the ages were from seven to nineteen. There were twelve cases in all. The fever lasted longer in the younger children, and the temperature was also higher. There were usually headache but no delirium worth mentioning. There were some nervous symptoms noticed in some of the patients; one was slightly deaf for a few days and several had nosebleed. Rose spots were observed in all but three cases. There was no marked tympanites in any case, and only slight iliac gurgling. The bowels were neither markedly loose nor costive, and in only a few instances were the characteristic typhoid stools observed. The spleen was enlarged in one case, and in one case there was albuminuria for a few days. No casts were found. In all but two cases there was considerable catarrh of the lungs. In all these cases the tongue was coated, but the hard, dry character as seen in adults was not observed here. There was not much emaciation. In one case there was gangrene of the mouth. The treatment was begun with thorough purging with castor-oil and calomel. The sweet spirit of nitre and sponging was used, and in two cases baths and douches were tried, but they were given up later. The nourishment was looked after very carefully; a cupful of milk was given every two or three hours in the day, and through the night when necessary, and in some cases pepsin was also given. Small doses of Epsom salt, from a half drachm to a drachm, were given during the illness to keep the bowels clean. It is not easy to trace the cause of epidemics in a city. There were two buildings, both having the same water and milk-supply, and nothing could be proved on either. The following conclusions were drawn from a study of these cases: 1. That children often bear high temperatures well in typhoid fever. 2. That bathing (in full bath) should be very judiciously applied, if at all. 3. That the disease in children under five years of age may easily be mistaken for other digestive disorders or for bronchitis. 4. That albuminuria coming on during the fever does not necessarily lessen the chances of a favorable issue. 5. That gangrene of the mouth, if superficial, may sometimes be cured by permanganate of potassium lotions. 6. That careful consideration should be given to the furtherance of digestion, as by the use of pepsin and acid; and also to the prevention of the accumulation of unwholesome or hardened fæces in the intestines, as by the systematic and judicious employment of Epsom salt in the manner above indicated.

Dr. J. W. Scott, of Belair, asked why Dr. Bond preferred Epsom salt to calomel.

Dr. William Les spoke of the atypical cases occurring in children, and quoted authorities on the subject.

Dr. Charles Bagley, of Bagley, thought that Epsom salt was a very important part of the treatment. Active purgation might cause hemorrhage, and that should be considered before strong cathartics were given.

Dr. Bond said, in reply to Dr. Scott, that he gave the Epsom salt because he did not wish to salivate with calomel, and he thought the salt was a better purgative in these cases.

Dr. James A. Steuart, Secretary of the State Board of Health, said that it was difficult to trace these cases and the cause of the disease, and it is hard to find the bacillus in water, but if the water contains sewage of course it is unfit to be used.

The Radical Cure of Inguinal Hernia in a Child by the Implantation of a Section of Aseptic Sponge to Occlude the Internal Ring.—This was the subject of remarks by Dr. Walter B. Platt, of Baltimore, who also exhibited the patient. The boy came to him last August with an inguinal hernia like an old man's. He had used different kinds of trusses. He was seven years of age. Dr. Platt tried the worsted truss, but but with no results. He then decided to operate by a plan of which he had never heard, though it might not be original. He opened the inguinal canal in the usual way, reduced the hernia, and then he took a small piece of sponge, washed it thoroughly and by boiling he made it thoroughly aseptic, and put it in the conjoined ring and sewed it in here, with the idea of keeping the hernia in place and having the sponge organized. It is not possible to speak of a cure as the operation has been done only three months, but so far the boy can run about and play, and the hernia stays up, and the sponge has caused no disturbance, so it must be organized by this time. Macewen says that only about forty per cent. of the cases operated on in the usual way are cured after two and half years. If this case turns out well he shall treat all other children afflicted with the same kind of hernia in the same way. The idea is new to him, and he hopes it will be successful.

A Critical Review of Modern Operations for Hæmorrhoids.—This was the subject of a paper by Dr. S. T. Earle, of Baltimore. He briefly related the various methods of operation and then described the modification of Outerbridge's operation, which he preferred. He gave a demonstration of the clamp and manner of suturing, and said it gave less discomfort than other operations.

Dr. C. M. Ellis, of Elkton, asked if Dr. Earle did preliminary dilatation of the stricture before operation.

Dr. Earle said he rarely did this, for no matter if dilatation was practised there was always a certain amount of burning of the rectum after the operation that demanded a hypodermic injection of morphia, but if it is a bad case with many hæmorrhoids he does dilate

A Case for Diagnosis.—Dr. C. H. Hollingsworth, of Belair, then presented a case in which he needed help. The boy was seven years of age, and was taken sick about six months ago with pleurisy on the left side followed by a pneumonia of that side, and then that all cleared up and there was a pleurisy of the right side, and that cleared up, and the boy was going on well to recovery when he was suddenly taken with severe pains in the back of the neck and had a severe pain down the back, and now his head is bowed forward and he cannot straighten it; he cannot put his feet to the ground, cannot use his hands very much, and can lie in the same position but for a few moments only. His weight fell off at first, but now he has regained about three pounds, due to the tonic treatment, but he seems to be no better in other respects. There were hard nodules or lumps in the abdomen which seemed to disappear on purging. The sterno-clavicular and sterno-costal articulations are all enlarged and painful.

Dr. W. F. A. Kemp, of Baltimore, said it was not easy to express an opinion from a cursory examination, but he was inclined to think it was tuberculosis, although the swollen articulations looked a little like a gouty diathesis. He suggested an examination of the urine microscopically and also of the sputum.

The Clinical Course of Forty-seven Cases of Complete Extirpation of the Uterus for Carcinoma.—This was the subject of a paper by Dr. W. W. Russell, of the Johns Hopkins Hospital, in which he gave statistics on the results of the operation in these cases and explained the manner of operation and the danger of

secondary deposits depending on the situation of the primary lesion. It may pass from the uterus to the bladder in front, to the rectum behind, or even to the vaginal mucous membrane or to the ovaries, and he spoke of the results of early operations. In answer to Dr. Kemp, he said that only one case was living for five years after operation, but that Boldt had reported a case that lived for seventeen years after total extirpation of the uterus for carcinoma.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, November 18, 1895.

SAMUEL B. W. MCLEOD, M.D., PRESIDENT, IN THE CHAIR.

Some Results of Experimentation with a New Antiseptic Fluid.—DR. HUBBARD W. MITCHELL read a paper with this title. After giving an interesting and rather full description of his extensive experience with the new antiseptic fluid, he stated that it was simply a solution of halogen salts chemically combined.

DR. VON DONHOFF asked what were the ingredients, and as Dr. Mitchell's answer did not appear to him to be sufficiently specific, he asked if it was a secret remedy, and Dr. Hinton seconded his motion that the subject be not further discussed until the question had been answered.

DR. MITCHELL replied that he did not remember just the ingredients, but that the remedy was not secret, and he would hand the formula to the President when he obtained it from the chemist. The therapeutic value of the halogen salts, he said, was known to all. Taken in nearly equal proportion and mixed by the chemist, there seemed to be a rearrangement of the atoms of the salts in the solution, and the resultant was a straw-colored fluid, acid reaction, specific gravity of about 1.023, strong odor of chlorine, slightly acid taste.

About two years ago a chemist, a friend of his, brought him the fluid, which he said was good for almost everything, and among the things which he named specially were ulcerative and suppurative processes, and gonorrhœal and syphilitic lesions. Dr. Mitchell first tried it on a large, broken, painful carbuncle of the neck, and by next morning the inflammation had about half subsided, and by the fifth day the patient was practically well. He then got permission of Dr. Taylor, of the Vanderbilt Clinic, to try it in thirty cases of gonorrhœa. It was difficult to apply the treatment in these patients satisfactorily, and the results were hardly complete, yet in many rapid benefit had followed. He then, through the courtesy of Dr. Taylor, selected about thirty-five cases of lesions of syphilis in various stages, and of chancroid. In all cases, whether of phagedenic bubo, indurated chancre, or other sore, the results were extremely satisfactory, the lesions healed without difficulty in a short time. The same was true of cases seen in the venereal wards of the City Hospital, through the courtesy of Dr. Sturgis and Dr. A. M. Phelps. The sores healed in an unusually short time whenever the treatment could be carried out. There were about twenty cases of chancroid of the vulva, some old syphilitic lesions of the leg, gonorrhœa, etc. Varicose ulcers also did well, but owing to their nature required more attention. At the suggestion of Dr. Steinach, the fluid was injected from four directions into a large but unbroken bubo, and this dispersed without going on to form an ulcer. Two or three cases of extensive epithelioma of the face, extending down to the bone, were treated, the ulcerative process was arrested, granulation took place, and by further aid of a plastic operation the raw surface was nearly or quite covered by the time the patients left the hospital. Endometritis and ulcerative tonsillitis had likewise been treated successfully, and even carcinoma of the cervix had disappeared in one case in which he had tried the fluid. In six cases of pulmonary tuberculosis, the diagnosis being based on physical lesions, presence of tubercle bacilli, and the usual symptoms, the fluid was given internally, drachm and a half at a dose, three times a day, and in all the subjective and physical symptoms disappeared.

Wherever possible, in external lesions, the parts were bathed in the fluid once or more a day, and in addition were kept wet by gauze or dressings dipped in the fluid. Its presence caused the tenaceous membranes on ulcers to dissolve, and a healthy granulating surface to spring up and to rapidly heal. In the treatment of gonorrhœa in women and cervical lesions, it was poured in through a rubber speculum, and after remaining a few minutes was allowed to run out; more was poured in, finally the parts were cleansed by cotton probe and the vagina tamponed with gauze soaked in the fluid.

DR. C. J. MACGUIRE, who had helped carry out the treatment in some of the cases in the City Hospital, said that in the case of epitheliomatous ulcers of the face the fluid had the effect in two months to reduce the ulcer from a diameter of six inches to an inch and a half. The patient then left the hospital.

Diagnosis and Treatment of Gout.—Dr. L. F. BISHOP read this paper. He said: In a previous paper we dwelt upon the theory and distribution of gout. Now we propose to study as a more practical outcome the means of its recognition and the application of a proper plan of management. The diagnosis divides itself into that of acute attacks and of the gouty habit or constitution. Acute gout arising for the first time in a young person, is comparatively uncommon in the experience of American practitioners, therefore it might easily be overlooked. The points to be considered are the time of the attack, usually in the small hours of the night, the location of the pain, usually in the metatarso-phalangeal joint of the great toe. The character of the inflammation with its intense hyperæmia, and, most characteristic of all, the fact that the inflammation is followed by desquamation. An acute attack usually lasts, with intermission during the daylight hours, for from five to eight days.

Diagnosis of Suppressed Gout.—This is a term applied to a series of symptoms not typical of gout, but which occur in a gouty person, and which from strong negative and positive evidence we believe to be gouty in origin. These attacks are worthy of close study, because they must occur sometimes in our practice and can so easily be overlooked. They may immediately follow an attack of acute gout, or replace an attack. The patient may have severe vomiting, pain, diarrhœa, and profound depression, or there may be cardiac trouble manifested by dyspnœa, irregular action of the heart, and pain referred to that organ or to the left shoulder. We should remember at all times these attacks of suppressed gout, because they may occur independently of articular gout. The difficulty of diagnosis is great, but it should be borne in mind as the possible cause of some of the obscure, severe, and often fatal cardiac attacks accompanied by extreme dyspnœa, with failure of the heart's action in force and rhythm which we sometimes encounter. These are apt to be uniformly put down to uræmia, but in the absence of albumin and of typical signs of kidney disease, the possible gouty factor should be considered.

The diagnosis of chronic gout following a series of acute attacks is a simple matter on account of the characteristic joint deformity. Hospital reports in this country show a frequent diagnosis of chronic diffuse nephritis, and rarely that of gout. It would seem that many of these cases were primarily a gouty sclerosis of the vessels, and that the nephritis was secondary. The distinction in mortality reports is not important, but if the lithæmia could be recognized early the

sclerosis might be avoided with its fatal kidney complications. This involves the early detection of the gouty diathesis, which is a condition representing many various pictures. It is perhaps best approached by a consideration of some of the more irregular manifestations. These may be nervous, gastric, cutaneous, pulmonary, or may affect the organs of special sense. These irregular manifestations are as often due to hereditary tendencies as to acquired gout; hence we see them often in very young persons. The gouty habit or lithic state may even appear in infants.

Skin affections are among the most frequent irregular manifestations. Eczema is recognized by all as such. Psoriasis is believed by Dr. L. Duncan Bulkley to be more frequently due to this cause than to any other single constitutional vice. Chronic bronchitis is frequently gouty, and is modified only by gouty management. The most serious manifestation of the gouty constitution is the gradual production of sclerosis of the vessels and of the valves of the heart. It is in the avoidance of this condition that the early recognition and management of gout is most important. Gastro-intestinal disorders of gouty origin are characterized by constipation, headache, a dirty tongue, and the usual symptoms of biliousness, but with all these symptoms exaggerated and prolonged. The nervous manifestations are very numerous, migraine perhaps most common, but there may be symptoms referred to particular nerves as due to a true neuritis or to neuralgia. A very frequent form is the tingling and formication in elderly people.

Thus the nervous manifestations may be immediately due to the deposition of sodium urate circulating in the blood and coming in contact with the nervous elements, or the symptoms may be due to a secondary effect of the gouty ravages upon the tissues in the neighborhood of nerves, or upon the blood-vessels by which the large nervous centres are nourished.

Haig's observations upon migraine have attracted wide-spread attention, but it would be a mistake to attribute every case to uric acid due to gouty ravages upon the vessels. There may be cerebral symptoms, such as a definite failure of power, lasting for a few days or weeks, attacks of dizziness, and all the symptoms that go with cerebral endoarteritis.

Gout is said to cause deafness by the deposit of urates between the layers of the drum of the ear. Gouty subjects, either on account of the constitutional vice or the debility which diminishes their power of resistance, are specially liable to catarrhal inflammations of the nose, throat, and larynx.

Treatment. — The word management, as a name given to our efforts to bring about a cure of gout, is better than the word treatment, because treatment carries with it a trace of an idea of a specific plan of medication. It has often been said before, and we say it again, that management of gout is chiefly a question of hygiene, but we must not fall into the error of supposing that the hygienic treatment is easy of accomplishment. The cure of a disease by the modification of a patient's surroundings and the habits and actions of his organs, may well tax the patience, knowledge, and ingenuity of a physician. Hygienic treatment includes not only the modification of his mode of life, food, and drink, but the skilful use of such drugs as are directed to the improvement of the physical action of the organs, for it does not seem quite philosophical to include tonics, blood-foods, and laxatives under the head of a drug treatment of the disease proper.

The question of food arises first. Dr. W. H. Draper's experience negatives the definite line drawn between carbohydrates and proteids. The safest hypothesis upon which we can work is that in gout there is an impairment of the chemical powers of the body, which in different persons affects somewhat different processes. Each case must be worked for itself, but it will be often found that the food most suitable to a particular case will contain a good proportion of proteids, or even that proteids are better borne than carbohydrates. Much depends upon the form of the disease. Sugars and sweets of all kinds are definitely bad, and fermented liquors must be interdicted. Indulgence in wine or improper food may bring on a definite attack of gout, or is more likely to bring on eructations of wind with gastric pain, or some of the nervous or irregular symptoms. Potatoes tax a weak digestion very heavily, and might perhaps be the first thing cut off. The fact is that our knowledge of chemistry is not sufficiently complete for our theory to dictate absolutely to our practice. The best working theory is that by not overtaxing the digestion with carbohydrates, its forces are more at liberty to take care of the proteids. The use we make of water is important. Nearly all chemical operations are carried on with water as a vehicle for the chemical agents and reagents. Every chemist knows that in seeking a chemical result the reaction of the fluid—that is, its degree of acidity or alkalinity—is important. Now, by supplying to the system water in abundant quantities, especially if it tends to modify favorably the reaction of the system, we are certainly benefiting the enfeebled chemistry of the gouty body. Lithia seems to be of value, but its action is probably not, as was formerly supposed, principally by increasing the solubility of sodium urate, but it seems to have a catalytic action —that is, by its presence it favors the actions and reactions of the fluids of the body to a degree out of proportion to its amount. However, it should be given in an appreciable amount, and not by means of mineral waters, in which it has been detected by a spectroscope. There is no magic in native mineral waters. Artificial waters are just as good, and have the advantage of a definite formula and safety from the possible infection of a rural spring. We would not deprive a patient on this account of the locality benefits of watering-places. But scientific truth is not modified by the popular belief in nature's magic combinations in the bowels of the earth. The verdict of the laboratory upon the absence of any such combination in native waters is positive.

Thus we see that gout is a disease which may manifest itself in a great many different ways, and the recognition and management of which must always be of great interest to physicians in every department of the profession.

Dr. Max Einhorn thought recent investigations had made it doubtful whether the theory of the uric acid diathesis as the cause of gout, which had been accepted so long, was correct. It was accepted by some authorities, however, that there was some matter present in the circulation, the nature of which we did not yet know, which caused gout. But it had been proven that uric acid was not excreted in smaller amounts by gouty people than by others, and that also there was no retention of uric acid in the blood. But it was true that uric acid was found in the joints of gouty people, and it was thought that the uric acid in the blood, present in small amounts, crystallized there. But the uric acid itself was not the origin of the disease.

For a long time it was believed that the diet should consist only of vegetable matter, or of foods which contained little of the albuminates, because these were supposed to cause so much uric acid. This theory had not been proven. Even albuminates in large quantities did not necessarily increase the amount of uric acid. It had been found that the uric acid which was excreted took its origin really from nuclein, or substances which contained nucleated elements. It was not a sign of suboxidation. Still, the empirical points of the past were true to-day. It had been found that the patient's tendency to gout was lessened by out-door life and exercise, and since gout was oftenest present in the well-to-do, it was necessary to caution them

against eating too much, and to advise the use of plenty of water to wash out the waste matters.

An Enormous Clinical Fact.—Dr. L. D. Bulkley said that however one might regard gout in the laboratory, it was at least an enormous clinical fact, and the more we recognized it the more we would benefit our patients. He had long ago ceased to look for actual joint diseases in his skin patients with a gouty tendency. He saw skin manifestations of the disease in the absence of enlarged or inflamed joints every day. He who looked upon gout as only a joint disease would never recognize its true position in medicine. The chain of factors which culminated in the joint lesion should be broken long before reaching such an extent. Clinically, we did see uric acid and urates in enormous quantities in the urine of gouty patients. Eczema occurred frequently in children of gouty parents, and in one generation there might be joint lesions, while in another the skin was affected.

Dr. Bulkley corroborated the author's statement with regard to mineral springs. He had visited many of them, and had become convinced that few of them were better than Croton water. The temperature, however, had something to do with their efficacy, for they were usually taken hot. We little realized how important it was to give water in the right quantity, at the right temperature, and at the right time. Add to this the regulation of the patient's habits relating to exercise, meals, and sleep, as carried out at mineral spring resorts. As to lithia, he did not use it much, but frequently employed acetate of potash. He found many gouty people taking soda and common salt, and the consequence was a deposit of urate of soda. Potash salts had no such tendency to become deposited in the joints. He did not think we appreciated sufficiently the harmfulness of alcohol in various forms, including even wine. Haig's work was a most interesting one, and his suggestion to cut off red meats and use white meats, had been adopted by Dr. Bulkley with beneficial results. Dr. Bishop's remark that management was better than treatment in gout, deserved to be emphasized.

Dr. F. J. Quinlan had several times seen gouty manifestations in the throat and ear which cleared up under anti-gout remedies.

Dr. Bishop made a few closing remarks, and expressed regret that there had not been time to read the whole paper, as much of the unread portion had a bearing on the subsequent discussion.

Functions of the Cerebro-spinal Fluid.—Dr. James A. Campell read a paper, the full title of which was: "Some Notes on the Functions of the Cerebro-spinal Fluid, Gathered from Lectures delivered at the Faculté de Médecine, Paris." Although the lectures were delivered as far back as 1883–84, by the late Professor Sappé, he said they had not been published, and he thought the facts expressed would be of some interest, since they showed the fallacy of some statements in more recent works on anatomy. The arachnoid, Sappé said, could be inflated, but it contained no fluid, and there was no communication between it and the ventricles. Some had claimed there was such communication, but their error was due to cutting across the vein of Gallian which the arachnoid surrounded. Briefly expressed, the function of the cerebro-spinal fluid was to regulate the capacity of the skull and spinal canal. Before closure of the fontanelles it could be noticed that with inspiration there was less blood in the skull, during expiration more, and the amount varied also with the heart-beat. After the cranial bones had become hardened, there could be no variation in the capacity with the pulsations and respiration, and now the intervertebral spaces acted as numerous fontanelles, allowing expansion of the cerebro-spinal fluid within the meninges. A function of the fluid, of considerable importance, was to refill the space in the event of nervous atrophy.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, November 21, 1895.

Joseph D. Bryant, M.D., President, in the Chair.

It being the forty-eighth anniversary meeting, the President explained to the audience, composed in no small part of the lay public, the purposes of the Academy and the work which it had already accomplished. The membership numbered eight hundred, and was steadily increasing. As a manifestation of their earnest effort, and that of their friends, they had established a library of fifty-five thousand volumes, which as a medical library was only second in size to the largest one in the United States, that of the Surgeon-General's office at Washington, which was under the support of the Government.

Anniversary Discourse, "Progress in Medicine."—Dr. Edward G. Janeway delivered the anniversary discourse, about an hour in length, on progress in medicine. The subject was limited to the medicine of the last thirty years. He first spoke of medical teaching and instruction, the advance relating to longer course of study and replacing teachers largely by numerous educators who instructed the students in laboratory work, in anatomy, and at the bedside of the patient. Histology, pathology, and bacteriology, which thirty years ago had scarcely received any attention in a medical course, had come to take prominent positions. In this connection it was suggested that the instructors in the more strictly scientific branches should receive salaries through endowments, as their labor, unlike that of the clinical teacher, was not of a kind which increased their income through general practice. In the monarchies of Europe these instructors and investigators were compensated by government. It was different here, where colleges had to depend upon private endowments and fees to meet expenses.

Medical examining boards had acted in some degree as safety-valves against the turning out of so many poorly educated doctors by innumerable colleges. Another advance related to training-schools for nurses, that at Bellevue being mentioned in particular.

Many systematic treatises had been brought out on diseases which thirty years ago scarcely had a name. This was especially true in the department of diseases of the nervous system. Charcot was mentioned for his distinguished work. We were indebted not a little to vivisection for advance in the location of brain areas, etc. In diseases of the heart we had advanced beyond giving attention only to murmurs, which often were of adventitious character. Formerly we spoke of perityphlitis, and knew nothing of appendicitis, which must have destroyed many lives that were saved to-day by surgical interference. In this matter the profession abroad was behind New York surgeons several years. Recovery from tubercular peritonitis as a result of laparotomy was an advance whose real explanation yet eluded us. The discovery, by Koch, of the tubercle bacillus was in itself a marked advance, and had led to other long strides forward. It had shown the necessity for the destruction of the sputa of tubercular patients, the avoidance of food containing tubercle bacilli, etc. Dr. Janeway said that notwithstanding the disappointment with tuberculin, he understood that Dr. Trudeau, in this country, and Dr. Koch himself still had hope of obtaining from it remedial properties free from objectionable features, and had not ceased their investigations in this line. The discovery of the bacterial origin of many diseases had led to the adoption of measures more or less efficient in preventing their spread and in their cure. While Lister had done a good work, a much greater stride forward was taken when the surgeon learned the value of asepsis as secured through cleanliness of instruments, dressings, and person. Indeed one was appalled to think of the

number of lives sacrificed in previous years through want of knowledge on the part of surgeons of the value of cleanliness.

Lines of investigation which promised much therapeutically related to serum, toxin, and antitoxin therapy. Dr. Janeway was of opinion that in diphtheria antitoxin had proven itself efficient as shown by collective and individual statistics, and believed time would enable us to avoid any harmful results of the serum. Reference was made to the epidemic of small-pox in the city in 1874, and the opinion was expressed that any one on studying the statistics of small-pox in New York prior to 1875, and since that period, when a corps of vaccinators was established, would be convinced that by vaccination we were able to control this disease. Dr. Janeway himself had not had success with toxins in the treatment of sarcoma, but Dr. Coley's experience had been encouraging in that direction, and also led us to hope that a cure might yet be found for carcinoma.

It had become somewhat the custom to decry the coal-tar derivatives in the treatment of fevers, but the writer did not hesitate to recommend their use in suitable cases. The control of typhoid fever by water-baths was noted, but a better thing was prevention of epidemics by Boards of Health inspecting the water-supply.

The growth of specialism had tended largely toward the advance of medicine. While he believed in specialties he would not advise young men to take them up until they had acquired a broad knowledge of general medicine. The evil of conflicting testimony in courts by medical experts was mentioned, together with the remedy which had been suggested of having the experts appointed by law to pass impartially upon the diagnosis and such medical points as were brought before them. Whatever might be done, there was not the least doubt but what a change was desirable in our medical testimony.

Dr. Janeway thought it would be well if the Academy, through donations, were enabled to establish a laboratory in which investigations could be carried on. How extensive such a laboratory should be, would be a proper subject for discussion after it had been decided to have one. If it were contended that the library should first be placed on a solider foundation, let us hasten with that good work.

THE PRESIDENT said they had listened to a classical discourse on progress in medicine from the highest authority, and before declaring the meeting adjourned he invited the audience to stay for refreshments and to inspect the library and building.

Surgical Suggestions.

Syphilis of Larynx.—An early diagnosis of syphilis of the larynx is important, as in this stage it can be satisfactorily treated, while neglected tertiary lesions are often incurable, except, perhaps, by radical surgical measures.—ANDERSON.

Examination of Virgines Intactæ.—The bimanual examination of *virgines intactæ* should always assume the form of a recto-abdominal palpation. There is no need in these cases of a vaginal examination; the finger in the rectum will teach us all we wish to know concerning uterus, tubes, and ovaries. The only difficulty to be overcome is to identify the cervix; a little practice will enable us to master this detail.—EDEBOHLS.

Intra-cranial Hemorrhage.—Intra-cranial hemorrhage is regarded as a very natural accident in Bright's disease, atheroma, and hemorrhagic pachymeningitis.

Tuberculous Iritis.—1. Tuberculous iritis must be distinguished from other varieties of iritis. 2. This form of iritis is premonitory of the appearance of tuberculous nodules elsewhere. 3. Its invasion is insidious, slow, and with but little local reaction, but is accompanied by numerous posterior synechiæ. 4. The absence of pathognomonic symptoms makes the diagnosis difficult. 5. The tendency to spontaneous healing of miliary tuberculosis of the iris depends upon the natural resistance of the iris tissue. The encapsulation of the tubercle and the rapid obliteration of its nutrient capillaries favor its isolation and the protection of the healthy tissues.—VIGNET.

Shock is a disturbance of the functions of the nervous system, induced suddenly by a violent stimulation made directly on the nerve-centres, or indirectly through the peripheral nerves, whereby the harmony of action of the great nervous centres, more especially of the sympathetic ganglia, and through them of the various organs of the body, becomes deranged. It is essentially a depression of nerve-force, and bears in effect the same relation to the nervous system as syncope to the vascular.—CONNERY.

Black Eye.—There is nothing to compare with the tincture or strong infusion of capsicum annuum mixed with an equal bulk of mucilage or gum arabic, and with the addition of a few drops of glycerine. This should be painted all over the bruised surface with a camel's-hair pencil and allowed to dry on, a second or third coating being applied as soon as the first is dry. If done as soon as the injury is inflicted, this treatment will invariably prevent blackening of the bruised tissue. The same remedy has no equal in rheumatic stiff neck.

Dislocation of Ulnar Nerve.—Dislocation of the ulnar nerve at the elbow is a comparatively rare affection, occurring independently of fractures or dislocations of the bones of the elbow, and may result from direct violence, or from muscular effort or violent flexion of the arm at the elbow, causing laceration of the fascia which holds the nerve in its groove at the back of the inner condyle of the humerus. The symptoms resulting from this injury—pain, tingling in the parts supplied by the ulnar nerve, and a certain amount of disability of the elbow—are usually more marked immediately after the injury, but the symptoms usually become less marked in a short time, in many cases very little permanent disability seems to follow, the nerve accustoming itself to its new position. Very rarely a neuritis is developed. In view of the possibility of the development of a neuritis, it seems wise to replace the dislocated nerve and fix it in its normal position as soon as possible after the injury. The most satisfactory method of securing the nerve seems to be that practised by Mr. MacCormick, who exposed the ulnar nerve, and having made a bed for the nerve by dividing the fibrous structures behind the inner condyle of the humerus, fixed it in its usual position by two kangaroo-tendon loops passed through the inner margin of the triceps tendon and somewhat loosely around the nerve; several sutures were also used to unite the divided margin of the fascial expansion of the triceps tendon superficial and the nerve. In all cases where the nerve was exposed and sutured in its normal position the result was satisfactory, and the dislocation did not recur, and in no case is it recorded that neuritis developed in the nerve as a result of operative treatment.—WHARTON.

Ozæna.—

Pure glycerine	70 grammes
Borax	20 grammes
Distilled water	30 grammes

S.—Use as a nasal spray two or three times a day.

—*Nouveaux Remèdes.*

Clinical Department.

A CASE OF CORTICAL HEMORRHAGE WITH RUPTURE INTO A LATERAL VENTRICLE.

By H. A. ROYSTER, A.B., M.D.,
RALEIGH, N. C.

THE following case, which occurred during my term in the medical service of Mercy Hospital, Pittsburgh, is deemed worthy of record. It possessed some anomalous features of interest, made clearer afterward by the autopsy.

Mrs. Louisa L—— was picked up on the streets in convulsions and admitted to the hospital, on March 22, 1895, with no history except the statement from a man, who came with her, that she was about sixty years of age, and that she had had these "spells" before. (As will be seen, this was rather misleading than helpful for the purposes of diagnosis.) Condition on admission: Deep coma; stertorous breathing; cheeks flapping evenly, and mouth not drawn; froth on lips and a little blood at corners of mouth (found subsequently to have been due to previous efforts at separating the jaws with a spoon); face pale; no especial odor of the breath; pupils equal, at first contracted, then dilated; head and eyes strongly deviated to the right; moves left leg but not the right, and the right arm seems a trifle rigid; pulse very irregular and weak, becoming fuller afterward—"hard arteries;" second pulmonic sound accentuated, but no murmur; temperature in right axilla, 96.2° F., in left axilla, 97.4° F. Analysis of a small quantity of urine showed some phosphates, no albumin, no sugar. A diagnosis was made of cerebral hemorrhage on the left side of the brain in the motor region of cortex for arm and leg. Death occurred forty-five minutes after admission.

The autopsy, by Dr. J. W. Boyce, revealed an extensive cortical hemorrhage on the left side, involving the leg and arm centres, with rupture downward into the left lateral ventricle. The ventricle itself was filled with clots, and there were points of minute hemorrhages in its walls.

The diagnosis of this case was based upon three important observations, to which particular attention will be called. Two of these symptoms, at least, were somewhat at variance with authoritative statements on the subject.

First, there was a difference of temperature between the two axillæ, the temperature of the paralyzed side being 1.2° lower. To insure accuracy, three different thermometers were used, allowed to remain seven minutes in each axilla, and the mean temperature taken. These observations were made within an hour after the attack. No explanation could be offered for the anomaly. Usually, when any difference is noted, the paralyzed side, owing probably to vaso-motor paralysis, is distinctly warmer just after the attack, becoming after some days or weeks of the same temperature as the opposite side, or colder, as atrophy takes place.[1] This difference of temperature between the two sides in apoplexy seems to be rarely looked for, and even then not always found. References to it in medical literature are extremely rare. Most of the text-books have ignored it completely, their authors possibly regarding it as either of little value as a diagnostic sign, or unworthy of any notice at all. Edes[2] mentions a case of crossed hemiplegia reported by Johnson, where the temperature was a degree higher on the paralyzed side of the body, and, also, one (exact location of lesion not stated) reported by Allbutt with a difference of 1.6°. With these two exceptions, no cases in which this phenomenon had been noted, were found in an extensive search among the writings of many authorities.

[1] Edes: Pepper's System of Medicine, vol. v., p. 937.
[2] Loc. cit.

The second point considered in the diagnosis was the conjugate deviation of the head and eyes, an observation commonly made and certainly one of great importance. There seems to be no perfectly constant relation between the lateral inclination and the half of the brain affected, though, in most instances, the eyes are turned toward the injured side, *i.e.*, they look toward the lesion and away from the affected side of the body.[1] In the case under consideration the condition was just the opposite, the head and eyes being directed toward the right (the paralyzed) side. Ferguson[2] has reported a case in which the patient presented conjugate deviation toward the paralyzed side, and which he accounted for by the fact, found at the autopsy, that the fibres for the head and eyes in the internal capsule were not involved. The exact clinical significance of conjugate deviation has apparently not been determined. Landouzy considers it to be chiefly connected with a lesion of the lower temporal lobe; Osler associates it with cortical lesions; while Musser regards it as one of the diagnostic symptoms of hemorrhage into the ventricles.

A third observation of interest was the rigidity of the arm on the paralyzed side. The true meaning of this condition did not suggest itself during the investigation of the case, and it was not until afterward, while studying the subject, that my attention was called to it. Strümpell[3] says: "In contrast to the usual laxness of the arms and legs during the apoplectic coma is the tonic rigidity sometimes seen in the extremities, particularly on the side opposite to the hemorrhage. This symptom seems to be especially, although not exclusively, connected with a bursting of the escaping blood into a lateral ventricle."

In regard to the source of the blood when hemorrhage takes place into a ventricle, Osler states that it rarely comes from the vessels of the plexuses or from the walls of the ventricles. Almost all the cases of ventricular hemorrhage he has seen in adults were caused by a rupture of blood in the neighborhood of the caudate nucleus. According to Hughlings Jackson, ventricular hemorrhage is only occasionally found. When it does occur, the blood, he says, breaks through, in the vast majority of cases, from the corpus striatum or the optic thalamus, and there is usually a convulsion followed by profound coma, coming on after the hemiplegic seizure. In such cases a grave prognosis is always to be given.

323 WEST MORGAN STREET.

A CASE OF TRAUMATIC NEURASTHENIA.[4]

By CHARLES E. NAMMACK, M.D.,
SURGEON OF POLICE, NEW YORK CITY.

PATROLMAN G——, thirty-one years old, United States, an athlete, who, previous to his appointment to the police force, had been a gymnasium instructor, was assigned to duty October 12, 1892, at Union Square, during the passage of the Centennial parade. A fire engine weighing several tons, and drawn by three horses abreast, formed part of the pageant. The horses took fright at the dense crowd of spectators, and the driver lost control of them. They dashed toward the people, and Patrolman G——, realizing the great danger, sprang for the bridles, and succeeded, by an almost superhuman effort, in stopping the terrified animals within a few feet from the closely massed on-lookers. He was the hero of the hour with the press and the public, and was next day promoted to the grade of roundsman in recognition of his bravery. He sustained no immediate physical injury, but received a profound

[1] Strümpell: Text-book of Medicine, p. 729.
[2] Alienist and Neurologist. [3] Loc. cit.
[4] Patient presented before the New York Neurological Society, November 5, 1895.

psychical shock, the symptoms of which were at first swallowed up in his naturally great joy at the success of his brave effort. One week later, he was obliged to consult his family physician on account of a severe pain in the chest. He was treated for two months without relief, and then went to Dr. Loomis, whose diagnosis was strain and shock, and who ordered him absolute rest. In the spring of 1894, he consulted Dr. C. L. Dana, who advised him to go to Germany for hydropathic treatment. He accordingly obtained leave of absence, went to Europe, and saw Dr. Leyden, of Berlin, who sent him to Thalheim. He remained abroad from June, 1894, to October 12, 1895.

Patient states that he was perfectly well up to the date of the incident first referred to. He is not aware of any hereditary nervous taint, nor of any family tuberculosis. He has never been rheumatic, syphilitic, or alcoholic. He has enjoyed rest and freedom from anxiety since his nervous shock to a degree unknown to other similar sufferers who have a prospective claim for damages against somebody, because the commissioners of police have kindly allowed him ample time to recover, with full pay therefor. He remained on duty, despite the initial traumatic strain, for some time after the occurrence, and until the development of other symptoms. Of the latter, the first noticed was a diminished power of persistent mental and physical application. Then developed a nervous irritability, and although his promotion had relieved him of the monotony of continually patrolling the same post, he found it impossible to take up his new duties with any vim. Mental exaltation became marked, and the re-iteration of the story of his heroism worked him up to a pitch of excitement foreign to his temperament. Insomnia became most distressing. Pain, except that in the chest, was not severe. Hyperæsthesia and paræsthesia were not noticed. He did not observe any diminution of vision, hearing, smell, or taste. His principal subjective symptoms were (1) pain over the heart on exertion, with (2) dyspnœa; (3) weakness in the legs; (4) profuse sweating; and (5) insomnia.

Examination, October 23, 1895, Three Years after Accident.—Pain and temperature sense normal. Tactile sensibility slightly impaired. He cannot distinguish pencil-point from end of finger. Pain conduction is not delayed. Hyperæsthesia is wanting. Examination of the visual fields, by Dr. Leroy Pope Walker, shows decided contraction of each, with the existence of the shifting type (Verschiebungstypus) of contraction, due to the fact that the peripheral portions of the field speedily become fatigued. Color perception is fairly good. There is no motor weakness, and there are no abnormal pupillary reactions. Hearing is not diminished, but hyperacusis is shown by patient's inability to listen to band concerts, which he formerly enjoyed. Smell and taste are not affected. Pharyngeal reflex is normal. Station and gait are both good; no Romberg symptom; some tremor of hands, but none of the face, tongue, or eyelids. Dynamometer: Right hand, 75; left hand, 70, but grows weaker with each successive test, showing that the muscles are easily fatigued. Knee-jerks are slightly exaggerated. The skin does not perspire freely at this examination, nor is it unduly dry. Pulse, 96 sitting, 104 walking, and 114 after walking two thousand four hundred feet in twenty minutes, which is as fast as he is able to go. Pulse on the two sides was synchronous, and the neuralgic cardiac reaction of Dana could not be demonstrated. Respirations, 24. Temperature under the tongue, 99° F. Heart action weak; no enlargement; no valvular disease. Patient complains of cold extremities, and of flashes of heat followed by local flushings. Slight irritation of skin leads to persistent redness, but no actual dermographia. Appetite, stomach, and bowels are normal, but his weight has fallen from two hundred and twenty to one hundred and seventy-five pounds. Micturition is not vigorously performed, the stream escaping without any force, and needing a straining effort at the end to evacuate the bladder. Urine is free from albumin, sugar, casts, or excess of phosphates. Sexual desire is weak, but power is preserved, although satisfaction in the act is lacking, being replaced by an augmentation of the nervous irritability.

The diagnosis in this case lies between traumatic neurasthenia, traumatic hysteria, and simulation. The last was excluded by the absence of motive therefor, absence of striking symptoms, and absence of efforts to exaggerate existing slight symptoms. Hysteria was excluded by the absence of anæsthesia, or other stigmata of hysteria, such as paralysis, contracture or spasm, and absence of paroxysmal phenomena. Although the case has now continued over three years, improvement has been slowly progressive, and the patient has had the benefit of skilful treatment at home and abroad. He has had none of the vexations and excitement incident to medico-legal cases of this character. His own observation of his case has given him the opinion that hydrotherapy has been of more benefit than any other therapeutical procedure.

CASE OF DIPHTHERIA TREATED WITH ANTITOXIN.

By W. V. GAGE, M.D.,

McCOOK, NEB.

GLENN H——, male, aged eleven. The case was first seen October 26, 1895. The child then had a pulse of 120; temperature, 104° F. The throat was congested and red; tonsils swollen; faint bluish film on both tonsils. No diagnosis made at the time.

October 27th.—Pulse, 112; temperature, 102° F.; patches distinctly formed, yellowish-gray in color. No diagnosis was made, but in view of the possibility of it being found to be diphtheria I wired to Omaha for antitoxin serum.

October 28th.—There is a patch on each tonsil well formed, thick, dense, and adherent; pulse, 110; temperature, 102° F. At 10.15 A.M. a diagnosis of diphtheria was now made, and an injection of antitoxin was given, one-half of the contents of the vial, in anterior surface of each thigh. 11.30 A.M.: Pulse, 88; temperature, 99.6°. 12 M.: Pulse, 88; temperature, 99.3°. 2 P.M.: Pulse, 88; temperature, 100°. 4 P.M.: Pulse, 104; temperature, 100°. 7 P.M.: Pulse, 90; temperature, 96.5°.

October 29th, 8 A.M.—Pulse, 84; temperature, 97.8°. 2 P.M.: Pulse, 88; temperature, 99.7°. 8 P.M.: Pulse, 84; temperature, 99°.

October 30th, 9 A.M.—Pulse, 80; temperature, 98.5°. 2 P.M.: Pulse, 80; temperature, 97.8°. 6 P.M.: Pulse, 76; temperature, 96.8°.

October 31st, 10 A.M.—Pulse, 78; temperature, 97.8°. 5 P.M.: Pulse, 84; temperature, 98.1°.

November 1st, 10 A.M.—Pulse, 84; temperature, 98.5°.

The child recovered without complications, except a subnormal temperature on the first, third, and fourth days, when strychnine and brandy were exhibited.

Two cases of diphtheria in this town terminated fatally a few days prior to the occurrence of first symptoms in this case.

An Immortal Item.—About once a year an item, regarding a report to the British Medical Association on the relative longevity of drinkers and abstainers, goes the round of the medical press. The fallacy of the figures giving a longer life to habitual drinkers than to total abstainers has been repeatedly exposed, but the item lives on, to the consolation and encouragement of all indulgers.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE BRADSHAW LECTURE AT THE COLLEGE OF PHYSICIANS—NEW VASO-DILATORS—CLINICAL SOCIETY — SUPRA-PUBIC OPERATIONS — INTUSSUSCEPTION THROUGH MECKEL'S DIVERTICULUM—FRAGILITAS OSSIUM—DRUGS FOR CEREBRAL TUMORS—MEDICAL SOCIETY—EXHIBITION OF CASES—"A DOCTORS' WAR"—"RETURN CASES" FROM FEVER HOSPITALS—EPIDEMIOLOGICAL SOCIETY—MEDICO-CHIRURGICAL DEBATES—POSTURE DURING ANÆSTHESIA—ABERDEEN UNIVERSITY—CARLYLE'S DYSPEPSIA.

LONDON, November 15, 1895.

THE Bradshaw lecture at the Royal College of Physicians was delivered on Tuesday (12th) by the Downing Professor of Cambridge, Dr. Bradbury, who devoted it to introducing to the profession some new vaso-dilators which he has been investigating. The effects of nitro-glycerine and some other nitro-compounds are powerful and too transient, and a search has been made for other medicines to replace them, but hitherto with little success. Dr. Bradbury, therefore, determined on renewed research in this direction, and gave an account of his work. The alcohol nitrates were the most promising, but he also examined those of the sugars, starch, cellulose, etc. The bodies which seem most likely to prove of practical use are erythrol tetranitrate and manitol hexa-nitrate, and both act similarly to nitro-glycerine, but are weaker, and their effect is more prolonged. The action does not begin so soon as that of the other nitrates, but lasts longer. Obviously such a medicament may be of considerable service, and it is possible that "high tension," to which some attach so much importance, might be controlled for a certain period by a drug having such influence. But whether, as was hinted, tension could be thus kept permanently reduced without ill-effect is a point that demands full consideration before thoughtful practitioners will care to resort to such a method of treatment. At present no ill-effects have followed the administration of these nitrates, but caution is evidently needed, and it is to be hoped that they will not be resorted to by routine, especially as Dr. Bradbury will continue his researches. We may safely wait until the pharmacological and therapeutical properties of these nitrates are more perfectly determined, and the limits within which they may be properly given indicated. The erythrol nitrate Dr. Bradbury employs in a solution of 1 in 60. The manitol nitrate, one per cent. The dose of the former is one drachm in one ounce of water, of the latter 1½ to 2 drachms in water. The solutions are stable and unirritating. I would suggest that both solutions should be of the same strength, and one per cent. is at present the favorite for solutions, to which it is conveniently applied. The relative potency of drugs is more easily remembered and more important to prescribers than the strength of pharmaceutical preparations.

At the Clinical Society the first subject was supra-pubic prostatectomy, *à propos* of two cases by Mr. Moullin. In one a calculus, about the size of a penny, filled the pouch; in the other there were eighteen small calculi worn by attrition. In each case there was a good deal of upgrowth of the prostate, which was removed and the route made as level as possible. There was no constitutional disturbance in either case, and union was aided by an instrument, similar to a double truss, to keep the deep surfaces together. Mr. Buckstone Browne considered that removal of the prostate greatly increased the risk, but Mr. Moullin held that ablation of the middle lobe, if the urine remained acid, did not add much to the risk, and he was supported by Mr. Golding Bird.

A case of intussusception through Meckel's diverticulum was then related. After this came a curious case of fragilitas ossium, with a record of several spontaneous fractures, in all of which, except one, firm union had occurred. In that one (the femur), after unnecessary violence at the hands of a bone-setter, no union took place. Later, two of the united fractures became again disunited, and one of them became the seat of sarcoma. Some more or less similar cases were mentioned, but none in which disunion had taken place after years of union.

That drug treatment could cure a cerebral glioma would seem to be an untenable proposition, but Dr. Althaus related a case in which he believed this had occurred, and was a clear reply to the therapeutic nihilists who did not know how to use remedies. He admitted it was the only case he had heard of. The diagnosis of tumor seemed clear, but the question whether it was syphilitic was naturally raised. Both Dr. Althaus and the usual attendant disbelieved this, and could find no trace of such infection. Still we know how accidental infection may sometimes occur and leave hardly any trace, while we have no evidence that drugs can influence other cerebral growths. The treatment was by mercury and iodide, and the response was rapid, but several relapses occurred and eventually complete recovery. Of course it cannot be said to be impossible for drugs to influence non-syphilitic growths. Mercury and iodide would perhaps be the most likely to do so, but there is such a lack of evidence that doubts are only natural. Dr. Wilson related a remarkable case in which it was thought a cerebral tumor or deposit, probably tubercular, was present in a boy of twelve. He was treated with perchloride of mercury and iodide, but steadily got worse and was sent to the seaside, on the assumption that it must be tubercular. After four or five months he began to improve, and ultimately got quite well. In some doubtful cases of disease of the tongue or œsophagus we now and again see great improvement follow mercurial treatment, though later on there is renewed activity and malignancy is established. Still, perhaps we have been too hopeless and must, at any rate, give our patients the benefit of any doubt.

The first clinical evening for the session at the Medical Society was on Monday, when some interesting cases were on view. There was a man of twenty-five who had been treated with supra-renal extract for Addison's disease. He recovered strength enough to go to the seaside, but relapsed. The treatment is to be resumed, and will show whether the improvement was due to the extract or to one of those remissions which so often occur in this disease. Another case was mentioned in which improvement for a time occurred, but ultimately the usual course was resumed until death.

A man of forty-nine was shown who had been operated on for naso-pharyngeal growth, the upper jaw having been detached and tilted out of the way to make room and replaced after removal of the tumor. The right carotid had also been exposed so as to be prepared for severe hemorrhage, but this proved to be unnecessary. Mr. Moullin had performed a similar operation, but instead of exposing the carotid, did a preliminary tracheotomy. Mr. Walsham preferred obtaining access by dividing the soft palate and removing part of the hard palate, and Mr. Wallis advocated this less serious operation. The last-named surgeon showed a man for whom he had wired a fractured patella with an excellent result, and he also exhibited a wired patella met with in the dissecting-room which showed how capital union may follow this operation.

Mr. Swinford Edwards had present a patient who had fallen from a third-story window on to some railings. A terrible wound in the lumbar region, laceration of the kidney, and severe hemorrhage, to say noth-

ing of broken ribs, resulted. The injured kidney was removed and the man recovered.

Other exhibits were congenital imbecility with deficiency of chest-wall and heart disease, periostitis of tibia, spina bifida occulta, postero lateral sclerosis, etc.; altogether an interesting series.

LONDON, November 22, 1895.

IT seems we are in for another expedition to Ashantee, which, like the last, will be essentially "a doctors' war." A day or two ago it was hoped an arrangement would be made, but some troops and stores have already been embarked and more will quickly follow. *The Lancet* has engaged a special correspondent to go out who has experience of the climate, so we may expect reliable information in due course. But what a slur on our boasted civilization, it seems, that its resources must be directed to the massacre of the uncivilized. And "a doctors' war" is likely to incur sad losses among the white troops.

We have had much talk of late about "return cases" from our infectious hospitals, and the subject has been appropriately brought before the Epidemiological Society. These are cases that occur in a family soon after the return of a member who has been in such hospital. The medical officers of health and the superintendents of the hospitals who were present did not dispute that such cases occur. The important question would seem to be how soon a patient ceases to be infective, and differences have been noticed. Some think a properly disinfected convalescent may safely return earlier than others suppose. Scarlet fever seems to linger longer than some other diseases of the class, but the differences of desquamation deserve consideration.

A recent report of a sub-committee of the Asylums Board shows 106 "return" cases in the two years 1893 and 1894. During those two years 30,227 patients, who had had scarlet fever or diphtheria in those hospitals were discharged. This gives one "return" for every 285. The conclusion of the committee is that no appreciable number of infections have taken place from the discharged patients. But this conclusion may be dissented from on several grounds. The figures are compiled from the statistics of only half the number of officers of health, and 93 cases seem to have come from only five districts. It seems to me, too, that other important points should be investigated, and that this is a case in which an eminent statistician might extract important lessons from the figures, to be confirmed, perhaps, by examination of more extensive numbers. The Epidemiological Society was an excellent one to which to submit the question, and Dr. T. W. Thompson, who read the paper, is an inspector of the Local Government Board, which office should give him experience in such matters. He admitted that a certain proportion of "return cases" may at times be due to carelessness in discharging patients or to some other fault of administration, whether on the part of the hospital officials, or of those responsible for the disinfection of the patients' homes and effects. At the same time he thinks some more obscure factors are probably at work which are bound up with the natural history of scarlet fever. Clearly there is room for the investigation of the epidemiologists.

The Royal Medical and Chirurgical Society will have four special debates this session, induced, doubtless, by the success of the plan when tried last year. The first of these will be on possibilities as to latency of parasitic germs in animal tissues in hydrophobia, erysipelas, syphilis, leprosy, ringworm, tuberculosis, and other diseases. If that should not be a wide enough field for discussion, I hardly know what would. Mr. Jonathan Hutchinson is president this year, and will, I hear, in opening the debate, endeavor to define its aim and scope. I hope he may be able to restrict the other speakers to the limits he may lay down, or they may wander over wide, unfertile fields.

At this same society the adjourned discussion on posture during anæsthesia, which I have already mentioned, came off last week. Though not without interest, the debate seemed hardly of sufficient importance to have called for an adjournment. The paper read at the previous meeting was by Dr. Hewitt and Mr. Shield. The authors laid down a number of propositions as to the effect of posture, most of which were familiar and few of which were controverted. The paper was a long one, and dealt fully with the subject. There was really no time left for discussion; hence the adjournment. An obvious result of adjourning is that the speeches take too much the character of prepared articles, and have therefore less life and naturalness than when made on the spur of the moment. Drs. Hewitt and Shield had dealt with: 1, The posture of the head in relation to the trunk; 2, the influence of gravity on the circulation and respiration; 3, the several surgical postures; 4, the posture after the operation; as to which it was recommended, in the absence of contra-indication, to at once turn the patient on the side. Mr. Gill thought some of the dangers named by the authors were really very slight, *e.g.*, that in the supine posture, with the head extended, it was very rare for blood to find entrance into the larynx.

At the adjourned meeting Dr. Spicer advocated operating in the throat in the erect posture, to facilitate illumination. In these cases Mr. Spencer Watson thought local anæsthesia should be trusted, and Sir W. Dalby talked of its being "common knowledge" that he had long removed adenoids in the sitting posture. The "common knowledge" is scarcely bounded by his practice, though perhaps it may to some extent embrace it.

Dr. Sansom, in a somewhat tedious speech, evidently got up for the occasion, referred to his own work on the subject, and said he knew no condition of cardiac disease which by itself forbade anæsthetics, and it appeared to him that strong hearts were more likely to succumb than weak ones. He urged that both circulation and respiration should be watched; he regarded the recommendations of the Hyderabad commission as dangerous.

Mr. Woodhouse Braine was in favor of anæsthetizing the patient in bed and then removing him to the operating theatre, in opposition to the authors, who had advised anæsthetizing on the table.

Dr. Leonard Hill, speaking as a physiologist, attributed chloroform shock primarily to dilatation of the heart, *i.e.*, cardiac failure, after which respiration may continue, and this he called "post-mortem respiration." The only resource was rhythmical compression of the heart to force the blood out. This did not occur in ether narcosis. Failure of respiration was not dangerous so long as the heart acted well. He described another state due to changes in the splanchnic vaso-motor system. Great dilatation here leads to collapse by the withdrawal of the blood from the heart. In this condition pressure on the abdomen or inversion might be useful, but could only make matters worse in the former state. The tone of the vaso-motor system he found varied in animals just as it does in man.

Dr. Bowles referred to experiments he had made forty years ago, said pulling the tip of the tongue did not affect the back of it, urged the necessity of accurate dosage, and declared that so-called sthenic apoplexy is only incipient suffocation, and that its stertor and other symptoms all disappeared on turning the patient on his side. This last statement is important if true. The anæsthetists had much to say, but showed considerable differences of opinion. These specialists seem only second in acute differences to the dermatologists, who at present are the most remarkably "happy family" in the profession.

Scotland has shown that it can take on considerable enthusiasm. The quarter-centenary of Aberdeen Uni-

versity gave occasion to a celebration rather unusual so far north. For enlargement of the buildings the late Dr. Charles Mitchell, of Newcastle, had contributed munificent sums, amounting in all to some £30,000. The Government added as much, and the Town Council some £10,000. Day after day teachers, students, friends, and donors joined in various plans of celebrating the quarter-centenary and the opening of the new buildings. Of course a number of honorary degrees—D.D.'s and LL.D.'s—were conferred. More interesting to observe was the closing fancy-dress, torchlight procession in which some seven hundred students took part. This seems a triumph for Scottish learning and enthusiasm.

Carlyle was not exactly an amiable man. Most of his disagreeable ways have been put down to dyspepsia, which no doubt troubled him. No one need wonder that it did after reading a revelation lately made by Sir R. Quain, who at one time attended him and who says, "The only remedy which I could get him to take was gray powder. Gray powder was his favorite drug when he had that wretched dyspepsia to which he was subject, and which was fully accounted for by the fact that he was particularly fond of very nasty gingerbread. Many times I have seen him sitting in the chimney corner, smoking a clay pipe and eating his gingerbread." I question whether this revelation, unimportant as it is, may not set others parading the habits of distinguished patients, and I hope Sir Richard is not growing garrulous.

THE POLICY OF REDUCED FEES FOR INSURANCE EXAMINATIONS.

To the Editor of the Medical Record.

Sir: In the news column of the Medical Record, November 16, 1895, occurs an announcement that one of the leading life insurance companies of your city has proposed a new schedule of fees for examinations for insurance, and that the country doctor is protesting vigorously against the reduction. The first part of the statement is true, for we are in receipt of a letter informing us of the change. The second part is equally so, for at least one county medical society of which I have knowledge has entered its protest. Your article adds that such matters are pure business. That is the plain fact of the matter, for if the leading insurance companies, or some of them, are satisfied with three-dollar examinations, why should the doctors object? Some assessment companies and fraternal associations have always been satisfied with two-dollar examinations. If the leading companies, or any one of them, expect to get five dollars' worth of time, care, and information for $3, as a matter of pure business, will they get it? In country practice, and even in towns of considerable size, the bulk of the examinations are for policies of $3,000 or less. Policies for $5,000 are less common. Examinations for $10,000 are not numerous; and examinations for $25,000 are exceptional.

Such being the case, one of the leading companies of New York City has reduced a considerable number of its medical examiners to three-dollar men. My experience is that when a company's agent gets into a new field, he not infrequently calls on his company's appointed medical examiner to get what information he can, and he frequently obtains valuable information from this source. In a matter of pure business, when an agent of a three-dollar company calls on a three-dollar examiner, who also examines for a company which pays him $5, what will be the value of the information the agent gets?

Again, the examinations for the smaller amounts are made for policies on the lives of mechanics, artisans, clerks, etc., who have not studied the subject of insurance and will not sign an application for insurance until they consult some one of their friends. The family doctor is most frequently the one consulted. He is especially asked what company is the most desirable. A doctor who is sufficiently appreciated by one of several companies for which he examines to receive a fair fee for his services, is also governed by the business of the transaction, for with him, too, "business is business;" so that in the end the reduction of fees may not be as good a business policy as it at first appears.

N. W. Reichard, M.D.

Bangor, Pa.

New Instruments.

A DOUBLE-CURRENT RECTAL IRRIGATOR; REPORT OF CASES.

By ROBERT COLEMAN KEMP, M.D.,

New York City.

Surgeon to the Church Infirmary and Dispensary.

I should preface this article by stating that this irrigator is made either of soft or of hard rubber. I shall first describe the latter. This instrument consists of a hard-rubber tube, with conical end, shape of a rectal bougie, and about five inches long. It is closed throughout except at two points. On the upper surface of the tube, just posterior to the tip, is an opening for the entering current to pass into the bowel. On the lower surface, about half an inch posterior to this, is a somewhat larger opening for the passage of the return current. The outer end of the tube is closed by a rubber cap which screws in place. This is perforated by a longitudinal tube, the outer end of which is furnished with a tip for the attachment of the tube of a fountain syringe. The inner end of this longitudinal tube screws into the tip of the main tube (within), and is arranged to conduct the entering current into the bowel through the upper opening. The return current passes through the lower opening, through the lower part of the main tube, and down into the bedpan through a short curved tube which is screwed into the lower part of the cap. This curved tube has an attachment for a soft-rubber tube to carry off the outflow. The instrument is so made that the calibre of the return current is greater than that of the entering. The irrigator can be readily taken apart, cleaned, and disinfected. The hard-rubber instrument is made in four sizes, by the Ford Instrument Company. No. 1, external diameter of the tube, ½ inch; No. 2, ⅝ inch; No. 3, ¾ inch; No. 4, ⅞ inch.

For general use No. 2 is the most practical. The larger sizes are only applicable for some special case, as washing out fecal accumulations, etc.

I should state that the first instrument that was made was ordered by Dr. William H. Thomson, for a special case, at the Ford Instrument Co., about seven months ago, after a suggestion and model made by me for him. This was of hard rubber and size No. 2.

The soft-rubber irrigator consists of a soft-rubber tube five inches long and which firmly grips a tip of hard rubber. This tip is partially hollow and has an opening above, which lies closely against the upper opening of the soft tube. A small longitudinal hard-rubber tube passes through the centre of the soft tube

and screws into the hollow tip, and through this central tube the entering current passes into the tip and up into the bowel. There is an opening for the return current below, as in the other instrument; but the return current passes out on all sides of the central tube, so even if the sphincter contracts on the soft tube the escape will not be prevented. The outer cap is of hard rubber perforated for the longitudinal tube, and with the curved collecting-tube as in the other instrument. This cap fits firmly against the soft tube. The external diameter of the soft tube is ⅝ of an inch, or No. 2. It can be ordered in other sizes if desired. The soft tube can be replaced at a trifling expense, when worn out. The hard tube is unquestionably more durable, but in some cases somewhat more painful to use. The soft tube can also be readily taken apart and disinfected.

For use in the lower part of rectum, the semi-oblique (sitting) posture, with the openings just inside the sphincter. For higher up, the dorsal position, or hips slightly elevated. The height of the current can also be regulated by douche-bag, and by checking the return current. It will be found, at times, that at the commencement of the irrigation the mucous membrane of the bowel will stop the openings, until there is a small amount of fluid in the bowel. Slightly turning the instrument, or pushing it in slightly and then withdrawing it, will free it from this obstruction. In introducing the irrigator it should be well lubricated and inserted gently. In high irrigation I generally insert it the full length (five inches) up to the cap. I shall briefly report a few cases:

CASE I.—W. M——, male, aged twenty-eight; chronic cystitis, strictures, nocturnal irritability of bladder, one of the worst symptoms. Under cocaine, meatotomy, internal urethrotomy of strictures at 2½ and 3½ inches up to 32. Stricture at 6 inches, advised operation and bladder drainage. Patient refused. Gradual dilatation to 32. Later No. 30 as regular size. Persistent irrigation of bladder, alkalies, suppositories, etc. Nocturnal irritability continued in spite of all treatment. I suggested to patient a trial of the continuous hot current just before retiring, using about a gallon, as hot as could be borne. He reported almost immediate relief, only urinating thereafter once or twice during the night, when previously he had done so every two hours.

CASE II.—W. B.——, male, aged thirty-one; chronic colitis; enlarged spleen (malarial). History dated back for three years. The patient had had no medical treatment for splenic enlargement, and had been taking salol, bismuth-subgallate, and high injections of boric for the colitis on his own responsibility. About every two weeks there was an acute exacerbation of the colitis with considerable mucus and a little blood. The margin of the spleen extended one and a half inch to the right of the umbilicus and one and a quarter inch below. The enema with the soft tube always exhausted the patient, and did not seem satisfactorily to remove the mucus, etc.

Treatment.—Warburg tincture without aloes, alternating with quinine and ginger; boric injections with the double-current irrigator. The spleen in five weeks contracted one and a half inch horizontally and vertically, and the colitis improved radically, and there was no exhaustion following use of the instrument.

CASE III.—G. B——, male, aged thirty-one. Acute uræmia. Fecal accumulation in the sigmoid. I was called in by the family physician to see this case. Patient was in collapse; nearly complete suppression of urine; a large accumulation of fæces in the sigmoid. Calomel, compound jalap, salts, etc., had been given. Enemata with the long, soft tube had been given a number of times with no effect, as none could be retained. With hot normal salt solution the fæces were washed out without difficulty, the irrigation being continued for some time after. Stimulants were occasionally added to the irrigating fluid. The patient reacted nicely and the kidneys also acted. The case, however, died several days later, of nephritis. I cite this case as several conditions may be of interest.

CASE IV.—B——, aged sixty-four, male. Retention of urine. I made a number of vain attempts to pass several soft catheters, there being severe spasm at the neck of the bladder. I happened to have no other instruments at the dispensary. After using the hot irrigation for a few minutes, the first instrument tried slipped in without difficulty.

CASE V.—Through the courtesy of Dr. Francis Delafield, the irrigator has recently been used at Roosevelt Hospital in a case of colitis following typhoid fever. Dr. Sumner, the house physician, has kindly furnished me with notes on the case:

A. W——, female, aged nineteen. Admitted September 28, 1895. Typhoid, mild type. Usual treatment as at Roosevelt. First hemorrhage October 12th. Drugs used, nitrate of silver, bismuth et pepsin, emulsion turpentine, strychnine, whiskey, etc.

October 17th.—Involuntary evacuations, etc. Salol and castor-oil added, also tincture opii deodorized.

October 22d.—Last hemorrhage. Involuntary defecation continued from this time on. There were ten to twelve movements a day, watery, with mucus. Temperature kept 102°–103° F.

November 5th.—Bichloride irrigation, 1 to 10,000 ordered by irrigator. Salol, castor-oil, and opium stopped.

November 6th.—Bichloride irrigation 1 to 10,000. Portions of false membrane came away with the injection. No more irrigation. From this time the diarrhœa decreased; temperature gradually fell to normal.

On November 11th there were only two voluntary stools, and on November 17th the patient sat up for the first time.

CASE VI.—Dr. S——, aged thirty-eight. Patient of Dr. Charles T. Parker. Two months ago Allingham's operation on both sides for severe hæmorrhoids. Mucous membrane sloughed on both sides of rectum, there being on each side a foul ulcer two inches in diameter; bowel dark in color, highly congested; severe pain on movements; patient confined to bed. Three weeks ago irrigation with cold boric injections morning and night.

November 25th.—Examination by speculum, one ulcer entirely healed, the other half its original size, and healthy. No pain on defecation; congestion nearly disappeared. Patient attends to his profession.

CASE VII.—J. H——, male, aged thirty-two. Patient of Dr. Charles T. Parker. Prostate enlarged and acutely tender. Pressure causes desire to urinate. Irritability at neck of bladder. Frequent urinations during the day, and especially troublesome at night.

Treatment.—Cold water injections, continuous current for fifteen or twenty minutes, morning and night; no other treatment. The patient writes to the doctor that at present he sleeps nearly all night, and urinates about every five hours during the day. The irrigation has been used for three weeks.

The use of the irrigator has also been suggested in rectal ulcers, pelvic inflammation (post-uterine), etc., as an adjunct to other methods of treatment.

449 PARK AVENUE.

Anticancrin.—The promoters of a German erysipelas serum for cancer treatment have adopted the proprietary name "anticancrin" for their product. Drs. Emmerich and Scholl could have saved themselves this trouble; clinical reports, including the records of their own tests, show that their serum possesses no special value—and, anyway, we will not need their serum in this country, as we have long had it available from domestic laboratories.—*Southern Medical Record.*

AN IMPROVED SYRINGE FOR INFILTRATION ANÆSTHESIA.

By BRANSFORD LEWIS, M.D.,

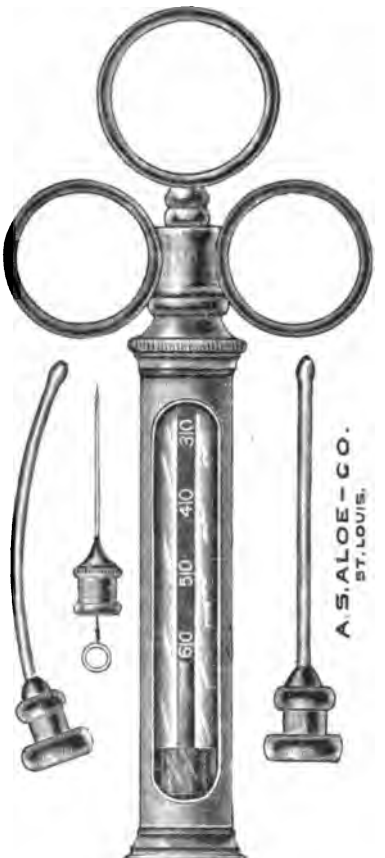
ST. LOUIS, MO.

DURING the past year I have been making large use of Schleich's method of producing local anæsthesia by infiltrating tissues with innocuous solutions of salt, morphine, cocaine, etc., the anæsthetic effect resulting from the method of applying the fluid rather than from the drug or drugs employed in it. It has been a source of great satisfaction to both me and the patients on whom it was used. The minuteness of strength of drug employed[1] removes every element of danger from that source, even though a large quantity of the solution be injected; and the completeness and promptness of the effect are advantages readily evident.

But I have met with one objection that has restricted the use of the method in a marked degree. It is the fact that, no matter how easily and satisfactorily it may be employed in the superficial structures, where there are no large vessels in danger of being punctured with the hypodermic needle, when one is injecting in the depths of a wound in the neighborhood of large arteries or veins, as in enucleating bubo-glands immediately above the femoral vessels, etc., the likelihood of running the needle into one of them and producing disastrous results is not a fancied one.

By means of the needles represented in the cut I have been enabled to do away with this difficulty. They are blunt-pointed, and made of German silver, so that, though of sufficient stiffness to be thrust into the connective tissues of a wound after the skin has been severed, they would not injure a blood-vessel if pushed against one.

The anæsthesia is begun, therefore, with the sharp steel needle, and continued with either of the two silver ones. The choice between the latter depends on whether a curved or straight needle is more conveniently used.



The Bransford Lewis Infiltration Syringe.

The advantages offered by this improvement have shown themselves to be eminently practical and serviceable, and, in my estimation, will advance the scope and usefulness of the method to a great degree. This instrument was made for me by "A. S. Aloe Co.," of St. Louis, Mo.

1006 OLIVE STREET.

The Sixth International Congress of Otology will be held in London, in 1899.

[1] For technique see Schleich's Schmerzlose Operationen, Berlin; or my paper on The Infiltration Method of Local Anæsthesia in Genito-urinary Surgery, Tri-State Medical Journal, July, 1895.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending November 30, 1895.

	Cases.	Deaths.
Tuberculosis	102	99
Typhoid fever	21	8
Scarlet fever	50	1
Cerebro-spinal meningitis	0	1
Measles	167	14
Diphtheria	172	22
Leprosy	1	0

The History of a Patient Cured by Tuberculin.—In 1890, a patient suffering from phthisis, with cough, night-sweats, hæmoptysis, and progressive emaciation, came under the care of Professor Robert Koch. After fifty-two weeks of repeated tuberculin inoculations he was discharged, apparently cured. Five years later all the old symptoms returned, and in a short time he died of hæmoptysis. At the autopsy, which is reported by Dr. Adami, in the *Montreal Medical Journal*, the lungs were examined, and found to be practically healed, so far as the original lesion was concerned; that is to say, the apices of both lungs showed well-marked fibroid changes, and contained encapsuled caseous nodules. Throughout the rest of the lungs, however, a fresh process had started up, which was the cause of the patient's death.

The Publication of Patients' Pictures.—A St. Louis surgeon has been sued for $15,000 damages for the publication of the portrait of one of his patients in connection with the report of the case. The surgeon was granted the privilege of taking a photograph of the child, but the mother claims it was for his personal use, and there was no permission asked for or given that it should be published.

A Proposed Memorial to Sir Andrew Clark.—The proposal to invite medical men to subscribe for a memorial to the late Sir Andrew Clark, is meeting with some opposition from a portion of the London profession, headed by the *Medical Press and Circular*. It is objected to the plan of a general subscription that Sir Andrew Clark was a wealthy man who owed his reputation as much to the patronage of the great as he did to his medical ability, and that it "would be absurd to ask the general practitioner, who finds a good deal of difficulty in making both ends meet, to subscribe to a memorial to a man who was making £15,000 a year, and who, although immensely rich, left nothing to the London Hospital, to which he owed so much of his success." Despite the opposition, however, a sum of $15,000 has already been raised. But the project of appealing individually to each member of the profession will probably be abandoned.

Sudden Death from Cardiac Syphilis.—At a recent meeting of the Clinical Society of London, Sir Dyce Duckworth reported the case of a strongly built man, thirty-five years of age, who was walking in the street, carrying his little boy, when he suddenly fell down and expired. The body was carried to St. Bartholomew's Hospital, and was examined two days later. A very meagre antecedent history was obtained, which threw no light on the nature of the case. There was evidence of old syphilitic disease on the tongue and on the glans penis. A small gumma was found in the left lung. The heart weighed twenty-two ounces, and had firm adhesions to the pericardium, both at the apex and at the base. The right ventricle was hypertrophied and dilated. The valves were natural. The left ventricle was hypertrophied and dilated. There

was a round depression in its wall above the apex, the diameter of a shilling, covered by long adhesions. This was due to a thinning of the wall, with much endocardial thickening. A large aneurismal pouch was found behind the posterior cusp of the mitral valve. This appeared from without as a tumor growing from the base of the heart, completely covering the left auricle. Its walls were one-half inch thick, and the pericardium was closely adherent over it. On section, the muscle was found to be replaced by tough fibrous tissue, with foci of gelatinous matter. The endocardium was greatly thickened and fibrous. Microscopic examination proved it to be gummatous in nature, with patches of caseation. The smaller arteries showed signs of endarteritis. These appearances indicated plainly a recent gummatous growth at the base of the left ventricle, and a similar, but older, one near the apex of that cavity. The fact of sudden death as a frequent occurrence in cases of this nature was alluded to, and it was pointed out that these clinical features were but little known and necessarily but seldom recognized. The morbid anatomy was well understood. The speaker had collected particulars of fourteen similar cases, some of them reported in this country, but none communicated to this Society. Death occurred almost, if not quite, suddenly in eight of these cases. The disease was rare in women, only one of the fourteen having occurred in that sex. The mean age of all the patients was thirty-two years. Many of the cases appeared to have been previously devoid of urgent symptoms. In some there had been pericardial pain. It was pointed out that graver symptoms were to be expected when fibrotic changes followed on the evolution of the gummatous growths, and when they led to aneurisms of the ventricular walls. The valves were usually not involved, and hence murmurs were not to be met with as in the case of rheumatic endocarditis. The ventricles and their septum were the common sites of these growths. Tendency to fatal and sudden syncope was probably explicable by the fact that endarteritis affected the coronary arteries in part, and possibly by the occurrence of embolisms from the softening contents of aneurisms into coronary arterial branches, the ventricular walls degenerating in consequence and becoming gradually intolerant of strain. The great object was to make an early diagnosis when possible, and to seek for syphilitic concomitants in cases where there were obvious cardiac symptoms, such as palpitation, or infrequency of pulse, hypertrophy, dilatation, etc., and no signs of involvement of the valves. The treatment was to employ iodide of potassium in full doses.

The Substitution of Vaccinia Serum for Vaccine Lymph.—Drs. Hlava and Houl have investigated the immunizing and curative properties of vaccinia serum, in order to see whether, by the use of it, vaccination could not be done away with, and inoculation be made to take its place. The experiments were made by taking serum from the vesicles of calves suffering from vaccinia, and also by taking the serum from the blood of these animals. It was found that a mixture of serum, plasma, and blood, when injected into children, prevented the subsequent development in these children of vaccinia. No experiments have been made with small-pox, but it is hoped that a method may be provided by which inoculation can be made to take the place of vaccination, and thus do away with all the accidents that occur in the application of this method.

Biborate of Sodium in Epilepsy.—Since Dr. Gowers first introduced this drug as a remedy in certain cases of epilepsy, various observers have from time to time published observations on its effects. Among these are Stewart Lockie, Risien Russell, James Taylor, and Alexander in this country, Folsom and Jones in the United States, and Mairet, Féré, and others in France. The last-mentioned observer has recently published in the *Revue de Médecine* an account of an extensive series of observations of the effects of borax in epilepsy, the result of which is to show that, while in certain cases benefit is conferred by the use of the drug, in most cases the disadvantages are such as to more than counterbalance the slight benefits. Altogether 122 cases were treated, and of these 87 derived practically no benefit; but in some cases benefit was experienced. In 6 of these cases the benefit was doubtful on account of the short duration of the trial; in 7 patients amelioration was followed by relapse; and in 11 cases improvement resulted from the use of borax, but not so marked as the improvement following the use of bromides. The third chief group consisted of 11 cases in which undoubted, and in some cases remarkable, benefit resulted from the use of borax, all the more noteworthy because of the absence of benefit from bromide in large doses in some of those same cases. Full details of the treatment and its effect in these cases are given, and the tolerance of large doses of the drug in certain cases is striking. Dr. Féré next considers the various drawbacks to the treatment under the name of "borism." Intestinal troubles he found to be most troublesome—nausea, vomiting, and anorexia; but in certain cases the administration of borax in glycerine instead of in water obviated this drawback. Dryness of the skin, and redness and inflammation of the mucous membranes were also produced. Dryness of the hair also followed, and in some cases loss of hair resulted, but only temporarily. The most frequent form of skin eruption was a kind of eczema answering to the description in most particulars of seborrhœic eczema; in other cases the eruption consisted of reddish patches which desquamated; while in still another class the eruption was papular and accompanied by prurigo of varying intensity. This also was sometimes followed by desquamation. In some cases a condition of great weakness succeeded prolonged treatment, this being the result, apparently, partly of the toxic effect of the drug and partly of the anorexia which followed its use. These different effects, it may be mentioned, have for the most part been mentioned by other observers, but another much more serious result is alluded to in this paper as following the use of borax in certain cases. This is an effect upon the kidneys, giving rise to the presence of albumin in the urine, and as a rule accompanied by œdema of the face and extremities, so that in all cases in which borax is given in anything like full doses it is essential that a careful watch should be kept upon the state of the urine. In one of the cases under Dr. Féré's observation uræmia and hyperpyrexia developed and the patient died. The kidneys were found to be inflamed. The general facts in the paper indicate that, while borax is not as a rule to be compared to the bromides in regard to its efficacy in the treatment of epilepsy, still there are cases which, while intractable by the bromides, are very remarkably benefited by borax, but that the drug whenever it is given in large doses has certain disadvantages, and even dangers, which should be carefully guarded against.—*The Lancet.*

Pasteur's Will was a very simple document. It read as follows: "This is my testament. I leave to my wife all that the law allows me. May my children never forsake the path of duty, and always cherish for their mother the tenderness she so richly merits. L. PASTEUR."

The Skeleton of Paracelsus.—The bones of Paracelsus have been several times exhumed from several different places. The last and most authentic exhumation took place in 1887, and the results of an examination of the bones have been described by Dr. Aberle, of Salzburg. According to this author, Paracelsus was a dwarf, being barely five feet in height, with a skull much below the average size, deformed and thickened by the effects of rickets.

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Original Articles.

ANALYSIS OF ONE HUNDRED AND FIFTY-SIX ADMISSIONS TO THE ST. LAWRENCE STATE HOSPITAL, WITH ESPECIAL REFERENCE TO ACUTE INSANITY.

BY J. M. MOSHER, M.D.,

FIRST ASSISTANT PHYSICIAN, ST. LAWRENCE STATE HOSPITAL, OGDENSBURG, N. Y.

THE great population of chronic cases in a large public hospital for the insane misleads the superficial observer as to its possible curative functions, and overshadows the results of treatment prevailing in the few wards organized and disciplined for the application of remedial measures to patients who present prospect of recovery. The custom of including in the same figures an overwhelming number of chronic with a few acute cases, and the adoption of tables of classification which ignore the vital distinction between these two classes, vitiate statistics and result in injustice to the institution, and misapprehension as to the merits and successes of its administration.

To overcome in some measure this difficulty, the present contribution treats the admissions to the women's department of the St. Lawrence State Hospital during the last fiscal year apart from the permanent population, and seeks to establish some basis upon which to justify the methods for the relief of patients whose history and condition, when received in the hospital, lead to the hope of cure.

In order to differentiate plainly functional from organic conditions, the following supplemental table of classification has been adopted, in which this distinction is made the prominent feature:

CLASSIFICATION OF INSANITY.

a. PSYCHOSES:
1. Mental disorders with pronounced physical debility.
   a. Acute delirium.
   b. Acute stupor.
2. Mental disorders without pronounced physical debility. (Confusional insanity.)
   a. Acute melancholia.
   b. Acute mania.
   c. Subacute melancholia.
   d. Subacute mania.

b. PSYCHIC DEGENERATIONS:
1. Mental degenerations of diathetic origin.
   a. Primary delusional insanity.
   b. Periodic and circular insanity.
   c. Recurrent insanity.
2. Mental degenerations with organic disease of the brain.
   a. General paralysis.
   b. Chronic endarteritis without senility.
   c. Senile insanity.
   d. Epileptic insanity.
   e. Terminal dementia.

During the fiscal year from October 1, 1894, to September 30, 1895, inclusive, there were 156 admissions of women. Of these, 1 patient was a victim of the opium habit and was classified as not insane, 7 patients were classified as idiots or imbeciles, and 2 patients were admitted twice during the year. Of the 146 cases remaining, 59 were classified among the psychoses, or curable forms, and 87 among the degenerations, or incurable forms.

In the second class, that of the degenerative forms, have been included the chronic delusional manias and melancholias, the periodic forms, and the insanities depending upon organic disease. The term recurrent insanity has been used to indicate cases characterized by three or more attacks of insanity in which the fact of periodicity is in doubt. Recoveries from the recurrent attacks have not been regarded in the table of results. In the class of mental disorders depending upon organic disease, it has been found necessary to give due consideration to the various forms of chronic inflammation or degeneration of the blood-vessels. Chronic endarteritis, or arterio-capillary fibrosis, may be regarded as one of the degenerations of old age, but it has also been found as a distinct disease at a period of life in which senility could not be claimed. Several patients of this class, under sixty years of age, have presented various mental manifestations, usually with indications of dementia, and also with few or many of the physical deteriorations usually accepted as the natural conditions of old age. In a few instances these patients have so far improved as to be discharged from the hospital; in other cases, chronicity has been positively established; and in others death has resulted from apoplexies, or apoplectiform, or uræmic conditions. In the early differentiation of these cases, attention has been given on the physical side to organic lesions of the heart, to prominence and tortuosity of the radial pulse, prominent blood-vessels at exposed surfaces, wrinkled and attenuated cutaneous structures, arcus senilis, and changes in the bones. Although improvement has occasionally resulted to such degree that it has been possible to discharge the patient from the hospital, its temporary nature has been considered and the cases have not been included in the table of results.

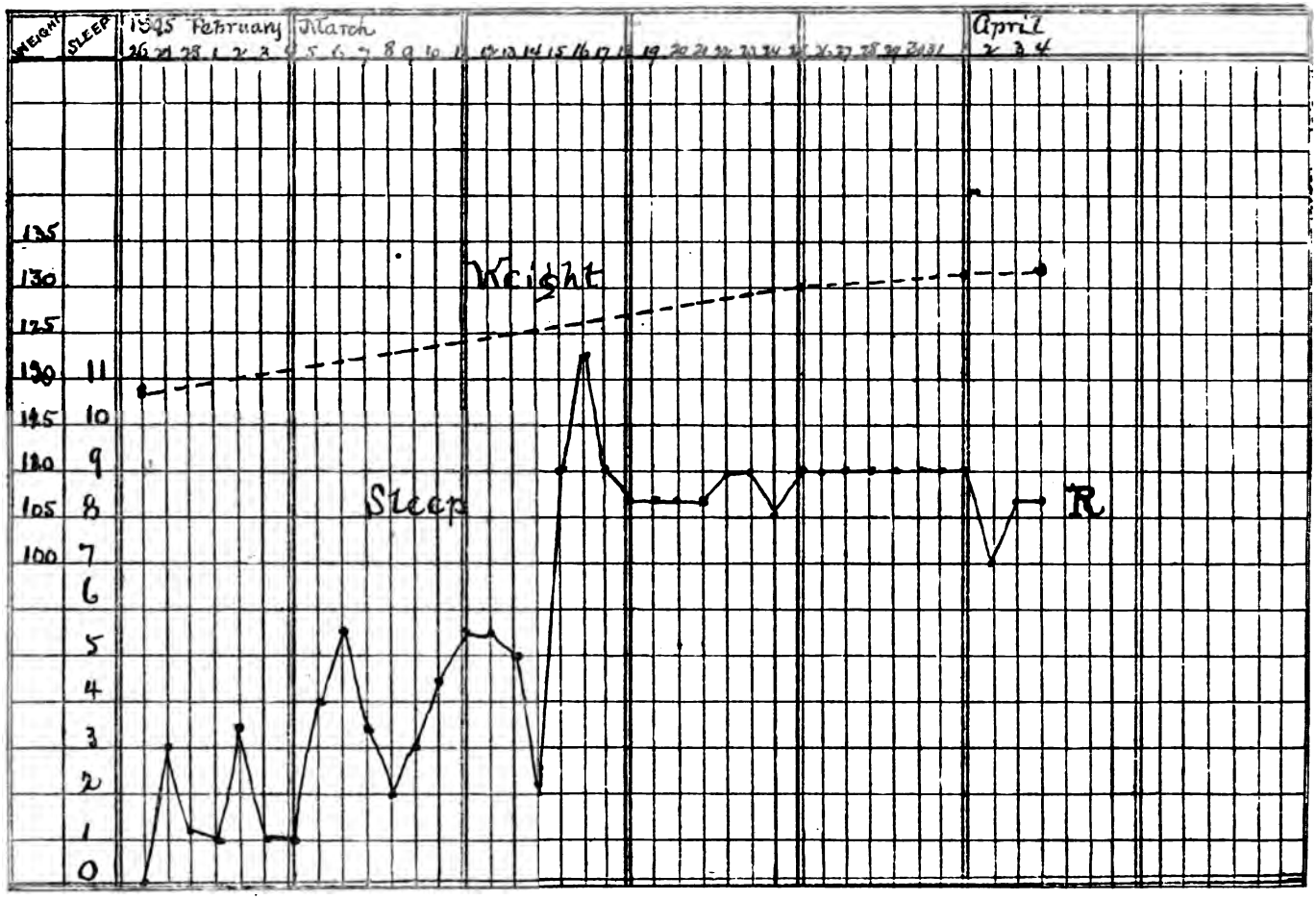
Within the limits of the present contribution consideration of the curable cases only is feasible. Of the 59 cases so classified, 37 have attained such period of development as to render the result of the disease certain; 12 patients still under treatment are regarded as in the acute or developing stage of the disease, in whom, during the presence of the element of probability, it has been thought best not to anticipate the result. Of the 37 determined cases, 25 have recovered, 6 have died, 2 have, in all probability, become chronic, and 4 have been discharged improved. The percentage of actual recoveries is thus 67½, and the percentage of deaths, upon the whole number of recoverable cases admitted, has been slightly over ten per cent.; upon the whole number of admissions three per cent.

Acute Delirium—Nine Cases.—The term acute delirium has been applied to cases hitherto generally described as acute delirious mania, sometimes acute delirious melancholia, but recently in several instances acute delirium. The great motor or mental excitement, whose emotional manifestations may be either depressing or exhilarating, is not considered to justify a distinction between the terms mania and melancholia in the presence of the great physical prostration of

which the delirium appears as a symptom. The differentiation of this form of mental disorder has been variously made upon 1, a pathological basis;[1] 2, a symptomatological basis;[2] 3, a diathesis;[3] 4, the generally fatal result.[4]

Dr. H. C. Wood (*loc. cit.*) draws attention to the various forms of disease comprehended by different writers under the term of acute delirium, and seeks to differentiate cases involving organic cerebral disease from those whose recovery demonstrates their functional character. He deplores the necessity of invoking the result to the aid of the diagnosis, but finds no symptoms for their differentiation, and shows especially the failure of a characteristic temperature curve, to which Regis (*loc. cit.*) attaches great importance. Between the recoverable cases defined as the "culmination of active nervous exhaustion with a psychical explosion,"[5] and the fatal cases resulting from acute periencephalitis, there were found no distinguishing signs.

and hard. The temperature attained only a moderate degree, and in no case was there marked pyrexia or hyperpyrexia unless from complication. Active hallucinations of the senses, with entire incoherence and great restlessness, were prominent in all cases, frequently showed periodicity, with intervals of calm of shorter or longer duration, during which there occasionally appeared an entire remission with approximation to a normal mental state. The short duration of the active stage and the speedy convalescence of the recoverable cases were features of the disease. To contrast with these cases the hospital can refer to the record of only one case of acute periencephalitis.[1] In this case the temperature was not elevated above that of the cases of acute delirium now under consideration, and the only symptomatological difference was the report of a longer duration of the disease before admission (one month), a fact of uncertain and indefinite value.



Case 1937.—Acute Delirium.

In the nine cases observed during the past year at the St. Lawrence Hospital there have been many points of similarity. The disease began suddenly in patients whose previous condition gave no intimation to the ordinary observer of departure from health. In the eight cases of which definite information was received, the longest duration preceding admission was two weeks and the shortest was two days. There was extreme and rapidly increasing physical prostration, generally attaining the typical typhoid state. The pulse was accelerated and weak, the tongue and mouth were parched and dirty, the bowels constipated, the abdomen collapsed and without resilience, and the skin dry

The principles of treatment of these cases were seclusion, rest, abundance of nutritious food, stimulants, and tonics. Contrary to the methods of treatment usually advocated, hypnotics were not used.[2]

The patients were placed in bed in a retired and moderately darkened room. Nurses were detailed for day and night service, and instructions were given at the outset for the administration of liquid diet, preferably milk, whenever the patient could be induced to accept it. Advantage was taken of the quiet intervals, and coercive measures were entirely prohibited, or in some instances reduced to a minimum. In one case

[1] H. C. Wood: An Explication of Acute Delirium, American Journal of the Medical Sciences, April, 1895.
[2] Regis: Practical Manual of Mental Medicine, p. 165.
[3] Bevan-Lewis: Text-Book of Mental Diseases, p. 172.
[4] Savage: Insanity and Allied Neuroses, p. 93; Maudsley: Pathology of Mind, p. 272; Bevan-Lewis, loc. cit., p. 172.
[5] Dr. John B. Chapin, quoted by Dr. Wood, loc. cit.

[1] St. Lawrence State Hospital, Eighth Annual Report, p. 119.
[2] Regis (loc. cit.): The Use of the Usual Sedatives and Hypnotics.
Blandford, Insanity and its Treatment, p. 251: "By chloral or the combination of it with bromide of potassium, sleep may be procured in the majority of cases, and in my experience, deaths from exhaustion have been greatly diminished."
Bucknill and Tuke, Manual of Psychological Medicine, 4th ed., p. 736: "Beware of Hypnotics."

only was forcible feeding with the nasal tube attempted, and the result was not thought to have justified this proceeding. The administration of laxatives was an initial procedure, enteroclysis was occasionally found of value, and stimulants and tonics were given at the earliest possible opportunity. Under favorable conditions prolonged warm baths were found to promote sleep. Convalescence was managed by properly regulated exercise and the occasional administration of electricity and massage.

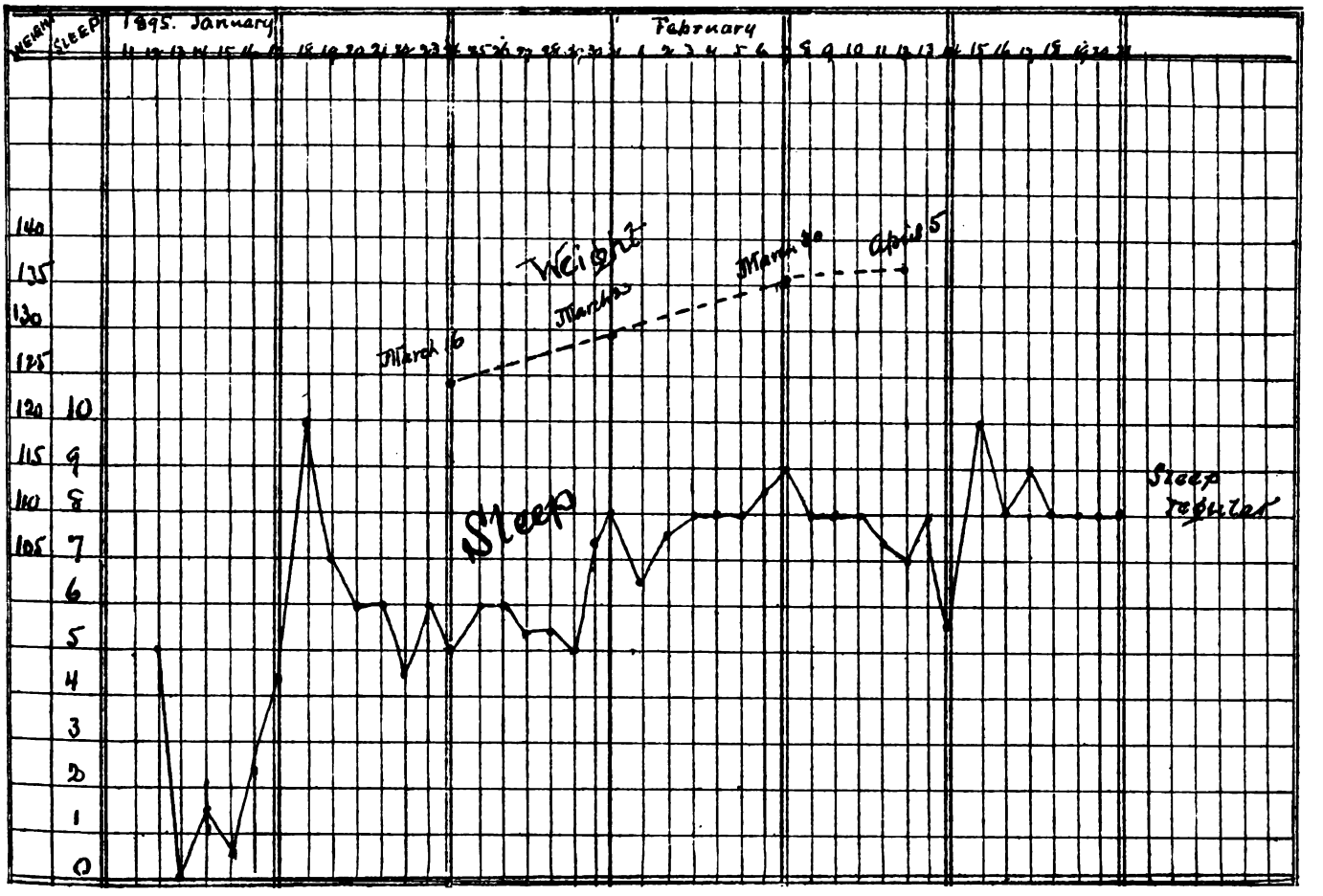
CASE 1937. *Acute Delirium with Complicating Pulmonary Emphysema.*—Woman, aged fifty-three, widow; nativity, Canada; occupation, housewife, midwife; cause, overwork.

Family history: two sisters insane; one son has asthma. Personal history: patient has been strong except for asthma. Two and one-half years before admission she had pneumonia, and her health since that time has not been good. During a period directly preceding admission to the hospital, patient attended as nurse three cases of confinement in succession, and in each case, besides caring for baby and mother, attended to the household duties, often working at the wash-tub until late at night. The present attack began suddenly while she was thus employed, a few days before admission.

The features of the case were persistent refusal of food and medicine, and complicating asthma. Patient was admitted to the hospital February 25, 1895, and accepted only a small amount of nourishment from that time until the evening of March 3d, when she began to drink milk. In the succeeding week the excitement subsided, and with an intervening period of loquacity without delusions, she passed from delirium to a rational and intelligent mental condition. Convalescence was rapid and she was discharged recovered April 4, 1895.

CASE 1900. *Acute Delirium with Accidental Scald during Plunge Bath, followed by Marked Reaction and Improvement, and resulting in Recovery.*—Woman, aged fifty-one; widowed; nativity, New York; occupation, housewife. Causes: predisposing, nervous temperament and climacteric; exciting, death of husband and financial losses.

Family history good. Personal history: Patient has been of nervous temperament and easily startled, but always strong and capable. Her husband died about ten years before her admission to the hospital, and money losses were sustained in the disposition of her estate. During the six months preceding admission she appeared in her usual health, except that on one or two occasions she seemed distracted. One week before admission active mental symptoms were noted, and five days later she became suddenly excited and delirious.



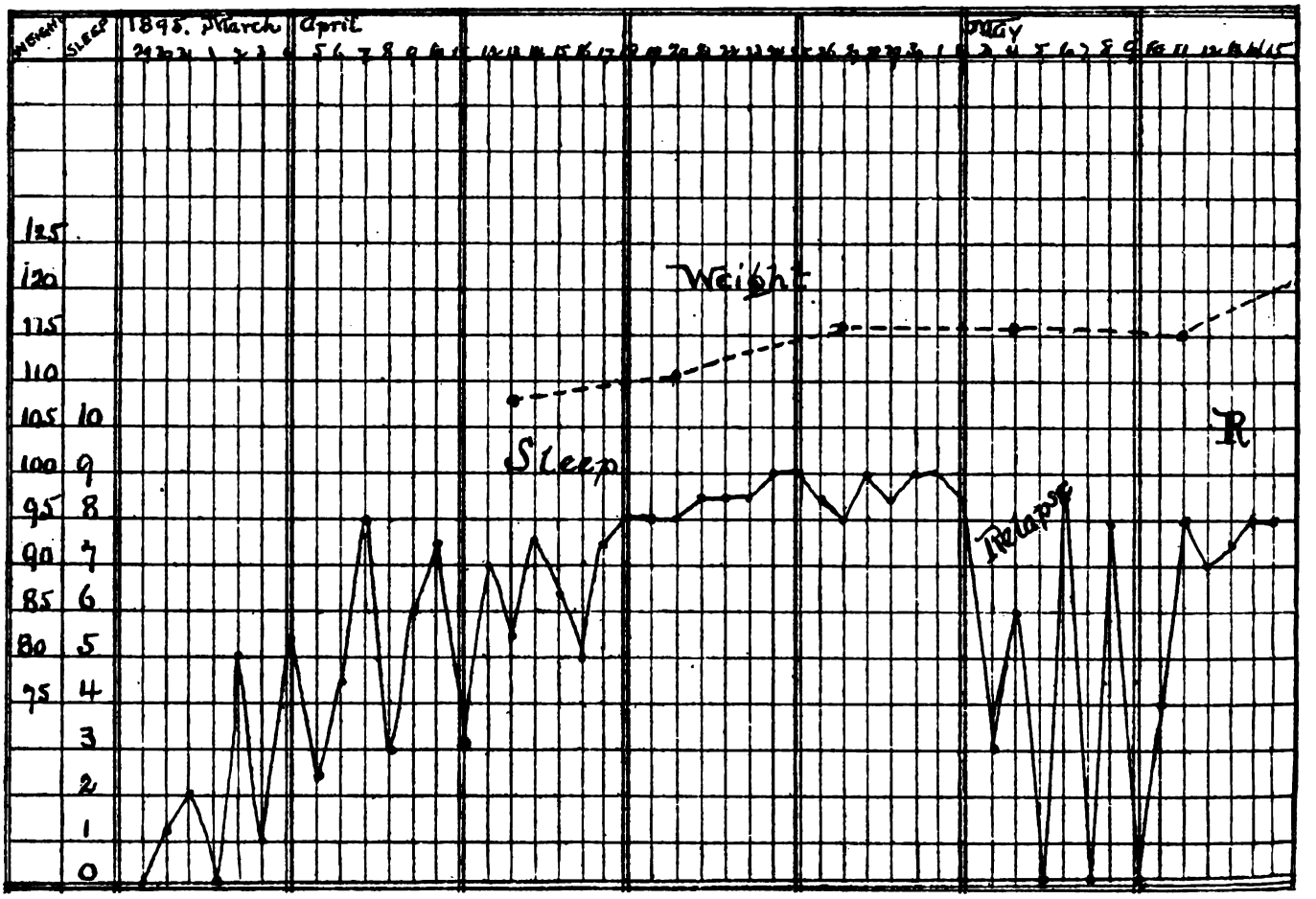
CASE 1900.—Acute Delirium.

The features of the case devolved upon an accidental scald, sustained during the administration of a bath on the evening of January 18th, seven days after admission. Febrile reaction followed and the patient was physically prostrated, but there was no active delirium after the day following the accident. The mental symptoms disappeared promptly, but convalescence was somewhat prolonged during the healing of the superficial wounds. Patient was discharged recovered April 5, 1895, three months after admission.

CASE 1960. *Acute Delirium Complicated by Excessive Drugging.*—Woman, aged nineteen, single; nativity, New York; occupation, student; cause, overstudy.

Family and personal history good. The invasion was sudden and occurred two weeks before admission. The patient had been industrious at study, and, as the first manifestation, she became loquacious and confused. In five days she had developed an actively delirious state. During the two weeks preceding admis-

sion, hypnotics had been administered in large doses, including bromide, morphine, sulphonal, and hyoscyamin; on the night before admission ether was administered. Patient had had quiet intervals, but they had become less frequent. She had accepted all food, but had rapidly emaciated. At the time of admission she was restless, active, incoherent, almost constantly in motion, and presented the usual physical manifestations of acute delirium. The pupils were so widely dilated that the red retinal reflex could be seen with the naked eye. Whiskey was freely administered, and on April 3d, five days after admission, the frenzy had changed to a state of exhilaration with rambling talk and laughter. After discontinuance of the stimulants this gradually ceased and the patient soon became intelligent and steady. Recovery was delayed by a period of relapse lasting about one week. Patient was discharged from the hospital June 7, 1895, ten weeks after admission.



Case 1960.—Acute Delirium.

Case 1856. *Acute Delirium of Puerperal Origin. Relapse during Attack of Epidemic Influenza, followed by Recovery.*—Woman, aged thirty-three, married; nativity, United States; occupation, housewife.

No history. Said to have been insane one week before admission. Patient was of large frame, of great strength, and weighed about two hundred and fifty pounds. At time of admission the breasts were distended with milk. On account of her unusual strength, difficulty was experienced in caring for her, and the observation of symptoms was incomplete. She was admitted to the hospital November 10, 1894, and the excitement continued for about two months. There then developed acute parotitis of the left side, and there was marked physical debility. During the period of excitement chloral was used. Upon the disappearance of the parotid swelling she became quieter, but passed through a prolonged period of irritability and mental confusion, with melancholy and a tendency to catalepsy. March 14th she was prostrated by epidemic influenza, and reduced to a condition of critical debility, with sleeplessness and refusal of food. Improvement began in the second week, and convalescence followed. Patient was discharged recovered June 8, 1895.

Case 2212. *Acute Delirium.*—Woman, aged thirty-nine, single; nativity, New York; occupation, domestic; alleged cause, continued excitement over religion.

Family history good. Personal history: Patient reported to have been eccentric upon the subject of religion. Present attack followed a visit with "two ladies who called themselves faith curists," and the night before the attack, which began suddenly one week before her admission, she was said to have attended one of their meetings devoted to prayer and song, "and the excitement was sufficient to bring about the present state of affairs." She then became excited and threatened violence, and presented marked physical symptoms—"tenderness of spine, irritable stomach, constipation of bowels, coated tongue, and headache."

Patient was admitted to the hospital July 23, 1895, and the excitement continued for one week. She then obtained a fair amount of sleep, and became quiet, dull, and confused. In September she was convalescent, and at the time of this writing (October 1, 1895) arrangements have been made for her discharge, ten weeks after admission.

Case 2168. *Acute Delirium.*—Woman, aged forty-two; married; nativity, New York; occupation, housewife; causes: predisposing, heredity, apprehension of insanity; exciting, overwork, and caring for sick husband.

Family history very bad: One brother and one sister now in St. Lawrence State Hospital; another brother has been insane; parricide has been committed by one member of the family; mother is a defective and in the county almshouse.

Personal history: Patient is said to have had several previous attacks, and to have been constantly apprehensive of insanity. At the time of admission, June 18, 1895, she had been insane for two weeks, and had shown marked homicidal and suicidal tendencies, with rapidly developing incoherence and confusion, sleeplessness, and loss of strength and weight. Under the usual treatment she responded slowly, and at the time of this writing (October 1, 1895) she is stronger and able to be up and about every day, but is dull, confused, and excitable, rarely speaking, and often attempting to injure herself.

Case 1886. *Acute Delirium with Chronic Nephritis and Partial Hemiplegia.*—Woman, aged thirty-five; married; nativity, Canada; occupation, housewife. Alleged causes: Frequent child-bearing, hemiplegia.

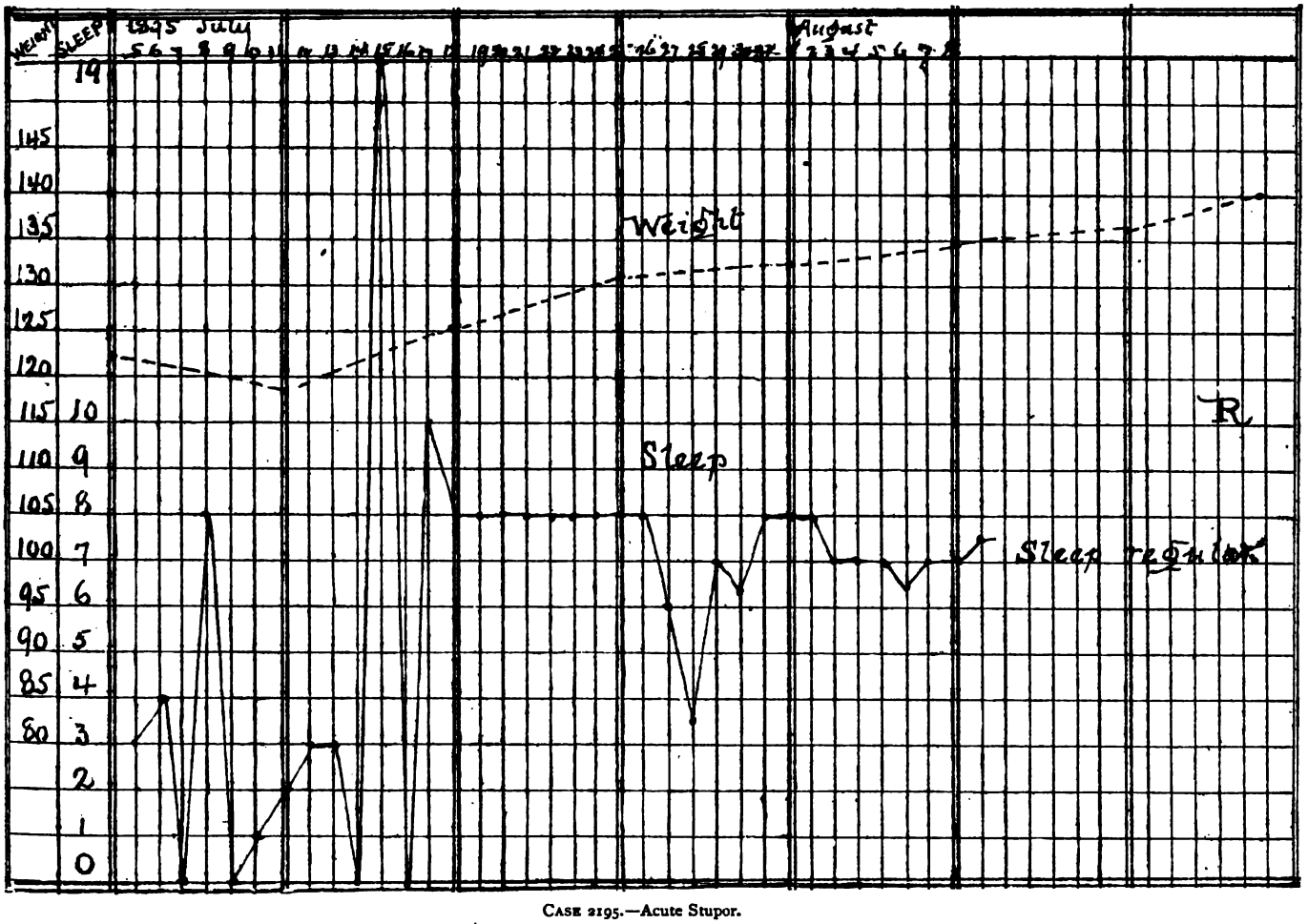
History: Patient was reported to have been in poor health for years, and to have been prostrated by an attack of hemiplegia in January, 1894. She had been submitted to worry over business matters. Two weeks before admission (December 21, 1894) excitement developed suddenly, with paroxysms, usually in the afternoon, of great severity, and separated by intervals of stupidity. Albuminuria and casts were determined. Excitement subsided in two weeks, and patient passed into a condition of uræmic stupor which continued for several months. Diuretic and laxative treatment with hydrotherapy were persistently applied, and at the time of writing patient is able to be up and about, answers simple questions, reads, but appears incapable of great mental effort, and is dull and inactive.

Case 2230. *Acute Delirium.*—Woman, aged thirty-nine; married; nativity, New York; occupation, housekeeper. Alleged causes: Domestic troubles and desertion by husband.

Family history: Mother died, aged seventy-five, with senile dementia. History of patient's illness indefinite. Her disease was said to have begun ten days before admission to the hospital, and had been characterized by great excitability and motor restlessness, religious delusions, incoherence of thought and speech, and suicidal desire. There was marked physical prostration. The delirious condition lasted one week; patient then became dull and groaned a great deal. She has since become stronger and brighter, is up and about every day, answers simple questions with intelligence, smiles when talking, but still shows the post-insane hebetude. She was admitted to the hospital August 16, 1895, and at the time of this writing has been under observation six weeks.

Case 2254. *Acute Delirium.*—Woman, aged forty-seven; single; nativity, Ireland; occupation, housekeeper. Alleged cause: Menopause.

No history accompanied this patient, except the indefinite statement that she had been maniacal, and that the insanity had developed "a few months" before admission. She was admitted to the hospital September 11, 1895, in delirious condition, and became quiet in two weeks. On September 28th she was dressed and about the ward, but she continues insomnious and depressed. She answers questions intelligently, and her general condition is favorable.



Case 2195.—Acute Stupor.

Acute Stupor—Five Cases.—Although there are too few cases of stupor to justify inviolate conclusions, their features appear to distinguish a separate class. In recent origin and in pronounced physical manifestations they approximate the conditions of acute delirium. From the latter they were distinguished by some slower development, by more profound mental "reductions,"[1] by absence of remissions, and by less favorable results. The element of combined physical and mental prostration separates them from other diseases of which stupor is an occasional accompaniment. From so-called stuporous melancholia they differ in genesis, in period of incubation, in duration, and in

[1] Bevan-Lewis: Text-book of Mental Disease.

their course. The presence of engrossing delusions to which all other mental operations are subordinate was not determined. The occasional occurrence of temporary restlessness and agitation suggest more properly affinity with a general mental perturbation of acute delirium, which, in some cases, appeared during the initial stage.

Sustaining and stimulating methods of treatment were adopted. The difference in mental manifestations between the delirious and the stuporous states are regarded, and location upon an open ward rather than seclusion was thought to be desirable, for its possible benefit in stimulation of object-consciousness.

CASE 1839. *Acute Stupor with Albuminuria.*—Woman, aged thirty-seven; married; nativity, New York; occupation, housewife.

No definite history accompanied this patient. Her mother and sister were said to have been insane, and the present attack to have existed for two months. At the time of admission she was stolid and stuporous, and in poor physical condition. The pulse was feeble, rapid, and its tension elevated. The tongue was parched and coated, and the bowels were loaded. She continued in this debilitated state for three months; she then changed suddenly, became bright and active, entered upon convalescence, gained in weight and strength, and on April 2, 1895, six months after admission, was discharged recovered. The albumin detected at first in the urine disappeared. The treatment included rest, quiet, tonic stimulants, and electricity.

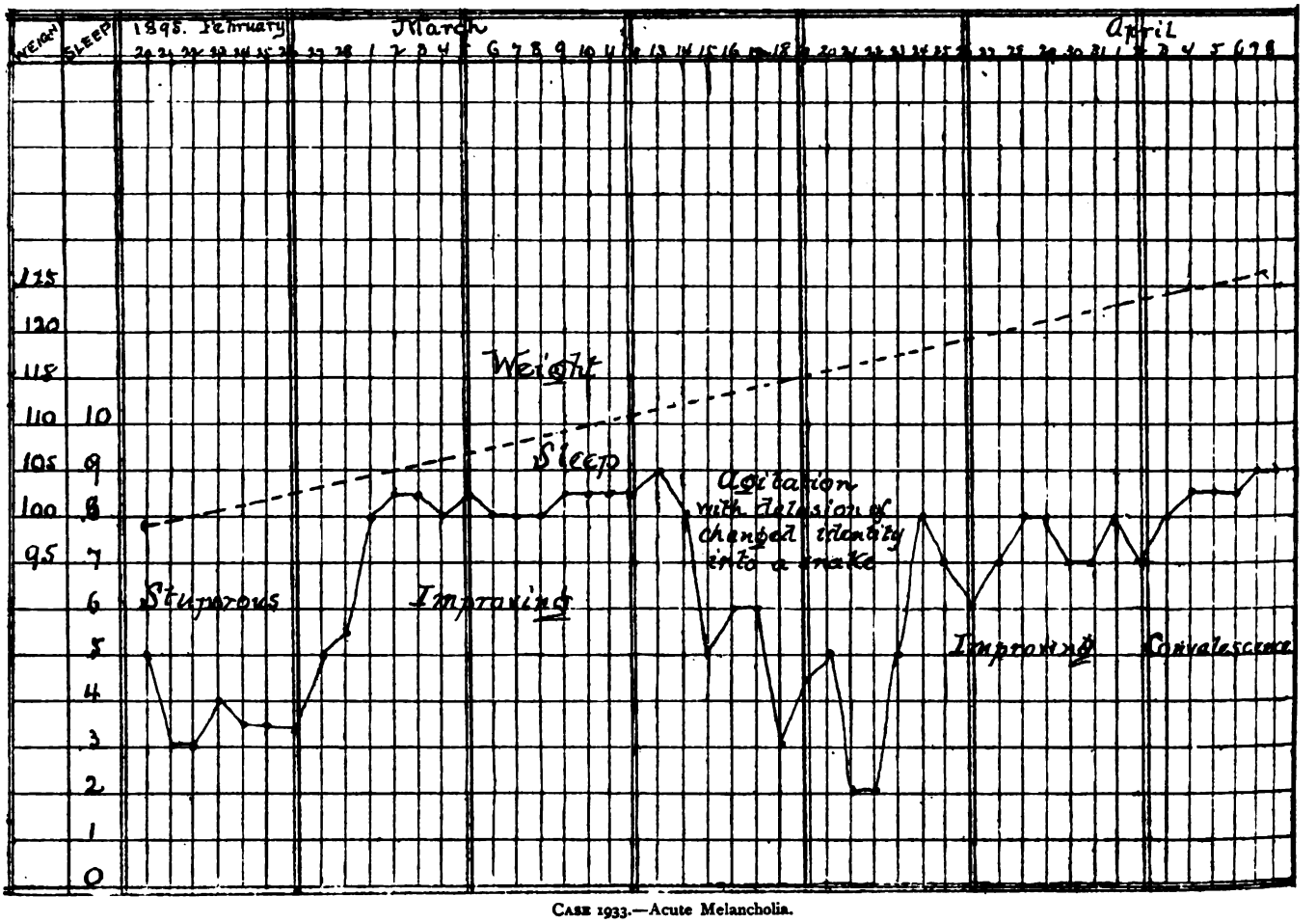
CASE 1957. *Acute Stupor with Hystero-epilepsy and (probably) Excessive Drugging.*—Woman, aged twenty-eight; married; nativity, Canada; occupation, housewife.

No history accompanied the patient, except that attack of insanity began one month before admission. At the time of admission she was stuporous; the temperature was normal; pulse 88, feeble, and with elevated tension; pupils contracted and with limited reaction; skin anæmic; tongue moist, stained, and coated; there was a thick secretion in the mouth, and the breath was offensive. She was admitted to the hospital March 22, 1895, and on the evening of April 2d had two fits of hysterical character. She then improved rapidly, and was discharged recovered April 20, 1895, one month after admission. Tonic and laxative treatment, including strychnine, iron, and arsenic, was adopted.

CASE 2195. *Acute Stupor.*—Woman, aged thirty-five; married; nativity, Canada; occupation, housewife. Causes: Care of insane husband and (probably) specific disease.

Patient was admitted to the hospital July 4, 1895, with a record of insanity of three months' duration. She had had the care of her husband, who was suffering from general paralysis and had been committed to an institution for the insane shortly before her admission. At the time of admission she was drowsy and dull, barely able to speak, and in poor physical condition. The temperature was subnormal; the pulse rapid, irregular, and of low tension; the pupils dilated and unequal; and the tongue irritable, swollen, furrowed, clean, moist, and steady. Functional derangement of the heart was determined. The abdomen was solid and its percussion-note flat. Acting upon the suggestion offered by the husband's disease, a course of antisyphilitic treatment was experimentally adopted. Gastric irritability followed and was controlled by the exhibition of belladonna. On the morning of July 8th, discoloration by blood was noticed from the angle of the mouth along the chin and on the bedding. The night nurse had not seen a convulsion.

Physical Examination.—Motion impaired. Legs: Extension and flexion, with forced resistance, accomplished, showing fair strength on first attempt,



CASE 1933.—Acute Melancholia.

with ensuing rapid exhaustion and great weakness. Gait: Shuffling and staggering; Romberg's symptom present. Sensation, apparently normal as to quality and location. Reflexes: Knee-jerk present but not invariable—not elicited after two or three responses; ankle clonus absent; plantar reflex weak. General condition of quick exhaustion with preservation of function.

Patient now began to improve and, after preliminary loss in weight, gained in strength and nutrition. She was discharged September 21st, ten weeks after admission.

CASE 2155. *Acute Stupor.*—Woman, aged thirty-six; married; nativity, Pennsylvania; occupation, housewife. Cause: Irregular menstruation and climacteric (early menopause a family trait).

Family history good. The first sickness was noticed May 16, 1895, and the first symptoms of insanity May 25th. Patient thought she had done some great wrong and must kill herself to make it right. She attempted to drown herself, to cut her throat, and to hang herself. She was in a stuporous state at the time of admission, but by an effort was able to answer a few questions. The temperature was normal, the pulse rapid and feeble, the tongue coated, the eyelids were drooping, and the eyes heavy and expressionless. The bowels were loaded. Patient failed rapidly, and on July 10th was fed with the tube. The milk and whiskey thus given were rejected. Lavage was then undertaken and an abundance of sour-smelling, slimy mucus, and two hardened and undigested milk-curds were washed from the stomach. Predigested milk with whiskey was then given through the tube and retained. This procedure was repeated at regular intervals, but patient failed steadily, and on the morning of July 13th died, five weeks after admission. Autopsy was not permitted.

CASE 1855. *Acute Stupor with Chronic Nasal Catarrh and Hypertrophy.*—Woman, aged forty-six; married; nativity, New York; occupation, housewife. Alleged cause, injury.

Family history, one paternal aunt insane. The first symptom followed a fall from a ladder. Patient's back was injured, and she lay helpless for some time. She complained of pain in the back and head, and had been subject to periods of confusion in which she lost herself and was bewildered. She then became melancholy and attempted suicide. Stupor developed and continued with alternating periods of lucidity. The mental symptoms date from four months before admission. When admitted she was stupid and debilitated. The tongue was clean and moist, the pulse feeble, circulation sluggish, temperature normal, and body emaciated. The abdomen was tense, and the bowels were loaded. Albumin, casts, blood, epithelium, and leucocytes were found in the urine. Patient was given liquid diet, stimulants, iron, and strychnine, and absolute rest in bed was enforced. She showed no tendency to improvement, failed steadily, and died one month after admission. Autopsy was not permitted.

Acute and Subacute Insanities—Forty-five cases. The distinctions of the subacute and acute from the hyperacute forms have already been indicated. Of the former, a few cases of special interest are appended, the tables and charts showing the general results of treatment in these more common forms of recent insanity. It has been found advisable to surround these patients with quiet and cheerful conditions, and to avoid classification upon the basis of turbulence or peacefulness. Sedatives were used in moderation where indicated, but most frequently sulphonal and trional were relied upon to promote sleep, together with hydrotherapeutic measures, muscular exercise, and massage.

CASE 1951. *Acute Melancholia.*—Woman, aged thirty-five; married; nativity, New York; occupation, housewife. Alleged causes: religious matters and uterine troubles.

Patient was first admitted to the hospital November 3, 1893, after an illness of three months' duration. She presented active changeable personal delusions with aural hallucinations, which gradually disappeared, and she was discharged June 5, 1894. She was readmitted March 15, 1895, with a repetition of the previous history and an impulse to drown herself and her child. She was in poor physical condition, and appeared anæmic. Repeated examinations of the blood showed an average of three and one half millions of red corpuscles, eight thousand leucocytes, and forty-five per cent. of hæmoglobin. Stained specimens by both Reider's and Ehrlich's methods showed crenation and poikilocytosis of the red disks, with occasional irregularities and disintegration of the neutrophilic white cells. Tonic treatment with arsenic and iron appeared of temporary benefit, but the general course of the disease was unfavorable, and during the last week in August the patient manifested the characteristic contractures and spasms of tetany. She failed rapidly and died September 5, 1895, after the development of hyperpyrexia. Autopsy was not permitted.

CASES 1932 AND 1993. *Acute Melancholia with Auto-intoxication.*—Woman, aged twenty-nine; married; nativity, Canada; occupation, housewife.

Patient was first admitted to the hospital February 19, 1895, with history of insanity of three and one-half months' duration. She was debilitated and stupid, and writhed and groaned as if in great pain. The abdomen was very sensitive, and she stated that there had been no evacuation from the bowels for a long time. She did not enter freely into conversation, and delusions were not ascertained. Attention was directed to the enteric condition, and scybalous masses were at once removed. Improvement began promptly, but patient showed some mental weakness and soon expressed the idea that she was a source of contamination to others, and that she should be removed from the hospital. Later her conversation continually turned to the subject of snakes; at first she said she was full of snakes, that her fingers and toes were snakes, and finally that she, herself, was a snake. These delusions were partially controlled, and against the advice of her physicians she was prematurely removed from the hospital by her husband. Upon her return home she acted upon her delusions, left the house, and crept and rolled about on the ground in verification of her idea. She was recommitted to the hospital in four days. After an initial period of debility and confusion she again improved, her delusions disappeared, and on August 29, 1895, six months after the first admission, she was discharged recovered. During treatment in the hospital she gained in weight twenty pounds.

CASE 2158. *Acute Melancholia.*—Woman, aged thirty; married; nativity, unascertained; occupation, housewife. Alleged cause, ill-health following childbirth.

Patient was said to have been insane for three months before admission to the hospital. At the time of admission she was depressed and debilitated, but intelligent. Her condition was then complicated by a functional intention tremor, which disappeared in a few days.[1] The treatment adopted included tonics, stimulants, massage, electricity, and quiet. Patient improved steadily, and was discharged recovered after ten weeks, having gained in weight ten pounds. Her improvement in physical health continued after her discharge from the hospital.

CASE 1955. *Acute Mania.*—Woman, aged forty-eight; widowed; nativity, Ireland; occupation, housekeeper. Exciting cause: syphilis.

At the time of admission she was in fair physical condition and in a state of active mania. Under specific treatment she improved rapidly, gained in weight twenty pounds, and was discharged recovered in five months.

[1] Dr. James Hendrie Lloyd: Hysterical Tremor and Hysterical Anorexia, American Journal of the Medical Sciences, July, 1893.

CASE 1976. *Acute Mania.*—Woman, aged thirty-four; married; nativity, Vermont; occupation, prostitute.

Patient was admitted in a state of active mania with slight physical deterioration. She was said to have been insane for one week, and showed marked delusions of exaltation. She was placed upon a course of specific treatment and improved rapidly, gaining in weight, in five months, twenty pounds.

CASE 1863. *Acute Mania.*—Woman, aged forty-one; married; nativity, Ireland; occupation, housewife. Alleged cause: family troubles, death of son.

No history accompanied the patient. She was actively excited at the time of admission, and afterward was subject to sudden outbreaks of mental and motor disturbance, with resistance to care and the appearance of controlling delusions, which were not expressed. She did not improve. She was admitted to the hospital November 14, 1895. In May, after a prolonged period of excitement, she became depressed and remained in bed. During the last week in May she suffered from severe and intractable diarrhœa. On the morning of May 30th, her right leg became suddenly cold, pale, and paralyzed, with some cyanotic discoloration. No heart murmur was detected. The pulse was weak, and the temperature varied from 99° to 101° F. during the day. Urinalysis revealed urates and albumin.

On the following morning, at half-past seven o'clock, she collapsed, the heart-beat could not be determined, the pupils were widely dilated, the skin became sallow and livid, there were a few gasps, and without convulsion or coma she died in an hour.

The autopsy showed general sclerosis of the brain, thrombosis of the great longitudinal sinus, gangrenous enteritis, and thrombosis of the right popliteal artery. Search for a plug in the abdominal vessels was unavailing, although the existence of such was strongly indicated.

The following tables have been made upon the basis of completed cases, with the purpose of avoiding the element of probability. The results are not in variance with those previously published,[1] but verify them by greater detail. Of necessity they included cases admitted to the hospital during the last months of the fiscal year, as well as during the earlier period. They reveal the impossibility of securing definite data in the space of a year, relating to diseases whose natural course covers a greater time. This uncertainty is especially shown in Cases 1841 and 1857, admitted at the beginning of the year and not yet determined.

These patients have both passed through attacks of acute mania of prolonged duration, and have attained the state of post-maniacal hebetude, in which the forecast for chronicity or cure is involved in obscurity. Further study of these cases during the succeeding year will remove many elements of doubt and render insignificant the number of uncompleted cases.

Gynecological complications have not been discussed, because there have been no cases whose gynecological aspects appeared directly related to the course of the disease. The minor ailments of women have had proper attention and treatment, and their correction has been a factor in the restoration of health.

It has been sought by this paper to remove the uncertainties of statistics by the consideration of individual cases, and to emphasize the curative and hospital functions of an institution for the insane. In some measure is revealed the great demand made by the recoverable class of patients; the need of close physical diagnosis, of the arrangement of wards for isolation and separation of disquieting elements, refinement of diet, and skilful attention of qualified trained nurses. The success has been encouraging, and the results justify the still greater development of the medical work of the institution. The hope may be indulged that the attention of the practising physician will be attracted, and that public hospitals for the insane shall receive, as is their due, the emphatic and steady support of the general profession.

TABLE 1.—ACUTE DELIRIUM.

Case No.	Recovered.	Improved	Death.	In Hospital, Prospect.	Before Admission.	Under Treatment.	Gain in Weight.	Remarks.
							Pounds.	
1937	Yes.				4 days.	5½ weeks.	13	Complication, pulmonary emphysema.
1900	Yes.				2 days.	3 months.	13	Recovery following scald.
1960	Yes.				2 weeks.	10 weeks.	13	Excessive drugging before admission; ether.
1856	Yes.				1 week.	7 months.	?	Relapse following epidemic influenza.
2212	Yes.				1 week.	3 months.	5	Rapid Improvement.
2168				Poor.	2 weeks.	4 months.		Very bad heredity.
1886				Not good.	2 weeks.	9 months.		Chronic nephritis; hemiplegia.
2230				Good.	10 days.	3 weeks.		Admission September 11th; convalescence begun.
2254				Good.	Indefinite.	6 weeks.		Admission August 16th; convalescence begun.

Cases, 9; completed cases, 7; recoveries, 5; deaths, 0. Percentage of recoveries to completed cases, 71½. Average gain in weight, 11 pounds. Average duration before admission (8 cases), 9 days. Average period under treatment of 5 recovered cases, 14 weeks.

TABLE 2.—ACUTE STUPOR.

Case No.	Recovered.	Improved	Death.	In Hospital, Prospect.	Before Admission.	Under Treatment.	Gain in Weight.	Remarks.
							Pounds.	
1839	Yes.				2 months.	5½ months.	18	
1957	Yes.				1 month.	1 month.		Bromism; hystero-epilepsy.
2195	Yes.				3 months.	3 months.	16	Specific.
1855			Yes.		3 months.	26 days.		No autopsy; exhaustion.
2155			Yes.		1 month.	1 month.		No autopsy; exhaustion.

Cases, 5; recoveries, 3; deaths, 2 Percentage of recoveries, 60. Percentage of deaths, 40. Average duration before admission, 2 months. Average period under treatment of 3 recovered cases, 3 months.

[1] St. Lawrence State Hospital, Sixth and Eighth Annual Reports.

TABLE 3.—ACUTE MELANCHOLIA.

Case No.	Recovered.	Improved.	Death.	In Hospital, Prospect.	Before Admission.	Under Treatment.	Gain in Weight.	Remarks.
							Pounds.	
1891	Yes.				2 months.	2 months.	?	Exophthalmic goitre; stupor.
1932 and 1933.	Yes.				3½ months.	8 months.	17	Auto-intoxication; limited delusion.
1973	Yes.				6 months.	5½ months	10	Second attack.
2000	Yes.				3 weeks.	2 months.	26	Puerperal.
2026	Yes.				10 days.	3 months.	6	Second attack; laceration of wrist.
2027	Yes.				2 days.	3 months.	29	Valvular disease of heart.
2158	Yes.				3 months.	10 weeks.	10	Hysterical intention tremor.
2176	Yes.				1 year.	6 months.	17	
2216		Yes.			4 months.	7 weeks.		Nostalgia.
2221		Yes.			6 months.	7 weeks.	3	Anæmia; irregular heart; phthisis.
1838			Yes.		4½ months.	10 weeks.		Carcinoma; cerebral softening.
1848			Yes.		8 months.	2 months.		Exhausted on admission; bromism.
1951			Yes.		18 months.	6 months.		Anæmia; tetany; exhaustion.
1834				Poor.*	6 months.	1 year.		Dementia and fixed delusions.
1931				Good.	6 months.	8 months.		Thyroid treatment.
2022				?	1 year.	5 months		Resistive and stuporous.
2174				?	7 months.	4 months.		Thyroid treatment.
2226				Good.†	1 year.	6 weeks.		Goitre; phthisis; gaining rapidly.
2228				?	8 days.	6 weeks.		Suicidal frenzy.
2240				Good.†	4 months.	6 weeks.		Improving.
2256				?	Sev. mos.	6 weeks.		Bromism.
2260				?	2 months.	6 weeks.		Delusions of persecution.
2265				?	6½ months.	3 weeks.		Improving.

Cases, 23; completed cases, 16; recoveries, 10; deaths, 3. Percentage of recoveries to completed cases, 62½. Average gain in weight of 7 recovered cases, 16½ pounds. Average duration before admission, 5½ months. Average period under treatment of 8 recovered cases, 4 months.

TABLE 4.—ACUTE MANIA.

Case No.	Recovered.	Improved.	Death.	In Hospital, Prospect.	Before Admission.	Under Treatment.	Gain in Weight.	Remarks.
							Pounds.	
1903	Yes.				10 weeks.	5 months	14	Latent phthisis.
1928	Yes.				6 months.	4 months.	30	Hysteria.
1955	Yes.				3 weeks.	5 months.	20	Specific.
1976	Yes.				1 week.	6 months.	20	Specific.
1980	Yes.				1 week.	6 months.	35	
1863			Yes.		8 months.	6 months		Marantic thrombosis.
1841				Fair.	2 weeks.	1 year.		Recovery from similar previous attack.
1867				Fair.	10 days.	1 year.		Recovery from similar previous attack.
1944				Fair.	1 month.	7 months.		
2005				Poor.	2 weeks.	5 months.		Paroxysms of excitement; delusions.
2173				Good.	3 days.	4 months.		Improving.
2214				Good.	6 weeks.	3 months.		Lactation; second attack.
2223				Good.	1 week.	7 weeks.		Practically recovered; rheumatism.
2233				?	a few days.	6 weeks.		Specific.
2263				Hopeful.	5 weeks.	2 weeks.		Puerperal eclampsia.
2159				Good.	1 month.	4 months.		Goitre; improving.

Cases, 16; completed cases, 6; recovered, 5; died, 1. Percentage of recoveries to completed cases, 83. Average gain in weight in 5 recovered cases, 24 pounds. Average duration before admission, 6 weeks. Average period under treatment of 5 recovered cases, 5 months.

TABLE 5.—SUBACUTE INSANITY.

Case No.	Recovered.	Improved.	Death.	In Hospital, Prospect.	Before Admission.	Under Treatment.	Gain in Weight.	Remarks.
							Pounds.	
2006				Poor	1 month.	5 months.	..	Growing demented.
2192		Yes			6 weeks.	4 weeks.	..	Incurable physical disease. Removed prematurely.
1824	Yes				8 months.	4 months.	5	Organic heart disease.
2210	Yes				4 months.	10 weeks.	8	Second attack. Chronic rheumatism.
1954					14 months.	3 weeks.	..	Active neurasthenia. Removed prematurely.
2224		Yes			5 months.	3 weeks.	8	Removed Prematurely.

Cases, 6. Recovered, 2. Improved, 2. Deaths, 0. Average duration before admission, 8½ months.

TABLE 6.—SUMMARY.

	Delirium.	Stupor.	Melancholia.	Mania.	Subacute Forms.	Totals.
Cases	9	5	23	16	6	59
Completed cases	7	5	16	6	3	37
Recoveries	5	3	10	5	2	25
Per cent. recoveries on completed cases	71½	60	62½	83½	66⅔	67½
Deaths	0	2	3	1	0	6
Per cent. deaths	..	40	14	6	..	10
Average gain in weight of recovered cases	11 pounds.	17 pounds.	16½ pounds.	24 pounds.	6½ pounds.	15 pounds.
Duration before admission	9 days	2 months.	5½ months	6 weeks.	8½ months.	3⅓ months.
Period under treatment of recovered cases	14 weeks.	3 months.	4 months.	5 months.	14 weeks.	4 months.

* Chronicity established. † Two cases to be soon discharged.

THE PALLIATIVE TREATMENT OF GONORRHŒIC TUBAL DISEASE.[1]

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I THINK it may be accepted as indisputable that radical cure of inflamed tissues, in which the process has gone so far as to produce pus, can be surely effected by their removal only. This is especially true where suppuration takes place in pre-formed sacs. The practice among surgeons is to remove all tubes and ovaries of gonorrhœal infection, and some of us, myself among the number, always remove the uterus also where both adnexa are destroyed, as the hysterectomy not only gives a more permanent cure and smoother convalescence, but the mortality is lower.

So much, then, for the best plan of treatment of cases of gonorrhœal endometritis with bilateral suppurative tubal complications. But nowhere in the whole sphere of surgical procedures do extraneous conditions so modify the indicated treatment as in destructive diseases of the adnexa uteri. The endometrium being a lymphoid organ, is, in function, intimately associated with other organs of similar kind, and marked tissue changes throughout the body follow hysterectomy. In young girls a distressing neurasthenia, marked by melancholia, is often seen; the external genitals and vagina shrink, and copulation becomes painful; the woman no longer menstruates, and the increased monthly intra-vascular tension normal to menstruation finds no relief, but produces headaches and hysteria. Such are the very common results of removal of the uterus and adnexa.

So then, single women wish to be as other women, menstruating; and wives as other wives. And we are often forced into doing incomplete palliative work in order to preserve to the woman certain physiological states and to avoid premature menopause.

So far as the palliative surgical treatment of the pelvic complications of gonorrhœal infection is involved, three conditions may be described: Acute salpingitis with acute pelvic peritonitis, old chronic tubal disease with recurrent attacks of acute inflammation, and cases in which hydrosalpinx, or pyosalpinx, has resulted.

Acute Salpingitis.—Seventeen cases with first attacks have been seen. In all there was enlargement of one or both tubes, great tenderness, acute pain, temperature, often tympanites and vomiting. In all curettage of the acutely inflamed uterus was made, acting upon the belief that here started the infection, and here should it be first attacked; just as the adenitis associated with a chancroid disappears when the specific virus is destroyed early. These acutely inflamed tubes are deeply injected, appear almost necrotic, but upon section the inflammatory process seems to be almost wholly in the walls of the tube, the lumen but slightly, or not at all, distended by purulent accumulation. I believe in the resistant power of these highly vitalized organs, and have no hesitancy in stating that if the proper sort of curettage be done early a radical cure of the tubal inflammation often results. Of the 17 cases so treated but 3 required removal of the affected tubes. And it is significant that all of these 3 were seen after the infection had lasted over a week. The remaining 14, so far as I could discover, entirely recovered. All pain and tenderness disappeared, and upon examination no sensitive spot, no tubal enlargement remained. They all menstruated painlessly and normally after the operation. So, then, I invariably curette these acute cases, but in a manner a little different from that commonly employed. For the technique of the operation I must refer you to the "Transactions of the New York Obstetrical Society," November 5, 1895.

[1] Read before the Genito-Urinary Section, Academy of Medicine, November 12, 1895.

There are certain of these acute cases which have been of longer duration, but which yet present acute symptoms. The lesions are still those of an interstitial infection, with much enlarged tubes, recent lymph about the adnexa, as well as slight accumulation of muco-purulent fluid in the tubes. The fimbriated ends are occluded, but the uterine openings still open. Such cases occupy the mid-state between the most acute and those presenting true pyosalpinx. In such cases we get the greatest relief from the curettage, supplemented by opening the posterior cul-de-sac. After curetting the cul-de-sac is opened in the median line by a crescentic incision. The adhesions are broken up, and the coils of intestine, tubes, ovaries, omentum, and uterus are separated. The pelvis is then filled by iodoform gauze, in very much the same way as a Mikulicz dressing is made from above. The procedure seeks the isolation of the infected area, as well as removal of the original and continuous source of infection from the endometrium. The results are very beautiful indeed. I have applied this procedure in but seven cases, and not one, so far as I know, has relapsed. There remains for some time more or less thickening about the affected tubes, and so long as this can be detected the use of vaginal tampons of ichthyol, ten per cent., in boroglyceride, ninety per cent., is indicated.

Recurrent Chronic Salpingitis.—These cases are exceedingly common. Apparently the gonococcus has little pyogenic power in certain women, and produces catarrhal inflammations only. If we examine tubes thus affected we find them during an attack much congested, and with the matted fimbriæ and adhesions which indicate old infections. There is not often recent lymph, and they do not commonly contain pus. The walls of the tubes are thickened, but dense and hard. There is a process of fibrosis going on. For these women we can do the least. Although they have a tissue resistance which does not conduce to pus-formation, or a limited pyogenic invasion has taken place, the very character of the changes insures a maintenance of the infection. Their uteri also are dense and firm, and the curettage which we here do, although thoroughly cleansing the inside of the uterus, has little or no effect upon the tubal disease. Still it is indicated as a means to remove one focus of infection. I have latterly, within the year, opened the cul-de-sac of these women, broken up adhesions, replaced a possibly adherent retroposed uterus, and drained by gauze the lowest part of the cul-de-sac. A temporary benefit is always obtained, and much relief of local symptoms. But, as I said, the repair power of these fibroid tissues is much damaged, and I shall always expect women thus affected to have permanent symptoms of tenderness and pain. I have never seen a pus-tube form in such tissue. We see these uteri and tubes in old prostitutes, and very often there are multiple broad ligament cysts associated with the other changes. The menstruation is scanty, the uterus being commonly atrophic.

Hydrosalpinx and Pyosalpinx.—These are certainly cysts of retention only—the one simple, the other purulent. Although believing firmly that radical cure of suppuration in a pre-formed sac can be with certainty accomplished by extirpation of the sac only, yet I must confess I am wonderfully pleased with the treatment I shall describe.

Here, also, the uterus is curetted and packed. The cul-de-sac is opened, and as little disturbance of existing adhesions made as is possible. The wall of matted viscera above these tubes should be left alone. A wide opening is made in the cul-de-sac, with perhaps a crucial cut down the vagina—an abundance of room must be secured. Seeing the distended tubes we puncture them with scissors. As the pus escapes we introduce the fingers and widely tear open the tubes. The pelvis is not washed out, but the tubes are wiped dry with iodoform gauze, and the entire field of operation cleaned in a similar way. We now pack the tubal

cavities full of gauze. It is a pelvic Mikulicz we make, and every exposed tissue has gauze against it. Two to four yards of gauze are often used, securing not only absorption of fluids, but pressure as well. Rapidly and progressively these tubes atrophy. No longer are acute auto-infections possible—you have prevented that by your curettage. And even though a faulty and incomplete technique shall have left an unopened pocket somewhere, yet is there abundant provision for drainage in case it breaks.

Now, gentlemen, these women are gonorrhœic, and when symptomatically cured are prone to seek the causes of their trouble. This we must, if possible, prevent; and if coition can be stopped, no return of trouble is seen.

In all these cases in which the tubes are affected, and in which the cul-de-sac is opened, the function of the tubes, so far as gestation is involved, is gone, and fortunately so; for were it possible for the ovum to enter the tubes extra-uterine pregnancy might result.

What I am striving to do is to give the surgeon, as well as the general physician, who cannot obtain the aid of a specialist, certain procedures which will in most cases effect a cure; to furnish them with methods of treatment better than the poultice and opium of the timidly incompetent, and yet not so severe and mutilating as the salpingo oöphorectomy or ablation. There is a middle ground upon which we can stand, and the best of us must sometimes occupy it.

Although the ablation of uterus and adnexa gives but three per cent. mortality, there are some things dearer to some women than life. And it is to furnish that measure of relief with that hope of recovery to just such women that I have worked along this line of conservative treatment of the pelvic complications of gonorrhœa. And I make it a rule in all such cases to lay before my patient a general statement of the limitations of such procedure. Rarely will one be found who does not grasp at the possibility of relief without danger and without mutilation. Were it possible to prevent reinfection in these women, could one seal them against coition, I firmly believe that the vast proportion of them (and I estimate the percentage at eighty) would never have a recurrence of acute trouble. But one great advantage these palliative measures give the surgeon when applied in acute cases, and in cases presenting pyosalpinx: they enable him to temporize and to do a radical operation when he, not the disease, elects.

Certainly our results will be still better when we can tide over that stage in disease during which the emunctories are taxed to the utmost to eliminate toxins, when the heart is embarrassed, and extensive visceral lesions exist.

Assuredly I offer you procedures which are better than the old let-alone policy; for the latter sought physical ease by means of narcotics and allowed a destructive infection to run riot in the woman's most important organs. The pelvic complications of gonorrhœa in women are surgical diseases, and should be met by surgical, not medicinal, measures. We can now do this with safety and success.

Quackery in Connecticut.—The New Haven County Medical Association has passed a set of resolutions declaring that other States are rejecting by their examining boards incompetents who are admitted to practice in Connecticut without examination; that, in consequence, the State is becoming a dumping-ground for undesirable practitioners. The Association suggests that the State Committee on Legislation be instructed to advocate an amendment of the law, so that all candidates for registration as doctors under the medical practice act be required to pass an examination, as is now the case in most of the States in the Union.

THE REMISSIONS OF GENERAL PARALYSIS.

By WHITMORE STEELE, M.D.,

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WHETHER we look upon general paralysis as a disease which is inflammatory in origin, or with Schüle consider it primarily a vaso-motor disturbance, or with still other observers, look toward the nerve elements as the initiatory seat of the disease, the phenomenon of a remission, or sometimes several of them, seen during its course, presents an interesting, and at times puzzling, clinical picture. When we consider that we find post-mortem, in this disease, a destruction of neurons, extensive and irreparable, together with a wide-spread and permanent alteration in blood-vessels and stroma, this phenomenon of apparent recovery, although often only partial, becomes one worthy of study in regard to its causes, their nature, and significance. A point worthy of note is that remissions rarely occur in any but recent cases of general paralysis, which fact leads us to infer that the primary changes that occur in this disease are more in the nature of so-called functional disorder, affecting nutrition and the like. Opportunity for post-mortem examination in the first stages of general paralysis is not very frequent. Berkeley[1] has recently reported the lesions found in a patient who died only nine months after the beginning of his disease. The changes found in this case were undoubtedly more extensive than those which would be found in a general paralytic whose disease was running its regular, somewhat chronic course, but who had died of some intercurrent complaint. The case reported was probably one of the variety spoken of by Mickle as galloping paresis, rapid in onset and destructive from the beginning. Berkeley found, on examination, marked vascular changes, degeneration of the vessel-walls, and a general disturbance of the lymph-current. He assumed from this condition that there had been a degeneration of the neurons, consequent upon a deficient supply of nutriment; in short, a disturbed cellular metabolism. The extreme shortness of the course of the disease in this patient did not permit any of the phenomena of a remission to be present. And the interest of the case consists in the early and rapid tissue destruction which was found.

A brief *résumé* of the latest pathological findings in general paralysis is desirable at this point, in order to consider in a satisfactory manner the nature of the remission.

Mickle[2] divides the lesions, according to their location, into cortical, vascular, and changes in the neuroglia. The vascular changes are distention of vessels with blood, an increase of nuclei in the walls of the vessels, together with a colloid degeneration. The blood-vessels are dilated and tortuous, the lymph-spaces are filled with lymph-corpuscles, and there is sometimes a formation of new blood-vessels. In the neuroglia there is hyperplasia and hypertrophy; an increase of nuclei, and a formation of spider-cells, colloid degeneration and atrophy. In the neurons there are granular, fatty, and pigmentary degeneration; sclerotic and atrophic alterations in nuclei; vacuolation and calcification of cells, with atrophy of the nerve-fibres. According to Kronthal, these lesions are wide-spread, but more marked in the anterior part of the parietal lobes, and in the frontal lobes.

We see then, from this cursory and hasty survey of the pathological findings in general paralysis, that we have to deal with a disease which, fairly early in its course, involves the vital elements of the brain in a destructive process. The tissues attacked are, after a time, injured in an irreparable manner.

Assuming the view that in the beginning there is a

[1] American Journal of Insanity, January, 1895.]
[2] Dictionary of Psychological Medicine.

nutritional disturbance, varying in duration and causing a functional disorder of the neurons, with a consequent inhibition of their normal activity, we then have produced the early psychic changes which are usually seen, such as amnesia, partial or complete, diminution in attention and volition, lessened muscular power, insomnia, blunting of the ethical and moral sense, and a general disturbance of the relations of the ego with its environment.

This stage of general paralysis is that in which the remissions are more frequent and last for a longer time, in some cases going on to apparent recovery.

However, the remissions of this period of the disease are less noticed, because of the physician not being consulted so early in regard to treatment, and thus not coming under his observation, except, possibly, as cases of neurasthenia, or other milder disorder. May we not look on the remissions occurring in this stage as due to restoration of vascular and nutritional activity, with a consequent return to normal function of the neuron, which as yet has undergone no organic change?

Hodge has shown that this functional disturbance so-called, this fatigue of the neuron, if carried to an extreme degree, will be followed by vacuolation and disintegration within the cell protoplasm, from which condition, it is probable, recuperation never takes place. It is fair to presume that some cases of general paralysis could be checked were the patients to be treated at this early stage of their disease and the remission be made the threshold to permanent recovery.

What, however, can be said of the cases we meet, further advanced in their course, but yet in which well-marked remissions occur? How shall we explain the return to activity of a brain, part of the structure of which at least has been permanently injured? It must be assumed in these cases that, although we have a change in all the elements of the brain, the most extensive changes are those present in the vascular system and the neuroglia; and that, although the neurons are affected to some extent, many possibly destroyed, there is yet a possibility of the absorption of the exudate, a renewed activity of lymph-currents, and a consequent improved nutrition of nerve-cells, with at least a partial restoration of the individual to mental activity. Clinically, it will be found the remissions are not as complete, and the renewed cerebral activity as marked, in those cases where the remission occurs later in the course of the disease. So we must suspect a certain amount of injury has been done the neurons which is irreparable, and which causes permanent changes in the higher faculties, the residuum of feeble-mindedness being commensurate with the destruction accomplished by the disease. What is called by Batty Tuke "the limit of functional activity changes" has been reached, and even transcended, in a certain proportion of the cerebral cells.

Thus far the remissions of general paralysis have been considered, only in those cases where the disease was supposed to have begun in the vascular system, with nutritional defects occurring as a consequence. The hypothesis of the lesion being primarily cellular, must now be considered in connection with the subject. Very decided deleterious effects are produced by extreme exhaustion of the neurons, with insufficient excretion of the substances evolved during the season of hyper-activity. Bouchard has written extensively of this in his book on Auto-intoxication, so also has Rogers.[1] The possibility of a toxæmia, with organic disease of the kidney as its starting-point, has been carefully studied by Bristowe,[2] quite recently. In eighty-eight per cent. of the general paralytics examined post-mortem, he found granular kidneys, while in only fifty-five per cent. of other forms of insanity was there found any trouble with the kidneys. These toxic substances, in addition to their destructive action, undoubtedly inhibit the function of the lymphatics and blood-vessels, with an aggravation of deleterious effects already existing.

In the Morrison lectures for 1894, Batty Tuke has elaborated this idea, and presents there in detail the forms of insanity induced by these causes. Remissions which occur in the course of a general paralysis which is supposed to be dependent primarily on cellular disorder, may be looked upon as a cessation, temporary as a rule, of the pernicious over-activity of the neuronic elements, together with an increased excretion of toxic material through the vascular and lymphatic systems, inducing a general improvement in tissue metabolism.

In considering the remissions of general paralysis, and in noting their frequency, we must bear in mind how frequently alcoholic or pseudo-paralysis is mistaken for the genuine disease. The recovery from seemingly hopeless conditions in these pseudo-cases is more complete.

The somatic condition is often more marked in its disorder than is the mental. The delusions are apt to be less expansive; the prodromic period is shorter, and the remission goes on, as a rule, to recovery, where abstinence from alcohol is practised. This class of cases are hard of diagnosis at times, and may often be passed upon as general paralysis. When they recover, as they usually do, they are tabulated often as cured paresis. Mickle has found, that in cases of chronic general paralysis with a strong hereditary history, the duration of the disorder is longest, the remissions are more frequent and complete. In two of the cases I append, this observation will be found to be borne out. The following cases, some of which were observed during a service at the Utica State Hospital, are interesting in connection with the present subject, showing as they do periods of remission varying in length from months to years. They also show different degrees of mental improvement, from a feeble-minded, non-delusional state, to one of a nearly complete restoration to vigor of mind.

Case I.—H. C. L——, male, thirty years of age, married, no children. No alcoholic history, indefinite specific history, hereditary tendency rather strong. At the time of his admission was incoherent, excitable, and very tremulous. Four months previous to admission to the hospital the disease had first manifested itself actively. Disease apparently began with an attack of unconsciousness, followed by aphasia and left side hemiplegia. He gradually recovered from paralysis, and for a period of four months was feeble-minded and incoherent in speech. At this time his mental symptoms gradually cleared up, somatic condition improved, and with the exception of a slight feeble-minded state, he seemed in normal health. He remained in good condition for nearly two months, then had another apoplectiform attack, from which he slowly recovered.

Case II.—F. T——, male, aged fifty-six, married, no children. For twenty-nine years had used alcohol excessively. He had been treated at a "Keeley cure" institute previous to coming under observation. From this place he had graduated "cured," but with all the symptoms of general paralysis. He had the delusion that he was a detective in the employ of the post-office, and that he could drink half a barrel of whiskey a day. After a month of treatment his delusions disappeared, his bodily condition improved, and for over a year he remained in a normal mental state.

Case III.—W. H. W——, male, aged forty-eight, single, clerk. Six weeks previous to coming under treatment was noticed to be dull and stupid in his actions. For two or three years previous to this he had gradually changed in his disposition. He arose in a revival meeting at one time, and announced he had converted thirty people; this aroused considerable enthusiasm, until he said that the conversions were accomplished

[1] Archives de Physiologie, 1893.
[2] Journal of Mental Science, April, 1895.

by means of pork and beans from his boarding-house. Shortly after this mental and physical symptoms of paresis appeared, and he was confined in the hospital. After admission he had several paretic seizures, after which he improved slowly. For three years he was in a state of fairly good mental health, with the exception of a slight feeble-mindedness. He then was again taken with paretic convulsions, and after two weeks of absolute dementia he died. The length of the remission is rather remarkable in this case.

CASE IV.—J. C. M——, male, thirty-seven years of age, married, one child. History of syphilis present. On coming under observation he presented all the symptoms, mental and physical, of general paralysis. After three months improved very much, and for one year was, with the exception of a little feeble-mindedness, in a normal condition. At the end of this time he became incoherent and confused, had several paretic seizures, which were followed by slight improvement, less in degree than at first.

CASE V.—H. K——, female, thirty-eight years of age, married, dissolute in habits, alcoholic, and probably syphilitic; when first seen was maniacal and violent. This condition continued for two weeks, when she improved, became quiet and rational. The remission lasted three months, when she again became maniacal. She again improved and went home from the hospital, contrary to advice. She remained at home for two years in an apparently normal mental state, but dissolute habits being renewed her disease returned, and shortly after her readmission to treatment she died in a paretic seizure.

CASE VI.—Male, aged thirty-eight, painter by occupation, married. Alcoholic history. One year and a half before coming under observation had shown signs of insanity. He developed grandiose ideas and at times was violent. After six months in this state, he improved and recovered his normal faculties, according to his family. For one year this state of improvement continued, and then all the former symptoms came on, together with a rapidly increasing dementia.

CASE VII.—G. L——, aged thirty-six, married, no children; alcoholic history and probably syphilitic. Four years before coming under observation was melancholic, threatened suicide, and at times was violent. This condition gradually grew worse, and all the physical and mental signs of paresis developed.

In this state he remained for a year, then improved and his mind apparently assumed its normal condition. For over a year he followed his occupation of clerk and appeared entirely recovered. Then business reverses assailed him, and gradually he failed again. At present is delusional, grandiose in conversation, and typically paretic.

Quietude and Longevity.—That quietude conduces to longevity seems to be demonstrated by the record of longevity in Philadelphia, a matter on which the city prides itself considerably. During the first half of this year the obituary columns of the *Ledger* contained death notices of two hundred and thirty-four women and one hundred and eighty men who had lived to or beyond eighty years of age. The greater part of the deaths were of residents of Philadelphia. Thirty women and twenty-six men lived to or beyond ninety years of age. The extreme ages reached were ninety-nine years by one woman and ninety-six years by three men.

A Wise Precaution.—An ordinance for the regulation of bicycle riding which is under consideration by the San Francisco City Council, prohibits bicyclists from carrying on their machines any child under the age of six years. This is the outcome of the recent crusade by the Society for the Prevention of Cruelty to Children.

TUBERCULOSIS OF THE KNEE JOINT.[1]

BY RICHARD C. NEWTON, M.D.,

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THE study of the etiology of this affection presents many interesting points, and raises many questions which are as yet difficult or impossible of solution.

That the knee-joint, which is probably injured more often than any other articulation in the body, should so seldom be the seat of tubercular disease as compared to the hips—the proportion being, Dr. Park[2] tells us, one to five—seems at first sight quite peculiar. The explanation may be offered that the blood-supply to the knee is greater than to the hip, and that owing to the greater extent of synovial membrane in the former joint, there is a greater number of lymphatics present, so that not only are the articular structures better nourished, but elimination and removal of morbific matters are more readily and more thoroughly accomplished. Be this as it may, the fact remains that, with all the injuries, abrasions, contusions, and strains to which the joint is subjected, it is comparatively rarely the seat of tuberculous disease, whereas the hip, a much more deeply placed and better protected articulation, and one that is in consequence less frequently injured by blows, falls, contusions, and strains, is comparatively often afflicted with tuberculosis.

Again, what is the rationale of the development of tubercular disease in any joint? It seems to be generally admitted by surgeons that the bacillus of Koch is present and is the causative factor in every case of tuberculous arthritis.

The question naturally arises, how does this bacillus find its way into the joints? Is it present at birth, or is it subsequently introduced? Those pathologists who deny the hereditability of tuberculosis are driven to say that the bacilli have found their way into the body through the lungs, by inhalation, or into the alimentary canal, with the food or drink, and have been taken up by the blood-vessels or by the lymphatics, and carried about in the body until at last they find lodgement in or near a joint; in which sooner or later they take on an active rôle and tubercular disease is set up in that locality.

What has determined this disposition of the specific organisms? Why were they not arrested in the lungs, pleura, stomach, the bronchial or mesenteric glands, to set up their destructive processes there? Again we cannot answer; we can only say that in a very large number of cases they probably are so arrested. In the early years of life tabes mesenterica is comparatively common, and must be many times more frequent than tuberculous arthritis, and this fact is naturally brought forward in proof of the communicability of tuberculosis by food, particularly milk.

The weight of opinion seems to be, however, in favor of the hypothesis that the bacillus is handed down from parent to offspring, and that in infancy it exists in the body, where it may lie dormant for an indefinite time. Accidental causes, such as trauma, malnutrition, or the advent of other pathogenic microbes, as *e.g.*, those of scarlatina, pneumonia, or la grippe, starting it into action.

It is even claimed by some[3] that the bacillus may remain latent in the body through an entire lifetime, and be transmitted to the succeeding generation, in which it may develop some form of tuberculosis. Dr. Solly said, in an admirable paper read before the last meeting of the American Climatological Association, and published in the *American Journal of the Medical Sciences* for August, 1895: "That the bacilli can be transmitted not only from the parents, but also occasionally from the grandparents, is very probable. The

[1] A Part of the Annual Report of the Committee on Surgery of the Orange Mountain Medical Society, read before that body November 1, 1895.

[2] Medical News, Philadelphia, September 28, 1895. page 363.

[3] American Journal of the Medical Sciences, August, 1895. page 36.

revelations of autopsies which show tuberculosis of glands, etc., in persons who were believed to have no evident tuberculosis, and who died from other causes, and the probability of many of the surgical tuberculoses of children being due to latent bacilli, which gave rise to no symptoms until a traumatism furnished the inflammatory products for the bacilli to feed upon, to retire again into innocuous desuetude with the rest given by splints, etc., to the inflamed parts, renders it almost if not quite certain that bacillary infection may be transmitted through a silent generation."

As tending further to demonstrate that the bacilli are frequently born in human beings and not acquired by inhalation or otherwise, Dr. Solly quotes the remarks of Dr. Currier in a discussion before the New York Academy of Medicine, in 1892, in which it is asserted that fœtal tuberculosis does occur, and that the bacillus is found in the ova and in the testicles of tubercular subjects, albeit these organs themselves may be structurally healthy. Add to this the latent tuberculosis demonstrated by Bollinger and others in twelve per cent. of their autopsies upon children, and the powerful weight of Baumgarten's authority; and it seems more reasonable at least to assert that the bacillus is present in persona propria in the bodies of a certain proportion of its human victims at birth. The presence of the germ in the fœtus is to my mind an unanswerable argument in favor of this belief.

If we admit all that is asserted above, we are still quite in the dark as to why tubercular adenitis, arthritis, and meningitis develop so much more frequently, relatively in children and pulmonary tuberculosis in adults. However, such is the fact. Perhaps we might assert that the hereditary tuberculoses are prone to show themselves in the more distant structures of the economy, whereas the acquired forms will more probably find lodgement and accomplish their destructive work in the air-passages, into which they have been drawn with the inspired air.

This view would seem to receive confirmation from a statement made by Dr. Janeway,[1] in the discussion just spoken of, to wit: that in the year 1890, there were five thousand four hundred and ninety-two deaths from phthisis (which means presumably only pulmonary phthisis) in New York City, of which only two hundred and forty-three, or less than four and one-half per cent., were children under ten years of age. Whereas we are told [2] that the mortality from tuberculosis (general) is greatest in the human subject during the first year of life.

It will not be proper to consume more time in this discussion on the question of the etiology of tubercular arthritis; let me sum up by saying that the weight of testimony is overwhelmingly in favor of the statement that the child is born with tubercular bacilli already in his body, probably in his glandular system; that an injury to one of the large joints sets up inflammatory action there; that the bacillus is present at the seat of this morbid process, either having been there since uterine life, or perhaps, which is more probable, is brought there in the circulation or by the lymph-canals and finds lodgement and pabulum. That the germ comes to the knee as often, probably oftener, than to the hip, but owing to the superior innervation and circulation of this joint, only sets up a morbid process one-fifth as often in the former joint as in the latter.

If the rationale of the causation of tuberculosis of the knee is difficult of explanation, the early diagnosis is equally difficult. The ideal time to treat tubercular arthritis has passed when the lesions are sufficiently pronounced to make the diagnosis sure. Valuable time is so generally lost before the true nature of an arthritis is recognized, that a certain means of early diagnosis would be well-nigh invaluable, not only as regards the ultimately curative treatment of the lesion, but also the prevention of much suffering, a probable long confinement of the sufferer to his bed, and in many cases at least the risk of his life.

I am not without hopes that the suggestion made by Professor Klebs,[1] that tuberculin should be used for diagnostic purposes on the human subject in a manner similar to its present employment by the veterinarians upon cattle suspected of tubercular infection, may in time be rendered feasible. At the present moment it would hardly seem practicable, because the injection of tuberculin into cattle already infected sets up a febrile action, which would perhaps lead to great activity on the part of the tubercle bacilli if already present in the organism. In other words, if it acted in a similar way in children, it might accelerate or even develop tubercular inflammation, and is therefore, in the present stage of our knowledge, an unwarrantable liberty to take with the well-being of the child.

Good authorities, including Professor Koch himself, have condemned the use of tuberculin upon the human subject for diagnostic purposes. Also I might add that a further study of the ultimate results of the injections of tuberculin into cattle, for diagnostic purposes, is needed.

Up to this time it would appear that those cattle which develop reaction after the tuberculin injection are slaughtered, instead of being kept under observation and the ultimate good or bad effect of the procedure noted. So far as I am aware, the precise nature of the febrile movement set up by the inoculation has not been determined. The inference, however, is, that it is, or may be, a phase of tubercular disease. The suggestion of Professor Klebs, however, may bear valuable fruit in some other direction.

The ordinary rules of diagnosis for knee-joint diseases are so familiar to you all that I will not take up time in recapitulating them.

As to the treatment, it seems to be, mainly, rest to the joint, and nourishment to the patient. Operation will seldom be necessary if the cases are properly treated early enough, and the nourishment of the patient is maintained at its highest standard. Tubercular disease of the joints is a self-limited one as a rule. According to Dr. Gibney's[2] figures its duration is three and one-half to four years.

I cannot take any more time with the details of treatment, medical and surgical, the proper consideration of which would call forth a very full and elaborate paper. I will close by calling your attention to the fact that the moderate and localized action of tubercular infection in the joints and glands, as compared to the more dangerous and fatal course of the same disease when it attacks the lungs or intestines, has led to the enunciation of some important hypotheses.

Mr. Keetley[3] has said "Time will kill local tuberculosis unassisted by the surgeon."

Mr. Watson Cheyne[4] pointed out in his lecture, delivered at the Royal College of Surgeons in June, 1892, "that in the human body the tubercle bacillus has often a hard struggle for existence, and often very little is required to turn the scale in favor of recovery."

König, of Göttingen,[5] affirms that with our improved methods of treatment at least one-half of the cases of bone tuberculosis recover without operation.

Osler, after commenting upon the comparatively benign course of what he calls scrofulo-tubercular manifestations, *i.e.*, tuberculosis of skin, bones, or glands, says that it has been suggested that these lesions depend upon the action of an attenuated virus, and adds "an attempt has been made by writers, particularly Morfan, to show that the scrofulo-tubercular lesions, when recovered from, confer a sort of immunity to pul-

[1] Transactions New York Academy of Medicine, 1893, page 28.
[2] Professor Osler, American Text-book of the Diseases of Children, 1893, pages 95, 101.

[1] Journal of the American Medical Association, October 12, 1895.
[2] Transactions New York Academy of Medicine, 1893, p. 6.
[3] Wood's Medical and Surgical Monographs, vol. iv., 1889.
[4] Year-Book of Treatment, 1893, p. 267.
[5] Sajou's Annual Universal Medical Science, 1895, vol. iii., H. 19.

monary tuberculosis, but the evidence is not yet very strong."

Adhering to the hypothesis which has been advanced in the early part of this paper, it might be said that the so-called scrofulo-tuberculosis lesions are the outbreaks of inherited tuberculosis, and owe the comparative mildness of their course, when contrasted with pulmonary or intestinal phthisis, to the fact that the causative bacilli have been a long time in the system, which has acquired a partial, in some cases probably a complete, immunity against them. Whereas in the acquired form of phthisis the bacilli attack an organism quite unprepared (whose cells have had no opportunity to elaborate the saving antitoxin) and quickly overwhelm the entire system.

This view is also supported by the fact that the number of bacilli in and about a tubercular joint is often so small; showing that, in spite of the months or years in which they have had an opportunity to multiply in the economy, they have actually increased very slowly, if at all, and that in their contest with the phagocytes they have lost much of their virility and probably numbers of them have perished.

The natural history of syphilis affords numerous similar examples. The acquired form of the disease is prompt, ostentatious, and violent in its action; the inherited form, on the other hand, is gradual, uncertain, and stealthy in its advent and duration. It may develop, and it may not, in the offspring of luetic parents. If it does develop its site is apt to be in the bones or deeper structures, and recovery may be spontaneous.

As the good surgeon Gross[1] was wont to assert that all scrofula was inherited tuberculosis, even so now the leading minds in medicine affirm the same thing, we endeavor to explain what this great observer noted and commented upon so accurately and clearly.

A CASE OF TEMPORARY AMBLYOPIA FROM CHOCOLATE.

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VISUAL defects, both temporary and permanent, are not uncommon as the result of alcoholism, nicotinism, and indulgence in "high" game and other forms of food impregnated with the products of decomposition; but, strange to say, one rarely or never meets with an amblyopia or an amaurosis the result of excessive tea-, coffee-, chocolate-, or cocoa-drinking—not even in those who are otherwise easily affected by these beverages. The following history furnishes an exception to this rule:

Dr. S——, aged fifty-four, has a family history of gout, from which he himself also suffers upon occasions, but apart from that he is, and for years past has been, in fairly good health. Owing to this gouty habit he has always exercised great care in his diet, particularly since sad experience has taught him that the slightest indulgence in alcohol or indigestible food is likely to be followed by inflamed toe-joints and other indications of activity upon the part of his hereditary enemy. He cannot, for example, drink more than a single glass of Rhine wine without bringing on an attack of acute gout. He exhibited, however, one symptom-complex the cause and nature of which remained, until about a year ago, an impenetrable mystery. At irregular periods, sometimes every week, sometimes at much longer intervals, he suffered from severe headaches closely resembling migraine. Their course and character were about as follows: The trouble began with a wheel-like, confused, whitish (not colored) mass rotating in front of both eyes. This body gradually increased in size and density until the whole field of vision was covered and he became practically blind. For ten minutes not even the largest objects could be perceived; there was merely perception of shadows or ability to count fingers at a few inches. After a short time outlines of the neighboring houses, of carriages and wagons, and finally of human beings on the street, began to loom up. In half an hour smaller objects were visible through the gloom. In from three-quarters of an hour to an hour the large scotoma seemed to entirely dissolve and the patient could see as well as ever. This attack was always accompanied by vertigo, intense nausea, severe pain in, and a sense of pressure upon, the head. Altogether the patient has had over a hundred such attacks, some of them very severe, from the effects of which he did not recover until the next day, while others might be regarded as partial or incomplete seizures, from which he recovered in a few hours. In every instance the illness resembled the description just given.

During the twenty years that cover the period of these attacks he has been treated for all sorts of ailments, with all kinds of remedies, by men in all parts of America and Europe, and with very little success. The attacks have been attributed to the influence of gout, wine-drinking, indulgence in various forms of indigestible food, to dyspepsia, to tobacco, to eye-strain, and to "derangement of the liver," for all of which evils he has been at various times, *secundum artem*, vigorously treated. The late Dr. W. F. Smith and the writer of this labored long and faithfully to render his visual acts as comfortable as possible, but the migraine persisted and the amblyopia visited him as regularly as before. As far back as 1882, he had suspected the agent that "upsets his stomach" to be candy, because as long as he refrained from eating sweetmeats of any sort he seemed to be almost free from the attacks. One day, about two years ago, he purchased some vanilla chocolate for his children, and as he is very fond of that comestible in any form, he ate a small piece. He was riding on a cable car at the time; when he reached the corner where he was to alight a partial attack came on, and he was obliged to sit on the edge of the pavement and wait until the blindness passed off before he was able to make his way home. This incident aroused his suspicions of the evil effects of chocolate. Subsequent observation, extending over the next year, proved to him that it was the chocolate *per se* that induced the attacks.

Vanilla, unless associated with chocolate, does not affect him. He often drinks it in his coffee and eats it with cake and puddings without the slightest ill effect. Nor does cocoa bring on his headache. Nor do any of the spices, like cinnamon, present in some chocolates, alone affect him. Candy of any kind, as long as it is not mixed or flavored with chocolate, he can eat with impunity. Chocolate in blocks, or as creams, or in cakes, or in suspension as a drink, or in ice-cream invariably precipitates an attack, whose severity is in proportion to the amount of the chocolate ingested He has been able to associate every seizure he has had for the past few years with the previous eating or drinking of chocolate in some form, and he has had no attack not preceded by indulgence in chocolate. He seemed very positive that a moderate indulgence in cocoa does not affect him.

I tried to induce him to make some further experiments with himself, having in mind the possibility of isolating the particular agent or agents in the chocolate which had produced the amblyopia; but although he is a man devoted to science, he did not feel inclined to suffer from such blindness, nausea, and headaches for the purpose of settling this question. It is now over a year since he has had a seizure, and this freedom from attacks dates from the time when he foreswore indulgence in any form of chocolate.

It is highly probable that the patient exhibits an idiosyncrasy against theobromine when that alkaloid is taken by him in sufficiently large doses. The insuffi-

[1] System of Surgery, vol. i., p. 287.

ciency of the dose and its lack of concentration is the reason he was not affected by the ordinary cocoa of commerce, which contains much less theobromine than chocolate, and is often adulterated with ground rice, sugar, barley, etc.

Whether the amblyopia be regarded as directly the result of the chocolate-poisoning, or whether it be considered as part of the so-called scotoma scintillans, matters very little. It establishes beyond a reasonable doubt the claim of Hocken[1] that chocolate occasionally affects the visual centres. Yet with this exception I have been unable to find elsewhere more than vague references to the toxic effects of cocoa or chocolate, so far as the eyes are concerned.

Hutchinson,[2] however, reports a case of caffein amblyopia, the symptoms of which resemble those of the amblyopia of quinine intoxication, and caffein is said to be chemically identical with theobromine.

Progress of Medical Science.

Non-specific Lesions in Syphilitics.—A common error is that many ills occurring in a syphilitic subject are treated as though they were of syphilitic origin. The fact that a patient has syphilis does not exempt him from non-specific disorders, yet the physician is very apt to jump to the conclusion that such disorders are the result of the syphilis, and to treat them accordingly. In many cases lesions on the tongue and oral mucous membrane in syphilitics remain unaffected by specific treatment, and the fact should be borne in mind that similar lesions may occur in persons who have not had syphilis, as the result of digestive disturbance. Even if they are syphilitic, such lesions may persist in spite of specific remedies, unless the digestive errors are corrected.

Leguminous Alimentation in Diseases of Digestion and Nutrition.—Dr. Bovet refers to the apparent connection between richness in albumin, or the nitrogeneous elements of plants, and organic phosphorus, these two seeming to run parallel. In the leguminosæ they are found in greatest proportion. One consequence of the association of phosphates with albumin (vegetable), and the "diffusibility" of phosphoric acid, is that food of this character (leguminous) is very readily dissolved and digested in the alimentary canal, even in the absence of the usual ferments. The presence of a relatively large amount of potash salts in this food is also noted. In the laboratory of Professor Hayem a dog was fed for thirteen days on an exclusive diet of "legumine," a soup free from salt. The result was first a marked decrease in its weight, amounting to one-tenth. An analysis of the gastric juice at the beginning and end of the experiment showed a marked increase in two most important values, namely, hydrochloric acid and chlorine. This may be interpreted as increased digestive power. A similar experiment on a patient, aged forty-two, suffering from chronic gastritis, slight dilatation, and loss of motor power of the stomach, weakness and emaciation, showed results altogether comparable to the above. At the beginning the gastric juice, although highly acid, was free from hydrochloric acid. At the end of two months the total acidity was not increased, while hydrochloric acid was present in almost normal amount. Digestion (previously slow and painful) no longer inconvenienced the patient. Neurasthenia was lessened, and she slept eight hours daily without awaking, something she had not done for a long time previously. In this case a certain addition of leguminous aliment was made to the otherwise unaltered ordinary diet. The author therefore considers leguminous food suitable and valuable as aliment in similar cases, and also in diabetes and obesity.—*The British Medical Journal.*

Hypertrophied Prostate and Resection of the Vas Deferens.—At the French Surgical Congress recently held in Paris, M. Guyon read a paper on the above subject. He said that the solidarity existing between the testicles and the prostate gland was purely functional, for the circulation and enervation of both of these glands were independent, and different in their origin. It was consequently natural to suppose that the physiological isolation of these organs by the suppression of the vas deferens would be sufficient to obtain effects analogous to those realized from ablation of the testicles He practised, last June, bilateral resection of the vas deferens on two patients, the first of whom had suffered for ten years from incomplete retention, and when, last summer, he consulted the speaker, micturition became so imperious that the catheter had to be constantly used, and which more than once wounded the canal in effecting a passage through the prostatic portion of the urethra. Rectal examination revealed considerable hypertrophy of the prostate. A few days after the operation the frequency of micturition diminished notably, and the catheter could be passed with more ease. At the end of a month the gland had decreased in volume. The second patient came to him in about the same condition, and the operation gave a certain relief, but the prostate had not changed much in volume. In both patients the testicles remained normal. His colleague, M. Leguen, performed the same operation on a patient a month later, who had suffered from complete retention for a month previously. The results of the operation were quickly manifest; the man was able to dispense with the use of the catheter for ten days at a time, a month after the resection. In concluding, M. Guyon said that the above operation, although it could not pretend to the radical cure of hypertrophy of the prostate as that of total castration, yet it might take rank among those measures addressed to certain complications of prostatism.

Simple Manner of Overcoming the Catarrh Consequent on the Administration of Potassium Iodide.—Dr. Cohen (*The Lancet*) has often observed that patients taking iodide of potassium suffered in a marked degree from "iodism," the chief symptoms being coryza with a sometimes profuse discharge, sneezing, pains over the frontal sinuses, swelling of any part of the mucous membrane of the mouth, and a sense of heat in the chest. The foregoing phenomena are identical with those attendant upon the inhalation of free iodine (Mitchell Bruce), and it has been observed that one is more likely to be attacked with catarrh if the iodide of potassium contains free iodine as an impurity. This seems to justify the belief that the catarrh of iodism is due either to iodine being secreted by the salivary glands, or to the circumstance that iodide of potassium is broken up in the mouth after its secretion and free iodine liberated. The latter view is supported by Schmiedeberg, who has proved that iodide of potassium in the presence of carbonic acid is decomposed, the latter being abundant in the expired air in the region of the salivary glands. While taking charge of Dr. Herschell's out-patients at the National Hospital for Diseases of the Heart, the writer has been able to stop the catarrh in three well-marked cases by adding to the mixture (being in each case ten grains of iodide of potassium and half an ounce of water) five minims per dose of tincture of belladonna, his object being to reduce the salivary secretion, and in each case the result was satisfactory. Any antisialagogue would doubless have a similar effect, but belladonna is, in his opinion, the most useful, as it can easily be given in the form of a mixture with the iodide, and in the small dose that is used in such cases, it counterbalances the so-called "depressant" action of the potassium.

[1] Casey A. Wood: The Toxic Amblyopias, Part i., page 13.
[2] Reviewed in Hirschberg's Centralblatt für Pkt. Augenheilkunde, 1887, page 240.

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REFORM IN THE DEPARTMENT OF PUBLIC CHARITIES.

IN the early days of the present reform administration of our city government, we took occasion to suggest, from a medical standpoint, the qualifications which the Commissioners should have for the proper performance of their duties. We stated that the affairs of this department were threefold in character, viz.: 1, Medical supervision of hospitals; 2, supervision of the penitentiary and its inmates; and 3, the general business of both branches of the service. A thoroughly qualified commission would therefore consist of a physician, an expert in the care and management of criminals, and a business man. The appointments which soon followed were made on the old lines, and the outcome is what was anticipated. Not only no reforms in the management of the institutions of the Department have been made, but a most deplorable muddle of the medical service has been created which has aroused the opposition of the entire profession.

The separation of the Department, under the law of last winter, into two Departments, one of Charities, and the other of Corrections, and the necessity of the appointment of three Commissioners of Charities, raises again the question of the qualifications of the new Commissioners. The events of the last few weeks in the management of the medical service of the hospitals of the Department emphasize our previous arguments in favor of having in the Commission at least one competent physician.

We are only too familiar with the objections which laymen will raise, viz., that medical men never agree, and hence a Medical Commissioner will prove to be a disturbing element in hospital management. We might reply that it would be quite impossible for a medical member of the Commission to create in our profession a greater and more general dissatisfaction with the management of the hospitals than has the present Commission of laymen. But we shall not quibble over matters of so little importance. Our contention is based on the undisputed principle which should govern all appointments in the Civil Service, viz., the individual qualification of the person appointed to perform the duties of his office in a manner best adapted to secure from that office the largest amount of public good. It follows that the man who is best qualified for any position in the Civil Service is one who to honesty, education, mental capacity, and industry, adds the greatest familiarity with all the duties of the office to which he is appointed. This formula is the very corner-stone of all our Civil Service regulations.

Let us apply the above principle to the selection of a Commissioner for a Department composed chiefly of hospitals. It must certainly be admitted that a medical man has far more special knowledge of the affairs of an hospital than a layman of even the highest intelligence, who has not devoted himself to hospital management. If, in addition, the physician has had a large personal experience in the internal service of hospitals, and has a high rank in his profession, can there be any doubt that the public interests would demand his selection?

But, it will be asked, can a physician be found who has had the necessary hospital experience, and has the confidence of the medical profession, and who would serve if appointed? We answer yes; there are at all times available physicians in this city, of age, experience, and reputable standing, who would serve, and whose appointment would be received with profound satisfaction by the medical profession and the public. And we may add that such physicians would, by their large knowledge of the medical profession, and the requirements of hospitals, harmonize all interests, and avoid the disgraceful dilemma with which the present Commission is wrestling.

We do not hesitate to affirm that the present evils which afflict the Department of Charities are due to the absence from the councils of the Commission of a competent medical member. Nor will those great fundamental reforms on which the future renovation and elevation of the Charities service depends be effected until the head of the Department is itself renovated and elevated by the appointment of at least one thoroughly qualified medical Commissioner.

MIRACULOUS CURES.

THE annual pilgrimage to Lourdes in August last was larger and attracted more attention than any that has taken place for many years. This was possibly in a measure the result of the advertisement, so to say, of the Grotto in Zola's latest work, or perhaps it was a protest of believers against the almost contemptuous scepticism therein avowed. As was to be anticipated from the greater concourse of people and the greater exaltation of the expectant multitude of sick, the number of cures obtained through the agency of the miraculous waters was larger than usual. That in very many cases these cures are genuine and permanent, there can be, in the face of a mass of competent testimony, no question whatever. How these cures are effected we cannot say. The statement that the healing takes place through the influence of the mind upon the body, that it is a result of expectant attention, is satisfactory as far as sound goes, but it explains nothing. The argument-closing contention that the miracles of Lourdes are an evidence of divine favor and that the cures are from the hand of God, is too inclusive. Phenomena of the same order, the genuineness of which are attested by competent medical witnesses, have been observed in faith-cure conventicles and Christian-science

homes, and if the recoveries at Lourdes are supernatural, so must be faith-healing and the cures wrought by Francis Schlatter. Furthermore, miraculous cures took place in the temples of Æsculapius ages ago, in apparently the same manner as now at Lourdes, and votive tablets on the walls of the temples bore witness to the miraculous restoration of sight to the blind and to cures wrought by the hands of the gods.

Dr. Edward Berdoe, of London, writes of these miracles of healing in the October number of the *Nineteenth Century*, and discusses the explanation of them as far as they can be explained. He quotes Charcot, who regarded faith-cure as an ideal method, often succeeding where other means have failed, but says that, while of a scientific order, its domain is limited; for, "to produce its effects, it must be applied to those cases which demand for their cure no intervention beyond the power which the mind has over the body. Purely dynamic diseases are cured by this means, but not organic maladies. Ulcers and tumors may be caused to disappear if such lesions be of the same nature as paralysis and other disorders of motion and sensation." The writer refers to an analysis made by Littré of seven miracles which took place at the tomb of St. Louis in the thirteenth century. In this analysis he says Littré states the simple facts as given in the chronicles of the period, and endeavors to give a pathological interpretation of them. He notices, in the first place, that at the moment of cure the patient felt a sharp pain; the part affected seemed to be stretched, and sometimes a sort of cracking sensation in the bone was experienced; then movements became impossible, although the lengthening of the limb and the possibility of moving it freely were not experienced immediately. The cracking of the bone is just what the surgeon finds when he moves a joint which has become fixed by disuse; without breaking down these adhesions he can do nothing to restore the articulation. In cases of rheumatic paralysis a similar state of things is observed. Of course, in the accounts of the healing at the tomb of St. Louis we expect to find errors and exaggerations due to the preoccupation and ignorance of those who wrote the reports, but we at once recognize the cracking and the pain as genuine pathological details; we should not expect a natural cure without these symptoms. M. Littré explains that we have here a muscular action of the affected part; the muscle contracts energetically; it breaks down the pathological adhesions if they exist; it restores the bones violently to their place. What the surgeon has to do with his hand is here done by an influence exerted on the muscles themselves, and in a far more beneficent manner than surgery can effect. The exciting cause of these energetic contractions is that which we find in all miracles of this sort—a strong persuasion, a complete confidence. "It is the brain and feeling generated by the mind which give strength to the person who thinks strongly. A gouty man, who has long hobbled about on his crutch, finds his legs and power to run with them if pursued by a wild bull. The feeblest invalid, under the influence of delirium or other strong excitement, will astonish her nurse by the sudden accession of strength she may exhibit."

THE USE OF SHORT-HAND IN MEDICINE.

WHAT seems at first glance to be a curious little side-path in the history of medicine and of medical associations, is the establishment in England a year ago of the Society of Medical Phonographers. What in the world, one is tempted to exclaim, does a physician want with short-hand! Hasn't he enough to do without burdening his mind with a new art, and one that can have no relation whatever to the science or art of medicine? But the arguments of the founder and supporters of this new society, which now numbers nearly two hundred in its membership, cannot be thus dismissed off-hand. The mere fact of the existence of such an association is an evidence that those who use short-hand find it so helpful to them that they are willing to be at some pains to extend its benefits to others. In his inaugural address before the Society, the President, Dr. Gowers, presented the claims which the science of phonography has to the attention of medical men, old practitioners as well as first-year students; and possibly it may help along the work, which we cannot but regard as a good one, if we review briefly the speaker's arguments for the benefit of those who may never have heard of the Society of Medical Phonographers.

The need for writing, for a written record, is absolute in medicine as in every science that rests on observation, for memory cannot be trusted, and immediate record can alone make observation effective. But with the aid of short-hand twice the amount of record that is possible with long hand can be made, and yet there will remain a longer time in which to observe. Furthermore, many fleeting events which might escape record in long hand can be noted and preserved in memory forever by the winged characters of phonography. As was well said by the Bishop of Hereford, in a letter read at this same meeting: "Short-hand puts a new instrument into the hand of the observer, an instrument which must be specially valuable when you have to deal with subtle and quickly changing phenomena."

Thus the observer, having the means at hand for recording the evanescent phenomena, gradually acquires the habit of looking for them and observing them. Short-hand is like a lens that brings to the consciousness of the observer many minute but most important points, that would possibly otherwise escape him. The often-quoted words of Bacon, that "writing maketh an exact man," acquire a fuller significance when the writing is short-hand writing.

But the use of short-hand does not stop at the record of observation. "It is equally available," says Dr. Gowers, "with the same saving of time and labor, in the processes of comparison of observations, of epitomizing the facts observed by others, and in all the preliminary work of composition. Indeed, I have frequently written the final copy in short-hand; typewriters transcribe it with accuracy."

It may be thought that these remarks have little application to the work of the practitioner, but, on the contrary, the value of short-hand in medicine finds, perhaps, its greatest expression in the aid it can give to the practitioner. "Without the use of writing, the facts

that pass before him will leave only a transient furrow on the sands of unaided memory, vanishing for the most part when new facts disturb the surface, or at most leaving but a slight modification in mental tendency. The vast effect of unrecorded—and therefore unconsidered—'experience' is too often a warping of judgment by the influence of some striking but exceptional fact, conspicuous in vague outline in the memory, while the conditions essential to its interpretation are forgotten. Only habitual, immediate record can preserve from these dangers the 'personal science' on which depends the work of the practitioner and the welfare of his patients. For this result the record of that which is observed must of course be utilized, and so arranged that its value shall not be lost. Yet the mere process of record gives, as we have seen, precision to observation, and secures retention not otherwise to be obtained."

Of course, there are objections that may be urged against the use of short-hand, but the drawbacks are slight in comparison to the advantages of the accomplishment. The contention that note-taking weakens the memory is an objection that applies equally to the taking of long-hand notes. Few men, if any, have a memory that never plays them false; and, moreover, it is the experience of most people that writing down a fact helps to fix it in the memory. Another objection, and really the only one of any real force, is that neither the student nor the practitioner can spare the time necessary for the acquirement of a ready knowledge of short-hand. But anyone can learn to write with sufficient rapidity, say three times that of long-hand, by practising two hours a day for two months, and the one hundred and twenty hours thus spent will be saved and repaid several times over in the next two years. Short-hand is illegible is another objection urged against it. But the experience of those who use it is that it is not illegible when written carefully and at a moderate speed. The notes of a stenographer making a verbatim report of a political meeting may perhaps be illegible to all but himself; but short-hand can be written with three times the speed of long-hand and be fully as legible, not alone to the writer but to all phonographers, as long-hand.

Dr. Gowers deserves the thanks of all who are interested in the advance of medical science and of individual progress for his disinterested labors in promoting the diffusion of a knowledge of short-hand among members of the profession, and we hope that he will find his reward in the prosperity of the Society which he has founded, and which has honored itself in choosing him as its first presiding officer.

Dr. S. Arthur Bosanko, of Leadville, Colo., died in that city on November 23d, of pneumonia. Dr. Bosanko was born in Aurora, Canada, November 25, 1855. He received his medical education at the University College of Victoria and the University of Toronto, receiving degrees from both colleges. After practising for a time in Michigan he removed to Colorado, where he resided up to the time of his death. He leaves a widow and one son.

News of the Week.

Medical Staff of the Board of Fire Commissioners.—The Medical Staff of the Board of Fire Commissioners of New York City, consisting of four gentlemen, have resigned, and a new set of physicians have been appointed. The salary for these positions is $2,000 a year. The following are the new appointees: Dr. Fred. A. Lyons, Dr. Edwin B. Ramsdell, and Dr. Francis M. Banta.

Microscopical Diagnosis of Infectious Diseases.—The city of Paris has gone a step further than the city of New York, and has decreed that the diagnosis of all diseases due to known micro-organisms shall henceforth be undertaken at the bacteriological laboratory of the city, and that any practitioner can send his specimens there and have the examinations made *gratis*.

The New York School of Clinical Medicine, located at 328 West Forty-second Street, and modelled after the Berlin Docenter Verein, has just issued its first announcement. An important feature of the new school is the fact that the classes being small and limited, the matriculates act as assistants and have an opportunity to personally study the cases under the guidance of the teachers. The names of most of the faculty are familiar, having been connected with the leading hospitals and schools as professors and instructors. Those thus far appointed are—Professors, Beck, Bushe, Dessau, Garrigues, Goelet, Gottheil, Oppenheimer, Skeel, Valentine, Weiss, and Zemansky; Associate Professors, Louis Fischer, George Lindenmyer. The secretary of the faculty is Dr. Ferdinand C. Valentine.

Dr. Charles W. Allen's Article on "Erysipelas," in our issue of November 23d, was not read before the American Medical Association, but at the recent meeting of the American Dermatological Association.

Adulterated Boots and Ulcerated Throats.—Adulteration has spread to everything, and it has not even spared the shoe. According to a London contemporary there are such things as "adulterated boots." Certain classes of cheap boots are said to be made up with a kind of spongy diaphragm of shavings and sugar between the inner and outer sole. This spongy diaphragm, once damp, never gets dry, and as the result, people who wear these shoes are liable to sore throats, rheumatism, colds, and so forth.

Maragliano Serum.—We learn from the *Boston Medical and Surgical Journal* that an Italian physician of this city, who attended the recent Medical Congress in Rome, brought home with him some of the antitubercular serum prepared by Professor Maragliano. He has used it with, as is claimed, favorable results in three cases. The impression, however, gained from European exchanges, is that this serum is of no value.

Sanitary Science is extending its domain every day. The city of Montpellier, in France, has given peremptory orders that no article of food shall be delivered by the grocers and butchers of that town unless it is wrapped up in clean wrapping-paper, and this new wrapping-paper must not be colored.

A Fee in the hand is worth two in the book.

The Therapeutical Laboratory attached to the ward of the Hôpital Cochin, which used to be under the charge of the late Dujardin-Beaumetz, has been transferred to the Hôpital de la Pitié. It will be under the charge of Dr. Albert Robin.

Dr. Harrison Allen has received the title of Emeritus Professor of Comparative Anatomy in the University of Pennsylvania.

Mr. Young J. Pentland, of Edinburgh, is the only medical man in Great Britain and Ireland who has subscribed to the *Index Medicus.*

Physicians and Euthanasia.—The *Medical Magazine* calls attention to the fact that at a certain Medico-Legal Congress, held in this city last summer, a lawyer read a paper in which he maintained the right of the physician to end the agony of a patient whose recovery was impossible, by giving drugs; and he added that he knew physicians who did follow such practice. The *Chicago Times-Herald*, commenting upon this, said: "It may be conceded that in a few cases, such as acute mania or hydrophobia, where the patient is suffering from a pitiless malady without hope of relief short of death, the physician has taken the responsibility of ending the agony by administering an over-dose of opiates. It is well known that during the war surgeons sometimes gave the *coup de grâce* to tortured victims of battle." The *Medical Magazine* expresses regret that the medical press in this country should not attack the statement with the vigor that they expected, and wonders if American physicians do really thus produce euthanasia. We suspect that the real reason why the American medical press did not notice the discussion referred to was because it did not seem worth while to pay attention to such criticisms.

United Medical Societies.—The Chicago Practitioners' Club and the Doctors' Club have united under the title of the Physicians' Club.

Dr. John S. Billings, United States Army, retired, has been presented with a purse of $10,000 by physicians, in recognition of his valuable services in issuing the *Index Catalogue.*

Thanks.—The New York MEDICAL RECORD has come to our table for so many years that we miss it if it is a day late, and without it something would be seriously lacking in the enjoyment of professional life. We have become so acquainted with the spirit of its editorials that we have found pleasure in alternately agreeing and disagreeing with its utterances. It is so old and so familiar a friend that we at all times feel the most perfect composure and ease in praising and abusing it. While it now takes a seeming relish and pleasure in assailing the railway surgeon, still we have become so educated that its complaining murmurs of disapprobation rather soothe and lull us with the thought: "Oh, it is the Record." We have, however, never doubted its able conduction nor its great capacity for usefulness. It has been a great educator in our country, and while we reproach it at times, still we fully appreciate its greatness.—*The Railway Surgeon.*

The French Congress of Surgery.—This Congress, which met in Paris recently, is spoken of as being a scientific success, but we note from our Paris contemporaries that there were certain phases of the affair that were not entirely pleasant. The visitors complained that the Paris surgeons did not give them good opportunities to see the work in the great city hospitals, and a still more bitter cry went up from the fact that the sessions of the Congress began at eight o'clock in the morning, at which time, we are informed, all good Parisians are in bed. The consequence was that at the time when the scientific work began, only thirty or forty out of the two hundred members of the Congress were present. Eight-o'clock sessions of scientific meetings would certainly not be popular in this country, particularly the day after the banquet.

The organization of the scientific work seems to have been well planned, and the Congress discussed nearly every surgical question, beginning in the head and ending in the toes. The surgical treatment of the lungs, of the heart, of affections of the stomach, of the liver, and of the kidneys, of the urethra and genito-urinary organs, diseases of the joints, fractures—in fact, the French Congress of Surgery spread itself out over the whole human anatomy, and a perusal of the proceedings is suggestive of a systematic treatise on the surgical art. A number of new cases, results of difficult operations in the various surgical fields, were reported, but we do not find any particularly new methods of treatment suggested.

Suits Against Physicians.—A suit for $20,000 damages against Dr. W. O. Roberts, of Louisville, was recently thrown out of court, and in a suit for $5,000, brought against Dr. L. S. McMurtry, the jury awarded Dr. McMurtry a counter-claim of $500 for services rendered the patient.

A New Laboratory for the University of Pennsylvania.—On December 4th, the Pepper Laboratory of Clinical Medicine, connected with the Hospital of the University of Pennsylvania, was formally opened. Dr. J. S. Billings, director of the University Hospital, presented the building to the University in the name of Dr. Pepper, and Professor W. H. Welch delivered the principal address. Drs. Draper, Delafield, and Janeway, of New York, and Drs. Osler and Abel, of Baltimore, were present.

Obituary Notes.—Dr. D. M. MILLER, of Elizabeth, N. J., died on December 3d.—Dr. JOHN A. JONES died at his home in Mansfield, O., on December 3d, aged sixty-four.

The New York State Board of Health and Infected Milk.—The Board of Health of the State of New York has decided to submit and recommend to the Legislature a bill forbidding the sale of milk containing tubercle bacilli. The bill will require those who sell milk to show that their cows are free from the disease in question. A proof will consist of a certificate, issued by the Board or its authorized agents, after an examination made by competent persons.

Bureau of Public Health.—In the House of Representatives, Mr. Mahon, of Pennsylvania, has introduced a bill establishing a Bureau of Public Health in the Treasury Department, to provide measures of security against the introduction of contagious, and spread of epidemic, diseases.

Reviews and Notices.

MEDICAL DIAGNOSIS WITH SPECIAL REFERENCE TO PRACTICAL MEDICINE. By J. M. DACOSTA, M.D., LL.D., President College of Physicians of Philadelphia. Eighth Edition. 8vo, pp. 1104. Philadelphia: J. B. Lippincott Co. 1895.

THIS well-known and classical work appears in its eighth edition considerably amplified and altered in its various parts. The general arrangement is the same as in former editions, the diseases being classified in accordance with their more prominent clinical features, rather than arbitrarily arranged in reference to their leading pathological lesions. Nothing is left to be desired by the student who wishes to study salient features in comparison with others common to similar diseases. The lines of distinction are clearly drawn by the hand of a master, and the student is led to that line of broad and conservative reasoning that is in itself a special mental training for a conception of the higher duties of his calling as a discriminative and accurate diagnostician. There is also incorporated whatever of purely bacteriological interest that is valuable for the leading purposes of the talented and broad-minded author. The introduction of a number of additional original cuts gives a special value to this admirable treatise.

THE PATHOLOGY AND SURGICAL TREATMENT OF TUMORS. By N. SENN, M.D., Ph.D., LL.D., Professor of Practice of Surgery and Clinical Surgery, Rush Medical College. 8vo, pp. 709. Philadelphia: W. B. Saunders. 1895.

THE appearance of such a work as the one indicated in this title is most opportune. The well-known capabilities of the author, his large clinical opportunities, and his painstaking investigation of pathological phenomena, eminently fit him for the task he has undertaken. There is no doubting the fact that the special department of surgical pathology of which the volume treats has hitherto been much neglected, and that the time is ripe for its wider consideration and its more accurate study. This condition has been very satisfactorily met by the exhaustive manner in which the whole subject is studied in its broader general aspects, as well as its detailed modifications as applied to special forms. In design and execution the work is such as will appeal to every student who appreciates the logical examination of facts and the practical exemplification of well-digested clinical observation. The general complexion of the work is didactic, and considering its aim to impress leading facts, is excusably reiterative and dogmatic. Scattered throughout the text are italicized sentences and paragraphs that are impressed upon the reader as axioms, and as such serve an excellent purpose. The division of tumors is on a purely histogenetic basis, and their study is conducted on clinical lines as well. The author does not believe in the *de novo* origin of tumors, but very ingeniously and quite satisfactorily proves that they are also due to the development of a matrix of embryonic cells, and that there is nothing whatever in the microbic theories. The broad distinction between the benign and malignant tumors, in that the former is always encapsulated and the latter infiltrating, is impressively stated with many necessary repetitions. Each particular variety of growth is minutely described from histogenetic, anatomical, and clinical stand-points, with a liberality of illustration which creates a most attractive feature. The descriptions of operative procedures are also profusely illustrated, and many show the different stages in a manner that cannot fail to be highly instructive to the practical surgeon. Altogether it is a broad book, full of interesting facts, eminently sound in its pathology, and founded on an exceptionally large experience of a conscientious and painstaking observer.

A MANUAL OF OPERATIVE SURGERY. By LEWIS A. STIMSON, B.A., M.D., Surgeon to New York, Bellevue, and Hudson Street Hospitals, and JOHN ROGERS, JR., B.A., M.D., Assistant Demonstrator of Anatomy, College of Physicians and Surgeons, New York. Third Edition. 12mo, pp. 598. Philadelphia: Lea Brothers & Co. 1895.

THIS compact, tersely written manual has been almost rewritten in the laudable effort to note the important changes in the science and practice of operative surgery during the past ten years. A number of the useless operations described in former editions have been omitted, and a number of new ones which have proved valuable have been inserted, notably those referring to the abdomen and cranium. The illustrations are plentiful, and the descriptions of technique are admirable for their clearness.

BULLETIN (NO. 8) OF THE HARVARD MEDICAL ALUMNI ASSOCIATION. Report of the Fifth Annual Meeting held in Boston, June 25, 1895.

WE are always glad to read these after-dinner speeches, even if we cannot always laugh where [laughter] is indicated. One can learn much from them, and it is interesting to know just where the Harvard man puts in his applause. The general style of the bulletin is surely attractive and creditable. The Association appears to be in a very healthy state.

SUPPLEMENT TO THE INTERNATIONAL ENCYCLOPÆDIA OF SURGERY. Edited by JOHN ASHHURST, JR., M.D., LL.D., Philadelphia. One royal octavo, pp. 1136. New York: William Wood & Co. 1895.

THIS large volume, corresponding in size with the original ones which comprise the well-known series of the International Encyclopædia of Surgery, forms a becoming and exhaustive supplement of that work in presenting the latest and more advanced views of eminent authors on the various topics of newer interest in progressive modern surgery. No less than forty-eight contributors have written articles on fifty-five different subjects, that have been specially studied with the view of bringing them up to date in all essential and practical particulars. In such a view the work is a good and useful supplement to any treatise on surgery, and as a volume by itself it surveys a field of recent experience that is broad enough to give it a value, essentially and peculiarly its own, as a leading text-book for the progressive surgeon and advanced student. The arrangement of subjects has been judiciously made by the editor, and the spaces assigned to the writers are in accordance with the importance of the subjects on the one hand, and the amount of new material to be digested on the other. Commencing with a well-written digest, by Dr. H. C. Ernst, of the more recent views on inflammations, and more particularly from a bacteriological stand-point, there naturally follows one on Wounds and Wound Treatment, by Dr. Kammerer. This is a thoroughly exhaustive article, and gives ample evidence of a practical knowledge of the subject. The painstaking thoroughness of Dr. Kiliani in his chapter on Diseases Complicating Wounds will be fully appreciated by the reader. The experiences of Professor Conner in gunshot wounds will carry their due weight, giving in small compass the really essential methods of their modern treatment. Dr. Packard, on Poisoned Wounds, presents some new and interesting facts connected with their causes and treatment, especially such as are received in dissection and operation. Dr. Gaston, in his article on Hydrophobia, speaks earnestly, if not convincingly, of Pasteur's preventive method. Dr. Forcheimer, in a short chapter on Scrofula and Tuberculosis, lays the groundwork for the detailed treatment of their numerous manifestations as given by the writers who follow. Dr. Lewis Smith's article on Rachitis lays down those broader principles on which the more strictly medical treatment is founded. Dr. Wharton, on Abscesses and Ulcers, appropriately endorses the value of Thiersch's method as well as that of skin transplantation in selected cases. Gangrene and gangrenous diseases is the topic discussed by Dr. E. M. Moore, in his usually comprehensive and exhaustive style. Dr. Bouffleur contributes an exceedingly practical article on Anæsthesia, which shows wide reading and close observation. The more recent and approved methods of Amputation, special and general, are treated by the scholarly editor. The chapter on Tumors, by Dr. Curtis, is one of the leading features of the work, and is filled with all the newest observations on this always interesting topic. Dr. J. William White, on Venereal Diseases, confines himself mostly to the management of gonorrhœal affections, and leans strongly to the antiseptic management of all urethral discharges.

Dr. Sturgis, in treating of the non-specific venereal sore, very properly dwells on the very radical measures for its arrest, while Dr. Van Harlingen, on Syphilis, is equally happy in his clearly presented views regarding diagnosis. Dr. J. Abbott Cantrell's chapter on Diseases of the Skin and its Appendages has a unique value, in that it groups together some of the rarer and more interesting forms of these affections in a way that is eminently satisfactory. Dr. Ashhurst, in an article on Diseases of the Cellular Tissue, gives a very clear account of a set of troubles that are seldom grouped together. Following these are chapters on general and special injuries of the blood-vessels, lymphatics, nerves, bursæ,

bones, joints, head, back, nose, ear, face, throat, neck, œsophagus, and chest, by various leading authorities. The articles on Intubation, by Dr. H. W. Wharton, on Injuries and Diseases of the Abdomen, by Dr. Van Der Veer, and on Intestinal Obstruction, by the Editor, are especially worthy of careful reading and earnest study. Dr. Hunter McGuire's Discussion of Diseases of the Bladder and Prostate is short and to the point, especially in so far as he omits all reference to the absurd method of castration for enlarged prostate. Dr. Keyes still leans to lithotrity as the usual method of treatment of vesical calculus, and makes some capital and suggestive remarks concerning the true value of supra-pubic lithotomy. The chapter on Injuries and Diseases of the Urethra, by Dr. Thomas R. Neilson, gives a very interesting account of the principles and practice of urethroscopy as an efficient aid to treatment. The Injuries and Diseases of the Male Genital Organs, by Dr. G. W. Davis, goes very thoroughly into the whole subject, and compresses in a comparatively small compass for easy reference a large amount of practical information. The technique of Abdominal Ovariotomy is presented from the modern standpoint by Dr. Charles B. Penrose, and deserved attention is given to supra-vaginal hysterectomy for uterine cancer. Dr. Robert P. Harris treats very fully of the indications and methods of modern Cæsarean Section and Symphyseotomy. Dr. Theophilus Parvin follows with Injuries and Diseases of the Female Genitals, and among other appropriate things in keeping with the general design of his topic, very clearly describes Tait's new operation for ruptured perineum; Wenckel's posterior colporrhaphia; Martin's elytrorrhaphia; Sanger's perinorrhaphy, and Sanger's substitute for Emmet's cervix operation. Lastly, Dr. Edward Cowles offers some excellent plans for the construction of the larger and smaller hospitals on an aseptic basis. The volume is profusely illustrated from original drawings and contains a well-executed chromo-lithographic plate of ulcerating mammary carcinoma.

HISTORY OF EPIDEMICS, WITH REFERENCE TO ANIMAL EPIDEMICS. By DR. B. M. LERSCH, Berlin. 1896. Pp. 4855. Published by S. Karger.

THE writer says in his preface that the history of epidemics, from the oldest time up to the present, furnishes to the thoughtful physician much instruction upon the hygienic questions of to-day. There is no doubt about this, and we think that the author has supplied us with an extremely interesting and valuable work. The history begins with the references to epidemics in the earliest times in Egypt, Babylon, and China, but the systematic descriptions of epidemics date back no further than the Athenian pest of about 430 B.C. The author goes on from this time, century by century, describing the principal epidemics that have occurred, mainly in Europe. It is a sad record of the sufferings of human beings through ignorance of how to live healthfully, and how to prevent the spreading of disease when it has attacked a community.

A Noble Epitaph.—The scientific record of Pasteur is thus summed up on a marble tablet which was recently set up by order of the Paris Municipal Council in the old laboratory of the École Normale:

ICI FUT LE LABORATOIRE DE PASTEUR.
1837.—Fermentations.
1860.—Générations spontanées.
1865.—Maladies des vins et des
1868.—Maladies des vers à soie.
1881.—Virus et vaccins.
1885.—Prophylaxie de la rage.

A New Journal on Diseases of Children.—We have received the first number, dated January 1, 1896, of *Pediatrics*, a journal that will speedily win for itself the favor of workers in children's diseases, if it succeeds in maintaining the excellence of its initial number. The editor is Dr. George A. Carpenter, of London, and the owner Dr. Dillon Brown, of this city. The staff of collaborators includes such well-known names as Jacobi, Forchheimer, Eve, Boas, Grandin, J. Nevins Hyde, Dawson Williams, Joseph Collins, and Gowers. The contributors to this first number are Jacobi, Fruitnight, Lilienthal, Phelps, Sutherland, Manges, and Collins. The cover of the journal is strikingly original and neat, and the illustrations are very good.

Society Reports.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Adjourned Annual and Stated Meetings, November 25, 1895.

EGBERT H. GRANDIN, M.D., LATER E. D. FISHER, M.D., IN THE CHAIR.

Annual Dues.—On motion of the treasurer, DR. JOHN S. WARREN, the annual dues were made three dollars, as usual. The comitia was empowered to expend such money as was necessary to defray the expenses of the Society.

Report of the Committee on Hygiene.—DR. GEORGE B. FOWLER read the report. He first pointed out the earnest efforts of the city authorities to keep the streets clean, and the needed aid which the Board of Health had given the Street Commissioner, by allowing him a sum of money to meet a prospective deficiency in his department. The health and hygienic condition of the city was almost wholly in the hands of the Health Department, and with the proper support of the medical profession, there could be no doubt but what it would yet largely control many forms of disease which at present added greatly to the death-rate. During the past twenty-five years the death-rate had been gradually reduced from 33 to 20 per thousand. The new tenement-house work was destined not only to reduce the mortality among the poor, but also to increase the standard of intelligence and citizenship. The importance of the public baths was dwelt upon, the only one in the city having ten baths had been used during the three years of its existence 219,000 times. A number of these were to be erected through the city, fifty by one hundred feet, each to contain eighty-six baths. There were also to be established as many as one hundred public urinals and water-closets.

The next subject touched upon was the use of antitoxin by the Board of Health for the purpose of curing and preventing the spread of diphtheria. The reports from European countries, and from Dr. Biggs, of the Health Department in this city, appeared to show very favorable results from antitoxin, but Dr. Fowler thought they were not yet conclusive. We were not justified in accepting laboratory and special hospital experiments while ignoring the results of vast clinical experience. We had to await further observations, meanwhile testing the value of modern me 'iods in order to keep abreast the times.

The Medical Directory.—DR. DANIEL LE IS, Editor of the *Medical Directory*, read his rep rt. An additional expense had been assumed in publ hing the list of physicians in New York State, New J sey, and Connecticut, yet there was a balance to th credit of the Society of $152. The book had a wider circulation than any previous year. Members were requested to notify the editor of any errors or alterations which should be made.

Address of the Retiring President.—DR. EGBERT H. GRANDIN, in relinquishing the office of president to his successor, said:

GENTLEMEN: The Society year which is expiring, it seems to me, may rank with its predecessors in that it has maintained the Medical Society of the County of New York as the leading society in the world holding stated meetings. The membership has been increased by one hundred and one. Death has laid his hand upon us with more frequency than usual, fifteen of the members having passed to their reward, each in his sphere having achieved something for the good of humanity and, in particular, of this community, and each meriting the words "Well done, thou good and faithful

servant." The attendance at the meetings has been of the most gratifying nature. The scientific papers presented have been of a high order of merit, brief and practical, and the selection of the papers has been with the aim of interesting the various special lines of work which are cultivated by the members of the Society. The special meeting held to protest against official folly as exemplified, in particular, by coroners, has borne fruit in that it proved that this Society did not propose to allow indignity to be inflicted on its members without forcible protest. The coroner system, however, is still with us. And yet this office is gradually hanging itself, on which occurrence this community may possess a system worthy of the age in which we live, instead of one which is the constant laughing-stock of the country. Under the revised constitution the legislators at Albany should find no difficulty in abolishing an office which is as useless as it is ludicrous.

Sufficient influence was in control at Albany last winter to side-track your resolution protesting against the wording of the law which prevents a medical man serving as president of the Board of Health of this city. The contention that this clause of the law is unconstitutional appears valid, in that it makes special exemption against the citizen. Further still, it must be obvious that a medical man is from education better qualified to serve as president of a Board of Health than the average bank president, clerk, politician, or what not. A medical president of the Board of Health, were the emolument of the office sufficient to enable a medical man of the right calibre to accept, would not only add lustre to the board, but carry the conviction that political influence could play no part in matters affecting the health of the city, whether it lay in the abatement of nuisances or the selection of competent subordinates.

The suggestions of your standing committees on Ethics and Prize Essay are so fresh in your minds, that I need do no more than acquiesce; and yet, while referring to this matter of committees, I would state my conviction that the interests of the Society require that the chairmen of the committees on Ethics and of Hygiene should be members of the Comitia, in order that the officers of the Society may be in constant touch and sympathy with these committees.

The report of your counsel proves that, under the law signed by a liberal-minded Governor last spring, the Society is beginning to rid the community of the quacks and the impostors who fatten on the credulity of the populace, too often to its injury, if not death. Abortionists we are as yet unable to reach owing to the difficulty of securing evidence, although the leniency shown these offenders by the legal officers of the county, even though indicted, might well make us sceptical as to the utility of causing arrest, had we evidence. In accordance with instructions received from the Society steps have been taken, and the effort will be continued, to prosecute druggists who, holding no degree in medicine, practise and prescribe over the counter. Of course you appreciate the fact that all this entails the expenditure of considerable money, but the counsel believes that at the end of the year the receipts from fines will practically make the legal bureau of the Society self-supporting. Even if the reverse proves to be the case, the good accomplished justifies the Society in the extra outlay involved. It is to be regretted that in this county we have not the same power as, I am informed, obtains in at least another, of regulating the practice of midwives. Since these women, owing to the nature of our population, must exist, the community should insist that they possess at least the requisite qualifications, such as obtain in Austria, for example. Not only does puerperal sepsis still exist in this city, owing largely to the ignorance of the midwives, but *ophthalmia neonati*, with its frightful consequences, cannot be stamped out. While it is not within my province to make suggestions, I would express the hope that the Society may see fit to endeavor to secure proper legislation, looking to the registration of midwives after suitable examination. The *Medical Directory* of the Society has this year been enlarged, as has been stated by the Editor, so that the necessity for the publication of any other ceases to exist. Just so long as this *Directory* is given free of charge to the members of the Society it is impossible to eliminate what in the opinion of many members is objectionable, that is to say, the advertising pages. To express the opinion of an individual in regard to this question, I think it might be well to have future issues published without advertising matter, and that copies should be sold at as low a rate as will pay the expense of publication.

At the last meeting of the Society action was taken on an appeal from a decision of the Comitia, and the Society endorsed the precedent, that it was responsible for remarks made by its members, irrespective of the nature of the remarks. It would appear to me that this precedent is an exceedingly dangerous one to establish, although, as a member of this Society, I favor as strongly as anyone the protection of the rights of the members. The way out of the difficulty is for the Society to hold executive sessions, where the greatest possible latitude of speech would be allowable; at any rate, members should be instructed to remember that, under the By-Laws, the officers of the Society, constituting the executive committee, should be consulted in reference to matters which might lead to litigation before such matters are introduced in public meeting.

At the same meeting a temperate protest against what many members of the Society deem an outrage, was presented and accepted by practically an unanimous vote. The matter of the protest is one which allows of honest difference of opinion, and yet it is one which, speaking from the stand-point of an unprejudiced individual, was bound sooner or later to force itself on the attention of this Society. In my address on the occasion when I assumed the position of high honor which I am on the point of relinquishing, I endeavored to show you how, if you each exerted your influence, you could most effectively and powerfully mould public opinion in the direction which, as professional men, you wish. I endeavored to point out to you that one reason why you carried little influence was because you little realized your power in obtaining your rights by, as a body, insisting upon them. Now that I am about to make the parting words in my career from a position of public honor and of great trust, you will pardon my frankness if I go further and tell you that outrage is inflicted upon you, and you do not gain what you deserve, because you do not act together for the good of one another. In the fifteen years that I have lived and practised among and with you I would have you believe that it has not been with closed eyes, even as I assert that it has been on an entirely independent basis. I naturally feel, therefore, that the conclusions I have reached should be definitely stated, even though not one of you here present to-night can agree with me.

In the years I have spent in this city I have seen the gradual evolution of a monopoly in medical circles such as, if it be not strangled, will render it difficult for all but the favored few to secure a livelihood out of the practice of medicine and of surgery. I have seen the dispensary arise in all quarters of the city, supposedly endowed for the care of the worthy poor; I have seen hospitals stretching out their tentacles so as to include even the care of the worthy rich, although, under the ground of their endowments, they were only entitled to help the needy. Meantime the general practitioner—the bone and the sinew of our profession—has seen his income dwindle and his patients grow beautifully less, his panacea being the reading of the glowing annual reports of dispensary and hospital, showing the good done supposedly to the worthy poor, and to these alone. I am far from deriding the value

of both hospital and of dispensary; on the contrary, were I rich beyond the needs of those dependent on me, I might be tempted to open and to endow both hospital and dispensary. Conducted, however, they would be on the following cardinal principles: Only those entitled by reason of poverty could gain entrance, and the physicians and the surgeons and the internes who cared for these poverty-stricken sick would receive remuneration for the services rendered. The laborer is worthy of his hire, even though he be a medical man. When, if it so happened, the medical staff had dispute with Boards of Governors, right and equity being on their side, I would not tolerate, in the event of resignation for principle, the prompt filling of position by other medical men, giving rise to the utterance on the part of Boards of Governors, "the places are easily filled!" I would expect the colleagues of those who resigned to stand up for the principle at stake, and to make Boards of Governors the servants instead of the masters of medical men. On the medical man falls the labor, the anxious nights and days full of the greatest of all responsibilities—that of human life! Why, pray, should the medical man bear the trying burden only to receive that treatment which even the dumb animal would protest against? Stand together, therefore, brethren, where principle is at stake, and do not so quickly fill the places left vacant because of principle.

So much for the solution of the dispensary and the incorporated hospital abuse as viewed by a man who can talk freely because he is untrammelled.

Next, as regards the public hospitals of this city. The sympathy of this Society is certainly with the cause of higher education. Whatever will tend to turn out a better class of medical practitioners will ever receive the sanction and the active support of the Medical Society of the County of New York. As members of this Society and of the profession of medicine, we are proud of the record of our institutions for medical instruction. We realize that this city is destined to become the chief centre of medical instruction in the world; toward that end we all labor. But as members of the medical profession, can we rest satisfied with seeing a monopoly grow up in our midst, a hydra-headed trust against which our ancestors long ago protested? We are all tax-payers, are we not entitled to equal representation? When I say *we*, I mean the general practitioner.

Who is it that earns his living, often literally, by the sweat of his brow? It is not the successful hospital surgeon or the professor in the medical school, whose salary suffices to lift him above anxiety about the bread and the butter of his wife and his little ones. It is the general practitioner, and what with the illegitimate lending of aid to the well-to-do by hospitals and dispensaries, and the filling of private rooms in the former by those whose means and positions do not lend justification; and what with the passing of the charity hospitals beyond the reach of the average practitioner, who needs the experience there to be secured and the éclat of the titles, and who is just as solicitous for the well-being of the wards of the Commissioners of Public Charities as his more favored brother, the professor, can possibly be; if this sucking of everything into the maelstrom of monopoly goes on, what, I would ask you, is to become of *you*, the general practitioner?

From my stand-point, again an unbiassed one, for I have given up teaching and hospital appointment, each and every one of you should have the privilege of competing for positions in the public hospitals, so that you as well may acquire experience and do that which the minority are now alone able to do—show your ever-present solicitude for the health and the well-being of the wards of the city. Further still, as individuals, it seems to me you should exercise your undoubted influence in securing the appointment of Commissioners of Public Charities who, in matters which concern the entire medical profession, should seek the advice of the many instead of being under the domination of the few. The unselfish aim of the many is a safer guide than the self-seeking aim of the few. The entire profession feels a live interest in, we will say, the welfare of the babes on Randall's Island, and the voice of the entire profession might well be raised in protest against existing abuses, whether these abuses be due to parsimony or to negligence.

The utterance of these stray thoughts will be pardoned, I trust, in the face of the fact that I would deem myself dishonest did I not express them. I am not placing myself at variance with the opinion of any other to whom I willingly grant the credit of honest difference of opinion. I only crave exactly the same indulgence.

Gentlemen, for the favor shown me, for the cordial co-operation granted me, for the indulgence extended me, I tender my thanks. Whatever has been accomplished this year, the credit is yours.

You have chosen as my successor in office a man who has ever proved faithful to trust, and therefore he will serve you well. You have selected a man who has earned deserved reputation, and therefore he will add lustre to the records of the Society. Fearless and impartial, he will maintain you where I trust I have left you—on the topmost wave of prosperity and of renown.

It remains for me to declare the adjourned annual meeting adjourned *sine die*, and to introduce the President, Dr. Edward D. Fisher.

Address of the President-Elect.—Dr. Edward D. Fisher, in assuming the duties of presiding officer for the current year, thanked the Society for the honor which it had conferred upon him. He mentioned briefly the objects of the Society and the duties of the officers. The influence of the Society was great, and should not be thrown with undue consideration on either side of any question of importance which might be presented to it. We must resist being carried away by impulse. Papers presented before it should be of general interest, touching directly upon general medicine.

Committees.—Dr. Fisher appointed the following committees: On Hygiene, Drs. J. W. Brannan, E. S. Peck, E. Le Fevre, G. W. Jacoby, Dillon Brown; on Ethics, Drs. T. E. Satterthwaite, J. B. Tuttle, B. J. Knapp, N. E. Brill, H. Stern; Prize Essay, Drs. W. H. Katzenbach, D. B. Delavan, J. E. Weeks; Auditing, Drs. V. P. Gibney, George Woolsey.

Some Intra-nasal Causes of Headache.—Dr. James E. H. Nichols read the paper. A study of the causes of headache as given in the text-books on general medicine failed to reveal an adequate conception by general writers of the frequent etiological bearings which nasal disease had on this distressing affliction. Sinkler and Wood were quoted; also Foster's Dictionary. On the other hand, rhinologists and laryngologists frequently saw cases of headache in which the cause was a disordered or diseased condition of the structures within the nasal cavities. Attempts had been made to localize the disease by the area in which pain was felt, in most cases accompanied by tenderness on pressure. After quoting Head on these areas, he said that while they were undoubtedly present, they were not sufficiently definite to be of much value in diagnosis.

Ethmoidal disease was much more common than we had been apt to suppose, and longer and more obscure in its course. It was not necessary that there should be a profuse nasal discharge to indicate ethmoidal disease, but the situation of the exit of pus, and its intermittency and persistency were the points most valuable in clearing up such cases. A woman, aged twenty-seven, had suffered nearly twenty years from periodically recurring headaches of an extreme type, coming on nearly every week. The day following the crisis of the attack there would be a discharge of thin muco-pus, not

of large quantity, and not malodorous, and then there would be comparative freedom until another attack. Examination at the time of the attack showed the right middle turbinated hyperæmic and pressing hard on the septum, muco-pus coursing down. The head pain was over nearly the entire right side. The anterior extremity of the middle turbinated body was removed, and the ethmoidal cells entered. These were broken down, irrigated, and the frontal sinus was also washed out. Immediate relief was experienced, and after further treatment she was cured. He had notes of several similar cases, in all of which the headache disappeared as soon as the passages were opened and exit given the retained secretions. The headaches, he said, were not sympathetic or referred pains, but were due to pressure of the retained secretions, and were purely of mechanical origin. The author accepted the theory that the seat of pain in headache was not in the cortex, but in the meninges, and was due to vascular dilatation, producing intra-cranial pressure and compression of the dura.

Several cases were cited, showing disease of various localized areas in the nose, in all of which the chief symptom was headache. In one, the headache disappeared after removal of a piece of spongy, syphilomatous tissue springing from the septum and obstructing the superior meatus. In another case a school-boy had suffered from continued headache on the right side, which disappeared on removing a spur of bony tissue springing from the septum, projecting into the middle turbinated, of traumatic origin. This, the author said, could be recorded as a case of hyperæsthetic congestion induced by mechanical pressure. The next case was one of recurrent attacks of nasal stoppage, followed by profuse discharge of viscid fluid from right nostril, due to cyst of the inferior turbinated, removal of which cured attacks of severe frontal and orbital headache, most marked on same side.

Such of the very obscure causes of pressure as myxomata, hypertrophied turbinated bodies, and extreme deviations of the septum, need hardly be mentioned, but the obscurer cases of disease of the accessory sinuses must be thoroughly searched out. Of the latter kind the author related two cases.

It was a conclusion from his observation that headaches were more frequently of nasal origin than was generally suspected; that they were in the main of congestive variety, and due to interference with the circulation of the dura mater by pressure at some point in the nasal cavity, or accessory sinuses, induced by retained secretions and by hypertrophies of the membrane or abnormalities of osseous structure. The pressure was generally on some branch of the ophthalmic vein. Abnormal conditions in the inferior meatus induced free pains, but not cephalalgia. Headaches in which the area of intensity was about the orbit were most apt to be due to disease of the ethmoid cells and antrum. Successive attacks of a similar nature were generally of nasal origin.

Dr. Andrew H. Smith thought the explanation of headaches given by the author was hardly broad enough to cover the entire field. It was well known how often headache was reflex in origin from a distant centre; why not sometimes from a nearer point, as the nasal passages. All were probably familiar with the headache which was sometimes produced very suddenly by irritation of the nasal membrane on passing into the cold air, and he thought this was of reflex origin rather than of obstructive origin as described in the paper. Headache from pungent odors was another example of reflex rather than obstructive headache.

Regarding the seat of the headache, he recalled the case of a gentleman in whom it was in the occipital portion, while the cause was disease in the frontal sinus. The headache ceased with discharge of fluid from the frontal sinus.

Dr. A. Edward Davis made some remarks and confirmed the diagnosis in one of Dr. Nichol's cases, and the discussion was continued by Drs. Mayer, M. L. Foster, and Meyerhof.

Report of Special Committee.—The special committee appointed at the last meeting to present the resolutions then adopted, condemning the new arrangement for appointing medical boards in the public hospitals, to the mayor and to the commissioners, reported that copies of the resolutions had been sent the gentlemen, but no answer had been received, and the mayor had declined to see the subcommittee which had called upon him. The report was received and the committee discharged with thanks.

Civil Service and Hospital Appointments.—The following notice had been printed on the card announcing the meeting:

Resolved, That the Medical Society of the County of New York respectfully urges his honor Mayor Strong to place all appointments of visiting and assistant physicians and surgeons, and all salaried resident medical officers to all the hospitals, asylums, and other institutions now governed by the Commissioners of Charities and Correction, under civil service rules.

Dr. N. E. Brill moved the adoption of the resolution.

Dr. F. R. Sturgis seconded the motion. He said we did not come here as sore-heads because we had lost positions. The Commissioners of Charities had a perfect right to make the dismissals. But we wished to protest against the mode of making the new appointments. The old method had at least a semblance of fairness. Every member of the profession could present himself as a candidate under that method, although it was well known that the question of whether he be given the position depended not a little upon political influence. Under the new method no man who was not favored by his connection with one of three medical schools stood more than one chance in four of getting the slightest consideration in his desire to serve the city and reap the benefit of hospital experience. In the matter of the recommendations from the fourth division of Bellevue, supposed to represent the general profession, the Commissioners could hardly be expected to act impartially. It was said the change had been made in the interests of medical education. If this was the purpose of the Commissioners, they had transcended their functions. As a matter of fact it was made in the interests of a medical monopoly, and was planned by a few men connected with colleges, which in the past had done all they could to prevent the advance of medical education by opposing laws providing for a State Board of Examiners and regulating the practice of medicine. Forty years ago a society was formed in this city by a few medical men, whose aim was to control all hospital appointments and consultation practice. If the general profession to-day did not give heed to the warning, they would find their practice pass into the hands of this limited circle, or engulfed in the public dispensaries and hospitals.

Dr. Warden opposed the adoption of the resolution, more especially because if it were adopted the present appointees could not be removed.

Dr. A. P. Dudley opposed it for the same reason, and also because the demand would not be heeded, and our position would be worse than if it had not been made.

After a few more remarks the resolution was adopted.

Dr. J. Blake White moved that a committee, consisting of Drs. Roosa, Pryor, and R. A. Murray, be appointed to present a copy of the resolution to the mayor. Carried.

The Correspondence of the Insane.—The Assistant Postmaster-General has given the opinion that the authorities of Insane Asylums have the right to withhold letters from patients when it seems necessary to do so.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON OBSTETRICS AND GYNECOLOGY.

Stated Meeting, November 28, 1895.

HENRY C. COE, M.D., CHAIRMAN.

A Contribution to the Study of Lactation Atrophy of the Uterus.—DR. H. N. VINEBERG read a paper on this subject. It was singular that in this country lactation atrophy of the uterus had received no attention; indeed the condition seemed here to have escaped observation. The opinion commonly prevailed that the uterus never returned after childbirth to the virginal size, unless as a result of pathological change.

The condition under consideration was not that which was usually known here as hyperinvolution. It was the form of super- or hyperinvolution accompanying lactation, with or without amenorrhœa, in which the reduction in size was temporary only, the return to the normal size being in some cases dependent on return of menstruation, in others on regeneration of tissue while lactation was still going on.

The author's attention had been drawn to the condition a few years ago, at the Mt. Sinai Dispensary, where he was struck by the small size of the uterus found in a great number of nursing women. In the majority there was no indigestion, malnutrition, trouble with lactation, or other disturbance. Further observation taught him that the atrophy was only temporary, the uterus again increasing in size. With the return of menstruation conception was likely to occur again, and in some it took place before recurrence of menstruation.

The two principal European writers on the subject were Engström and Thorn, and they were at variance as to the causation, the former attributing it to atrophy, similar to what occurred in constitutional diseases, like syphilis, while the latter regarded it as a normal process usually, and occurring even in robust women with hygienic surroundings. Dr. Vineberg's observations tended to confirm Thorn's views. Regarding what should be considered an atrophic uterus, the bearing organ should measure 7.5 to 8 ctm. Falling below that, it could be regarded as atrophic, and surely so when it fell below half the size of the nulliparous uterus, as he had known it to do.

Two varieties of atrophy had been recognized, the eccentric and the concentric, but they were really differences in degree. According to his observation the process affected both the body and cervix, and when the cervix was larger than the body it was apt to be due to some pathological change, such as that produced by laceration. He could not in his cases demonstrate noticeable changes in the size of the ovaries. Regarding how soon lactation atrophy might show itself, it had been demonstrable even as soon as the twenty-first day, his own measurements showed it present at a period from seven weeks to twenty months. Bimanual palpation by an experienced man gave more reliable information than the sound alone. In fact in eccentric atrophy the sound was apt to indicate the depth of the normal uterus. In his cases the minimum depth of the uterus was 4, the maximum 8 ctm.

These women were not anæmic; out of fourteen cases in which the blood was examined the number of red blood-cells fell below the normal only in one. Anæmic women were more likely to have subinvolution. The degree of atrophy in phthisis had commonly been over-estimated. Dr. Vineberg had seen a number of instances of conception take place during lactation, without intervention of the menstrual flow.

Our views of the anatomico-pathological anatomy of the uterus had to undergo a change in the light of recent research. Several authors were quoted, but in general Dr. Vineberg agreed with Saenger. Muscular fibres of the uterus did not completely disappear during involution, but simply atrophied, the function of lactation promoting this physiological process. Just how it did so was a matter on which opinions differed, but it was probably through nervous influence. The progress could be carried too far, yet out of at least two hundred cases of lactation atrophy seen by Dr. Vineberg there had been only two or three instances in which there had been permanent hyperinvolution. He recalled one case in which the atrophied uterus required twenty-five months to regain its normal size.

In the treatment of lactation atrophy keep up good nutrition, and do not allow the patient to nurse the child longer than the usual period. Dr. Vineberg thought many of the disturbances following pregnancy could be avoided if the physician would make it a rule to see his patients once a week, or two weeks, for three or more months subsequently.

In calling for discussion, the CHAIRMAN mentioned two practical points: the duty of the physician to see the patient several weeks after delivery; and the treatment of hyperinvolution.

Mothers, Nurse your own Children.—DR. RALPH WALDO said it was his custom to urge upon his patients the necessity for nursing their own children, not only for the benefit of the child, but because it hastened involution. When mothers did not nurse their own children the uterus was apt to remain in a state of subinvolution.

The CHAIRMAN remarked that subinvolution was supposed usually to follow laceration of the cervix; yet, as the author had shown, the uterus was sometimes unusually small, and a little further explanation of these cases might be well.

DR. VINEBERG said it was true that often where there was marked laceration of the cervix the body of the uterus was small, although the cervix might be large, even larger than the body of the organ. But where there was no laceration the cervix atrophied in proportion to the body. Dr. Waldo's remarks coincided with the point made in the paper, that it should be the earnest desire of the accoucheur to bring about this hyperinvolution. A uterus which was the size of the normal organ by the twelfth week of lactation had not undergone the full degree of involution.

Venous Thrombosis as a Cause of Sudden Death in the Puerperium.—DR. ELIZABETH CUSHIER read the paper, giving the histories of two cases of sudden death from thrombosis or embolism some days after delivery, and collating a number of others. Her own two cases were seen in 1878. The first was in a stout woman, who had entered the infirmary for her sixth confinement. The labor was normal, but a few hours after labor she experienced a severe pain and the uterus was found at the umbilicus. No clot was discovered. Ergot was given. The temperature at no time exceeded 99.5° F.; pulse, 80. The temperature, pulse, and respiration were about normal on the ninth day, and she was permitted to sit up. About eleven o'clock Dr. Cushier was sent for in haste; the patient had fainted. She found her unconscious, eyes fixed, pupils dilated, pulse full and regular, violent respiratory efforts. Consciousness soon returned, but soon the heart ceased to beat, and the patient gasped for air; the faradic current restored consciousness for a little, and she spoke intelligently, then turned on her side, when the heart and respiration ceased. The attack had lasted not longer than half an hour. Autopsy, four hours after death, showed venous clots in uterine and ovarian vessels, also clot occluding the pulmonary vein and causing distention of the right ventricle.

The other case was similar, but the patient had been under observation from the fourth month of pregnancy, and the urine had contained some albumin, the quantity increasing toward the end of gestation. Labor was slow, tendency to uterine relaxation, small child, not much loss of blood, rather free lochial discharge, and rather tardy diminution in size of the uterus, otherwise the lying-in was normal. The patient sat

up for a short time on the ninth day. On the morning of the tenth Dr. Cushier was called in haste, and on arriving found the patient dead. She had risen, sat on a vessel, uttered a cry, fallen over, and died in a few moments. Autopsy was made under difficulties, the kidneys were large and pale, but microscopic examination was not made owing to the fact that by accident they were placed in wrong fluid. The uterus was rather large, but the only clots found were in the saphenous vein of the leg and in the pulmonary artery, extending as far as its second division.

The object of the paper was to emphasize the importance of a knowledge of the facts connected with these cases with a view to their prevention. The cases collected by Sperling and by herself were used to show the frequent association of the accident and thrombosis of distant veins; that venous thrombosis was the result of changes in the blood; and that the blood coagulation might be prevented. The factors which favored blood coagulation in the veins of the puerperal woman were several: changes due to exhaustive hemorrhage; to septic material in the veins and lymphatics; formation of thrombi in the uterine sinuses previous to labor, as a result of partial separation of the placenta, when hemorrhage, instead of being controlled by contraction of the uterine fibres, must be arrested by coagulation of blood. The cases quoted from Sperling, about thirty-five in number, and those collated by herself, about twenty in number, showed one or more of these factors present as a rule. The frequent association of phlegmasia was to be especially emphasized, as it was present in at least twenty-eight or fifty per cent. of the number collated.

In analyzing the cases with reference to the possibility of foreseeing, and perhaps preventing, this accident of childbirth, note, 1, pre-existing infection; 2, association of the accident with premature separation of the placenta, and probably formation of thrombi in the uterine sinuses preceding labor; 3, general conditions which tended to interfere with normal retractility of the uterus, and the danger of powerful uterine contractions where inertia had previously existed.

The CHAIRMAN, on calling for discussion, remarked on the fact that sudden death in these cases occurred not immediately after labor, but several days after; also on the custom of some of letting the patient rise within twelve hours after labor, and the possible bearing this might have on the accident, or at least upon the responsibility reflected upon the physician.

DR. VINEBERG had seen none of the cases under discussion. He thought we should be guided by the condition of the uterus in deciding upon the time when the patient should be allowed to get up, and not follow any fixed rule as to time, say the customary one of the tenth day. He had sometimes allowed the woman to sit up before he thought it was advisable, on account of the condition of the uterus, and nearly always some trouble had followed. Where phlegmasia alba dolens had occurred his impression had been that there was some form of infection. His custom was to examine the uterus frequently to see that contraction had occurred and that involution was going on satisfactorily.

DR. RALPH WALDO had observed that in Dr. Cushier's two cases the uterus had remained large. Like in many obscure subjects, he thought there were a number of etiological factors here. In many cases of labor there was a tendency to thrombosis, especially in the extremities, and thrombi becoming dislodged might go to the lungs and prove fatal. In view of the obscurity of the cases he thought we were hardly justified in making a diagnosis of thrombus of the pulmonary vein unless proven by autopsy. He would insist upon keeping a patient abed as long as the uterus was large, or there were thrombi in that organ or the veins. He believed the notion that a woman should always get up by the ninth day had cost many lives. The patient should be allowed to get up and go about only after having returned to normal condition, just as after some disease.

DR. GEORGE W. JARMAN said that when he was hospital interne he had seen a number of cases of phlebitis after gynecological operations, and a few of these patients had died, not of the phlebitis, but of sepsis, which was believed to have caused the phlebitis, but out of the entire number he could recall none in which there was thrombosis of the pulmonary artery. He would ask why this should be if in pulmonary thrombosis or embolism during the puerperium it was due to breaking away of clot from the veins of the extremities. He mentioned a case seen with Dr. Kennedy in which pulmonary thrombosis following labor was suspected from sudden collapse, cyanosis, rapid pulse, etc., but the breathing was different, and on inquiring for the cause he found that the untrained nurse had injected a solution of carbolic acid into the rectum instead of into the vagina, as directed by Dr. Kennedy. As soon as he introduced his fingers and let it flow out, the patient rapidly recovered.

The CHAIRMAN recalled a case in which symptoms similar to those described by Dr. Cushier occurred twice on giving intra-uterine douche about the fifth day after labor.

DR. CUSHIER said that formerly she did not keep patients abed as long after labor as at present, and some unpleasant symptoms were to be attributed to that fact; but she believed in going by the condition, not by the day. Regarding Dr. Jarman's question, she did not attempt to answer it in full, but stated that sometimes in phlebitis not associated with the puerperium infarction of the lungs occurred.

THE NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, October 23, 1895.

GEORGE P. BIGGS, M.D., PRESIDENT, IN THE CHAIR.

Fibro-adenoma of the Liver.—DR. WARREN COLEMAN presented such a specimen. The tumor was removed from a man, aged sixty-eight, who died in Bellevue Hospital, and its presence was not suspected until the liver had been cut into. The liver was cirrhotic and fatty, and markedly bile-stained. Its left lobe was very large—so large, indeed, that it led during life to the assumption that a tumor existed in this situation. It measured 19½ ctm. in its vertical diameter, 6.25 ctm. in its antero-posterior diameter, and 13 ctm. from its left edge to the transverse fissure. The fibro-adenoma was situated in the right lobe of the liver, near to its posterior surface, and in the region of the larger bile-ducts where they converge to form the right hepatic duct. It was spheroidal in shape, and measured approximately 3 ctm. by 3 ctm. It had a solid, white, somewhat translucent appearance, and a dense, hard feel. Its relation to the blood-vessels and bile-ducts made it seem as if fibrous septa ran off into the surrounding liver tissue. It cut hard at the autopsy, and the diagnosis lay at first between primary carcinoma originating in the bile-ducts and gumma. Microscopic examination, however, showed the tumor to be a fibro-adenoma. There was nothing noteworthy in the appearance of the section, except that portions of the liver substance had been inclosed by outlying bands of connective tissue. The gall-bladder was full, the left hepatic duct having remained open. The common duct was also open, but somewhat obstructed by an enlarged pancreas and adjacent lymphatic glands. The heart weighed twenty ounces. Its walls were soft and the cavities dilated, though the valves were normal. There was a thrombosis in the right auricle. The lungs contained dark liquid blood. The first division of the pulmonary artery going to the upper lobe of the left lung contained an embolus

which blocked its lumen, while the first division of the pulmonary artery to the lower lobe of the right lung also contained an embolus. The pleural cavities contained a small amount of clear liquid.

The patient's history, while in the hospital, was closely followed. Only such portions of it, however, as relate to the specimen were given. The heart and lungs were reported negative on physical examination. The liver was enlarged and extended below the free border of the ribs for one and a half to two inches. Its edge was sharp. The left lobe was more enlarged than the right, extending two-thirds of the way from the ensiform cartilage to the umbilicus. The consistency of the liver was firm. The patient died suddenly. The nurse had taken his temperature and had left him comfortable. In passing the bed a few moments later he found the patient suffering from intense dyspnœa and his pulse imperceptible. Death occurred within a few minutes, and was to be explained by the pulmonary embolism.

Dr. Coleman said it had been impossible for him to consult the literature of the subject, and the books at his disposal gave but a reference to adenomata of the liver. Welch states, in Flint's "Practice of Medicine," that adenomata of the liver present themselves in two forms—either as a vascular hyperplasia of the liver substance or as an atypical growth of bile-ducts in a nodular form. So far as his personal experience went, the speaker said adenoma of the liver had been rare, this being the first instance he had met with. He desired to express his thanks to Dr. E. P. Shelby, Jr., for preparing the sections of the tumor.

The President said that he had only seen one adenoma of the liver, and that very recently. In this case, at autopsy, a small primary tumor had been found in the right lobe, projecting slightly above the surface, and measuring about 1½ ctm. in diameter. It was whitish in color and distinctly outlined. The cause of death had been puerperal septicæmia, the subject a young adult. Microscopical examination had shown the growth to be a pure and simple adenoma of the liver tissue.

Dr. Coleman said that in his case there had been no suspicion during life of the existence of such a tumor in the liver.

Multiple Rupture of the Liver.—Dr. George P. Biggs presented portions of a liver. Three distinct ruptures were found. The specimen had been removed from a man who, while intoxicated, had fallen from a height of thirty or forty feet, and had struck on his right side. That evening he had become nervous; his temperature had been 99° F., and his pulse 76. Toward evening of the following day his temperature rose to 103.2° F., the pulse was 76, and the respirations 36. He then presented pretty well-marked symptoms of delirium tremens. Sedatives had but little effect. Shortly before death his temperature rose to 109° F. His death was evidently due to delirium tremens. Examination during life showed no fractures of bones, and no distinct evidence of internal injury, excepting, perhaps, a fracture of the base of the brain. The autopsy presented no fracture of the base—only œdema of the brain. About a teacupful of blood was found in the peritoneal cavity, distributed in every direction. It was firmly coagulated and quite adherent to the intestinal wall. The source of this hemorrhage was found to be the liver, which was considerably enlarged and very fatty. The longest rupture was in the upper border of the right lobe; it measured 8½ ctm. in length by 1½ ctm. in depth. The line of rupture was covered over with a firm fibrinous coagulum which had checked the hemorrhage completely. Another rupture was found on the under surface of the right lobe. It measured 3 ctm. in length by ¼ ctm. in depth. This also was covered over with a very firmly adherent blood-clot. The third and most extensive rupture measured 7½ ctm. in length, and 2 ctm. in depth. It began in the right lobe of the liver just at the junction of the gall-bladder with the liver substance, and midway between the neck and the fundus of the gall-bladder, and extended along the side of the gall-bladder nearly to the neck, then across the portion of liver tissue between the fissure, the right and left lobes, and the fissure of the gall-bladder. The walls of the gall-bladder were everywhere infiltrated with blood, the blood having been confined for a time beneath the peritoneum, and dissecting its way out to the gall-bladder. This rupture was also covered over by a firm blood-clot.

The case is of interest, for if the man had not died of delirium tremens he would have, in all probability, recovered from his fall in spite of the three ruptures in the liver.

Ruptured Ectopic Gestation.—Dr. Biggs then presented a specimen of ruptured ectopic gestation. Death had been due to internal hemorrhage, the true condition not having been recognized at all until the autopsy. The patient was a Scotch woman, who first came under observation on October 15th. She had had three children and one miscarriage. Six days before coming under observation, while two months pregnant, she had experienced pain in the back and abdomen, and had gone to bed. She expelled some "red lumps" from the vagina, and thinking it was a miscarriage she had had no medical treatment. The pain in the abdomen had, however, continued, and there was constant, though moderate, bleeding from the vagina. Her condition becoming serious she was taken to the hospital. On admission her temperature was 100° F.; pulse, 70; respirations, 20. She was very anæmic, supposedly from the amount of blood discharged from the vagina. She complained of pain in the abdomen and tenderness over the hypogastric region. The abdominal wall contained a thick layer of adipose tissue, precluding anything being learned by palpation. On the evening of her admission to the hospital the uterus was curetted. The cervix was sufficiently dilated to admit of the entrance of the curette. The uterus measured three and a half inches. A small quantity of odorless material was removed by the curette, and a strip of iodoform gauze was placed in the uterus. The temperature fell to 99° F. after the curetting. On the following day the temperature was 99° F., the pulse, 120, and the respirations, 40. She had passed a very restless night. That evening the temperature was 101.2° F., the pulse, 144, and the respirations, 40; and on the following day the temperature was 102.2° F.; pulse, 146 and thready, and respirations, 36. She was supposed at this time to have septic peritonitis, originating in the uterus or from a ruptured tube. An ice-coil was applied, and the packing in the uterus removed, and found to be perfectly odorless. At noon of the second day in the hospital the temperature was 104° F. She was given an intra-uterine douche, without any effect on the temperature. She vomited almost constantly. The dext day the temperature was still high, and the distention of the abdomen had increased. She died the following morning. At the autopsy the abdominal cavity was found completely filled with blood. It was estimated that eight pints of fluid blood were taken out of the abdominal cavity. In addition to this the entire hypogastric and pelvic regions were filled with a firm coagulum of blood, which appeared to have been at first partially confined. The ectopic gestation was found to have been in the upper portion of the left Fallopian tube, and the remains of the fœtus were visible in the interior of the sac. The sac, distended with the hemorrhage, measured 7 ctm. in length, 5 ctm. transversely, and 3½ ctm. vertically. The uterus was 9 ctm. long, 5½ wide at the fundus, and 3½ ctm. at the cervix.

Dr. Henry Power said that he had looked up the literature of the subject of rupture of the internal viscera, and had found that the late Dr. B. A. Watson

had experimented on one hundred and sixty-two dogs, with the idea of injuring by concussion the spinal column chiefly. He had allowed the animals to drop from a height. His observations showed no injury to the brain and spinal cord, but a large number of ruptures in the kidneys, lungs, spleen, and other organs.

Dr. H. S. Stearns asked if these ruptures referred to by Dr. Biggs had not been really quite superficial, and if the greater part of the apparent depth were not due to ecchymosis. There was an unusual amount of repair considering the short time that had elapsed between the injury and the man's death.

Dr. Biggs said that certainly two of the ruptures were quite superficial.

The Society then went into executive session.

Clinical Department.

DEPRESSED FRACTURE OF THE SKULL; TRAUMATIC AMNESIC APHASIA; RECOVERY WITHOUT OPERATION.

By GEORGE H. WILLIAMS, M.D., M.R.C.S. ENG., L.R.C.P. EDIN.

FISHKILL-ON-HUDSON, N.Y.

On October 2d, J. M——, a young man, aged nineteen, was hit on the left side of his head by a stone, during an altercation with another man. Two days later he was brought to the Highland Hospital by Dr. Sutton, of East Fishkill, and placed in my charge, pending the result of his injury. The patient was able to walk from the station, some half-mile distant. Dr. Sutton reported that on the afternoon of the injury he was called, and found the patient in an unconscious condition, with a slight hemorrhage from the left ear, and was informed that the blow was followed almost immediately by a convulsive attack lasting nine minutes; patient was in this unconscious state some four hours, recovering slowly, and seemingly much dazed. On admission to hospital, October 4th, the patient, a powerful young man, seemed still dazed and heavy mentally, and was unable to answer questions. There was an effusion on the left side of the head about two and a half inches above the upper margin of the left ear, there was conjunctival effusion and loss of hearing on same side, watch heard only when pressed against ear. Pressure over the effusion elicited pain. There was some loss of power in the opposite hand. The pulse was slow but regular—44.

Treatment.—Patient put to bed, left side of head shaved and ice-cap applied. Diet—malted milk and beef juice every alternate hour. Five grains of calomel administered and repeated in six hours. Ordered ten grains of potassium bromide every three hours. For the next two days patient's condition remained much the same.

On October 7th, the effusion having somewhat disappeared under treatment, we could make out a decided depression of the external table of the skull over the lower parietal bone involving the squamous suture and the upper temporal region, altogether the size of a silver dollar, with pain on pressure in this region. Patient was unable to tell his name or answer questions; when asked to write his name he wrote it slowly but fairly well; when asked for his friend's name who accompanied him to hospital he could neither tell nor write it; could not tell his home, but muttered something beginning with a B., which I learned later was Cape Breton, N. S.

To-day for the first time I recognized his condition as one of amnesic aphasia. He had been closely watched day and night during his stay here. On this afternoon, the fifth from the injury, I saw him about four o'clock. About an hour after I was hastily summoned by the matron, who told me the patient had had a convulsive attack during my absence, lasting some ten minutes or more; although the pulse was more rapid than when I saw him there were no other fresh symptoms. About 7 P.M. he had another attack, which I witnessed; it was epileptiform in character, the head was turned to the right, the eyes were rolled upward and outward toward the right, pupils dilated but regular, the hands were clenched and the arms strongly flexed, there was a bloody saliva dribbling from his mouth, and inspiration and expiration were short and quick, accompanied by a series of gurgling sounds. This attack was shorter than the last, persisting for only about five minutes. Patient soon recovered and seemed as before. A consultation of the staff was called and the advisability of trephining discussed; it was decided to wait further developments. I left the patient about 11 P.M.; up to this time he had no further seizures.

The night nurse informed me that during the early morning he had three short attacks within an hour, each lasting only a few seconds. The next day patient's condition seemed as before, so the former treatment was continued. On October 9th my friend, Dr. Allison, of the Matteawan State Asylum, saw the patient with me, and corroborated the diagnosis of amnesic aphasia of traumatic origin, probably due to concussion of the cells in the third frontal convolution. On examination this day he was able to tell the time, said "Fifteen," and after a time "twelve," it being a quarter to twelve. Could not read aloud, or tell letters, or name objects shown him, although he said he knew what they were perfectly well.

October 10th.—When asked if he was better, patient said "Yes." This seemed one of the few words he could say. Tells time thus, "Half-past," and after a time, "three." Knew the name of a quarter to-day when he saw it, and said "Ten" when shown a ten-cent piece. Writes his own name well, as from the first; can't tell or write his friend's name. The hearing is better, can hear watch an inch from the left ear. Tongue is cleaner; pulse still slow, 44 to 48. When shown a key and asked what it was he could not tell, but pointed toward the door and went through the motion of unlocking. Could not say watch, or knife, or other articles when asked what they were, but said he knew what they were.

The effusion over temporal region was less, and the depression quite marked at the upper margin; it was three inches above the upper part of the left ear, a little behind the ear, and quite an inch and a half either way. The conjunctival effusion was less.

October 11th.—Answers questions better to-day; otherwise his condition is much as yesterday; when shown the watch could not name it; when asked the time, it being five minutes to twelve, said, "Five," and after some time "twelve." Cannot say to; tongue is cleaner. Complained of feeling hungry for the first time. He was reading the paper at my visit, and said he knew what it was all about, but could not tell me.

October 12th.—Treatment as before; pulse 52. Sleeps well; bowels still sluggish. At my visit this morning patient seemed brighter. The patient in the next bed—singularly enough another case of depressed fracture, but without symptoms—informed me that he had carried on quite a conversation with the man, and found he could answer questions better. On trying him with the watch and asking him what it was, he said "Watch;" asked what time it was, he said "Ten—ten," it being ten minutes to ten. Was able to call a key, knife, and all other objects shown him. Said his friend's name, of whom I had often questioned him, was Jones, but could not write it. Grasp in the right hand is stronger. He does not remember the name of the man who struck him, and acknowledges that he was not altogether sober at the time. From this time on his recovery was uninterrupted. On October 14th

his hearing was normal and his general condition good. A plaster cast of the left side of the head, taken five weeks after, shows the depression still strongly marked.

Remarks.—Injuries to the head are always of interest to the surgeon, and this case had additional interest, presenting as it did decided depression and well-marked amnesia, and goes to show that conservative treatment was the best in this case. Of course, had the convulsive attacks been more lasting one would have operated at once. The *rationale* of the convulsive attacks I cannot explain, but think the amnesia was due rather to concussion of the cells in Broca's convolution than to either a ruptured vessel and effusion, or to embolic plugging in this neighborhood, as the recovery was so speedy and complete. The loss of power in the opposite arm, together with hemorrhage from the ear, I think were certainly due to a ruptured blood-vessel, as the depression in the skull was over the arm and hand centre. An unusual anxiety was added to the case for the reason that in the event of a fatal termination of the injury its medico-legal relation might have become complicated by surgical interference. There was a criminal aspect as well as a medical one to consider, and during the occurrence of the convulsive seizures it was a serious question to determine just how far the responsibility of the surgeon extended. The welfare of the patient was a prime consideration, yet an unusual anxiety must always attend the operative treatment of all severe injuries inflicted criminally, and which may result in the death of the person assaulted.

A CASE OF SPLENIC MYELOGENOUS LEUKÆMIA NOT CURED BY BONE-MARROW.

By CHARLES E. NAMMACK, M.D.,

ATTENDING PHYSICIAN, OUT-PATIENT DEPARTMENT, NEW YORK HOSPITAL.

FLORENCE S——, twenty-three years of age, native of England, was admitted to the hospital March 11, 1895, in the service of Dr. George L. Peabody, who has kindly permitted me to use her clinical history while in the wards. Her previous personal history was to the effect that she had been treated unsuccessfully, for eighteen months prior to her admission, for anæmia. Her habits were temperate. She menstruated regularly and painlessly. Her family history was negative.

The symptoms on admission were headache, marked vomiting, fever, prostration, breathlessness on exertion, and insomnia.

Examination.—Pulse, 112; respirations, 36; temperature, $102\frac{8}{10}$° F., mouth; lungs, normal; heart, accentration of pulmonary second sound; action rapid, but regular and strong. Liver normal. Spleen extends one inch to the right of the median line and to midway between pubes and umbilicus. Urine shows a trace of albumin, also hyaline and granular casts. Blood count shows the red corpuscles to number 2,520,000, and the leucocytes 760,000, a proportion of about 3 to 1. Hæmoglobin, fifty per cent.

Treatment ordered was tablet of protonuclein every four hours, and bone-marrow spread on bread, taken at meal time.

April 4th.—Blood count: red corpuscles, 2,680,000; white, 864,000, about 3 to 1. Hæmoglobin, fifty per cent. Patient is relieved of all symptoms except dyspnœa on slight exertion, although blood examination does not show improvement. Patient feels decidedly better and leaves for convalescent home at Summit, N. J. She remained at Summit for a month, then returned to the hospital and was referred to the writer's class in the out-patient service. At this time her only suffering was from shortness of breath on exertion. She had had one attack of nose-bleed, but no other mucous hemorrhage. The spleen was still enlarged and its notched anterior border extended to the right of median line. Blood examination showed the ratio of white to red corpuscles to be about 1 to 3. It also showed deficiency of hæmoglobin, and the presence of nucleated red blood-cells. The pulmonary physical signs were normal, the shortness of breath being due to deficient oxygenation owing to the oligocythemia. The cardiac apex was not displaced. The liver was not enlarged. The urine showed a trace of albumin. Patient admitted some difficulty of vision, and ophthalmoscopic examination by Dr. Walker showed neuroretinitis in each eye. In the right eye there was a large hemorrhage near the macula. Vision = OD $\frac{20}{40}$; OS = $\frac{20}{30}$. Hearing was acute. Temperature, normal. No enlarged lymph-glands could be found. No œdema. No dropsical effusion. She was ordered Fowler's solution, to be gradually increased to ten drops three times a day, but as this remedy caused vomiting, diarrhœa, and puffiness of face, it was stopped. Through the kindness of a leading drug firm of this city she was gratuitously furnished with bone-marrow, and a friend obtained board for her in the country during July.

It was thought that these measures fulfilled the therapeutic indications, and the outcome was awaited with interest and the hope that the case might prove an exception to the rule, that the disease is almost always progressive despite the most carefully directed treatment.[1] This hope was strengthened by the favorable reports relative to the use of bone-marrow.[2]

Of the cases referred to in these reports, that of Bigger[3] most nearly resembles our case, and is reported by him as a case of leucocythemia apparently cured.

On August 5, 1895, she returned to town and examination showed that the spleen was smaller, that the ratio of corpuscles was as one white to ten red. No nucleated red corpuscles could be found. Hæmoglobin decidedly improved. She then went to live on Long Island, in a locality where malaria prevails. She developed immediately intermittent fever of the tertian type, and on August 29th was readmitted to the hospital for treatment. The digestive disturbance associated with her malarial fever prevented the administration of bone-marrow until October 10th, when its use was renewed. Blood count at this time showed a ratio of one white to nine red blood-cells. During the run of the intermittent fever her spleen had markedly increased in size, and with the subsidence of the fever the organ diminished, until its anterior border extended only to the former position, namely, about one inch to the right of median line of abdomen.

On October 31st Dr. Thomas S. Southworth kindly examined her blood for me, and found hæmoglobin, forty-eight per cent., ratio of white to red cells as one to thirteen, abundant myelocytes, and numerous nucleated red cells.

At the present time she is taking Warburg's tincture, Pearson's solution of arsenic, which seems to be better borne than Fowler's solution, and Caswell, Massey & Co.'s preparation of bone-marrow.

29 EAST TWENTY-FOURTH STREET.

POTASSIUM PERMANGANATE IN OPIUM POISONING.

DR. J. T. M. LINDSAY, of Cuero, Texas, writes: "On the 21st day of October I was called to see a patient, Mrs. Annie A——, of this city, at about 11.30 A.M., who had (as reported) taken nearly a teaspoonful of morphine. I was near the place, making my visits to some sick patients in the neighborhood, when called. On my arrival I found this woman (middle-aged) in a

[1] Osler: American Text-book of Practice of Medicine, vol. ii., p. 226.

[2] Henry Hun: New York Medical Journal, January 12, 1895, p. 35. Allan McLane Hamilton: New York Medical Journal, January 12, 1895, p. 44.

[3] Lancet, September 22, 1894, p. 682.

comatose condition. I had her face bathed in cold water, and kept her in a sitting posture, and at the same time administered potassium permanganate internally. The effect of the morphine was rapidly counteracted, and in thirty or forty minutes I had her walking the floor of the room supported by myself and her husband. I made her drink several cups of coffee, and in an hour's time I had her outdoors, where she could get fresh air and plenty of it, and within three hours after administration of the potassium permanganate she was able to resume her usual occupations."

INTESTINAL ANASTOMOSIS BY THE MURPHY BUTTON.

By MILO BUEL WARD, M.D.,

TOPEKA, KAN.

The following case may be of sufficient interest to the profession to justify its publication:

Mrs. McC——, Irish birth, aged twenty-nine, mother of one child of seven years, with a history of pelvic disease extending over a period of several years, much of the time incapacitating her from household duties, and under treatment for the same almost constantly for the past five years.

No history of miscarriage was obtained, but her attending physician had suspected gonorrhœal infection to be the cause of the primary infection. There was, however, no positive proof obtainable, which left this feature of the case to rest entirely upon suspiction.

I first saw the patient in consultation with Dr. Munn, of this city, September 29th of this year. At this time she was bedridden, the result of continuous uterine hemorrhage, also extreme tenderness of the abdominal organs, making it quite impossible to remain in the upright position. Upon examination, I found the pelvis completely filled with solid exudate, entirely obliterating the outlines of the uterus. The patient's suffering was intense. A very careful bimanual examination caused great pain. She was reduced to complete invalidism. The pulse was very rapid, and the temperature from 100° to 101° F. There was serious bloating of the intestines much of the time, but the bowels had been kept open by the frequent use of saline laxatives. The diagnosis reached was chronic endometritis, very serious in character, and salpingo-ovaritis, with probable intestinal complications. The patient was brought to my hospital on the following day and hastily prepared for surgical interference.

On the morning of October 1st, under ether anæsthesia, and assisted by Drs. Munn and Frankenburger, of this city, and Dr. W. G. Vest, of Montezuma, Ia., who was visiting my hospital at that time, I did the following operation: With the patient in lithotomy position, the uterus was dilated with Goodell's dilator, and with the sharp curette the endometrium was thoroughly curetted, irrigated, and packed with iodoform gauze. This completed, the patient was placed in dorsal decubitus for the purpose of removing the pelvic masses. The omentum was found universally adherent, requiring forced separation from the pelvic organs. The intestines were firmly adherent to the fundus of the uterus and pelvic tumors. After they were separated, it was found that several inches of the sigmoid flexure was greatly thickened and nearly gangrenous, and severed almost completely in one place, being only held by the mesentery portion. Two oval-shaped holes were also found in this portion of the gut, about one-half inch in diameter, extending through the serous and muscular coats, resembling a punch-hole in sole leather. The wall of the intestine was one-half inch thick at the point where it had broken in twain. Hot towels were applied to the intestine outside of the abdomen during the removal of the pelvic masses. The enucleation of these tumors was more difficult than words can describe, and can only be appreciated by those who have been so unfortunate as to deal with this character of disease. The bleeding was very profuse, causing great shock to the patient, and giving us much concern, for fear that we would not be able to keep her alive long enough to reach her bed. Hypodermic injections were quite freely used, and, after irrigating the peritoneal cavity with normal salt solution, the patient seemed to rally enough to justify an attempt to complete the necessary surgery. I packed the pelvis with iodoform gauze, which controlled the bleeding, while I turned my attention to the intestine. My first plan was to attempt to unite the intestine, after repairing the ragged and almost gangrenous edges by the Lembert suture method. But owing to the great thickness of the wall and also the holes above mentioned in other parts of the intestine, it was found impossible to proceed in this manner. A large-sized Murphy button was immediately brought, and six inches of the intestine resected and an end to end anastomosis made. The wall of each end of the intestine, where it was severed, was about one-third of an inch in diameter, making the introduction of the button extremely difficult. It would perhaps have been much easier to have removed more of the intestine in order to have reached a point where it was more nearly normal in thickness, but it did not seem advisable to sacrifice more of that portion of the gut if possible to avoid it. Contrary to the usual custom, and the advice of Dr. Murphy, I sutured around nearly the entire intestine with silk, believing it would afford additional support. The pelvic gauze was then removed, intestines replaced, and thorough irrigation with a very warm salt solution was again resorted to. I then thoroughly packed the pelvis with iodoform gauze, and closed the upper angle of the incision with silkworm gut sutures, completing the entire operative procedure in one hour and twenty minutes. Without knowing the exact time occupied in doing the anastomosis, it is at least safe to say that not more than fifteen minutes were occupied in this part of the operation. The patient was placed in bed and restoratives used, but she did not react satisfactorily for twenty-four hours. Twenty-two hours after the operation I removed the pelvic packing, which had served the double purpose of controlling the hemorrhage and draining the abdomen. A small quantity of iodoform gauze was again introduced into the incision and carefully forced down toward the pelvis, the gauze not being removed for forty-eight hours. The dressings were from this time on removed and fresh gauze introduced every twenty-four hours, allowing the incision to heal by granulation. The first ten days were spent in extreme anxiety, but at the same time the patient had so many favorable, intermingled with unfavorable, symptoms, that there seemed good reason for hope of her final recovery.

A review of the daily record relative to the care of this patient would be too lengthy to publish in this connection. After ten days had elapsed, the patient seemed to give promise of certain recovery, and had no untoward symptoms from this time on. The button was passed on the eighteenth day, following the administration of a generous dose of castor-oil. The incision was entirely healed in four weeks, and she returned to her home in five weeks after the operation, being able to walk off as sprightly as ever before in her life, and says she is entirely well. Her appetite and digestion could not be more perfect. She was permitted to have regular diet after the button made its appearance.

The special features in this case, making it one of unusual interest, are: the danger of procrastinating surgical interference in cases of such severe chronic disease; the great gravity of the pelvic operation causing so much shock that the doctor in charge of the anæsthetic expressed the fear that she would die on

the table before the pelvic masses could be completely removed; and the anastomosis of so thick an intestinal wall.

If there are surgeons who question the value of this wonderful device, Murphy's intestinal button, a knowledge of this one case ought to convert them without further controversy. It is the writer's opinion that no other method would have resulted satisfactorily in dealing with this abnormally thickened intestine in connection with such trying circumstances.

Therapeutic Hints.

Atrophic Rhinitis.—In atrophic rhinitis the diluted peroxide solution serves a double purpose, eliminating the stench by breaking up the decomposing matter, and helping—by the liberation of the gas and the consequent formation of bubbles—to loosen the crusts. The cotton-tipped probe is of the greatest service in dislodging these dried masses and wiping away strings of tenacious mucus.

Eczema of Nose.—In eczema of the nose occurring just at the junction of the integument and mucous membrane, and associated with an interstitial keratitis, the effects of the sirup of the iodide of iron in appropriate doses are most striking. Such cases, which are so frequently met with in a dispensary practice among children of low vitality, are rarely benefited by local applications alone.

Alumnol.—Alumnol, in two per cent. solution, either alone or combined with menthol, and in certain cases with a small percentage of cocaine, is extremely serviceable in relaxed conditions of the larynx.

Rhinitis.—Cod-liver oil, the hypophosphites, etc., will do more for the cure of rhinitis in scrofulous children than any simple local application.

Itching in Eczema.—Fluid extract of jaborandi locally applied.—G. W. ROBINSON.

Diabetes.—Boric acid, seven grains, thrice daily.
—MOCKTON.

Sciatica.—Salol, gramme 0.5 to gramme 1.0.
—ASCHENBACH.

Chlorosis.—In true idiopathic chlorosis, where iron is ineffectual, sulphur will produce a marked amelioration. After using sulphur, iron can again be resorted to, and it becomes very beneficial.—SCHULTZ.

The Analgesic Antithermics.—The following conclusions were drawn at the French Congress of Internal Medicine: 1. The numerous remedies which compose the rather ill-defined group of analgesic antithermics are characterized by their protoplasmic action—their action of the blood, and especially their nerve-action. 2. The preponderance or the exaggeration of the one or the other of these actions is connected with their chemical constitution, and determine the differences of their therapeutic effects and the accidents that they may produce. 3. They are only employed, in the great majority of instances, against a single symptom—elevation of temperature or pain. 4. As antithermics, or rather antihyperthermics, they may have, in certain cases, a favorable action. Most often they are useless or dangerous. 5. As analgesics, they occupy an important place and one which is incontested in the treatment of pain.—SCHMITT, *Gazette des Hôpitaux*, September, 1895.

Chopparro Amargoso, belonging to the same order as quassia, a thorny bush growing in Texas, of which a fluid extract is made, is said to be tonic in small doses, stimulant in large, and a palliative remedy in dysentery.—MIXON.

Uterine Inertia can at times be remedied by a glycerine suppository.—COWAN.

Lavage.—1. Stimulates the gastric glands in cases of chronic gastric catarrh, especially in those instances which are associated with excessive secretion of mucus. 2. Strengthens the enfeebled gastric muscular fibres in cases of insufficiency or atony. 3. Increases peristaltic action. 4. With the improvement in the tone of the walls of the stomach, associated intestinal disorders such as constipation may also be overcome.
—JOSEPH.

Vomiting of Pregnancy.—The medicines recommended for persistent vomiting are numerous and varied, including alcohol, alkalies, tincture of iodine (5 to 10 drops in water), tincture of nux vomica, pepsin, ingluvin, cannabis indica, orexine, purgatives, belladonna, ipecac, lavage of the stomach, chloroform, menthol, cocaine, potassium bromide, opium, caffeine, chloral, strontium bromide, oxalate, carbonate, or valerianate of cerium, ether, serum, inhalation of oxygen, blisters over the epigastrium, ice to the spine, and ether spray to the abdomen or spine. Blood-letting has done real service in some cases. Electricity has often been applied, and is now becoming very popular. Among the medicines employed by the author are calomel in small doses, creosote, pyroligneous acid, tannin (20 ctg. daily), smoking of tobacco, resorcin, phosphate of calcium, and mercury. Rectal enemata are useful when the patient becomes very weak. The local treatment consists in scarification of the cervix, leeches applied to the cervix, the introduction of a small sound for 5 to 6 ctm., cauterization of the cervix by nitrate of silver (1 to 10), and correction of retroversion if that condition be present. If all of these means fail, and the patient is losing in weight every day, it is justifiable to produce an abortion, or premature delivery. In the severe cases this procedure should not be delayed too long, otherwise the patient may be too weak to rally after the operation.—DEMELIN.

Neurasthenia.—

℞. Acid phosphate	ʒ j.
Ext. cocæ liquid	ʒ ss.
Ext. damian. liquid	ʒ ss.
Tr. nucis vomic	gr. x.
Syrup. zingib	ʒ j.
Aquæ	ad ℥ ss.

Ft. dosis. Sig.: To be taken in water at 11 A.M. and 6 P.M.
—CLARK.

Leucorrhœa.—A leucorrhœa inodorous, or of mild odor, persisting during the climacteric, accompanied by increasing hemorrhage, is suspicious, and demands investigation. A leucorrhœa profuse, of peculiarly fetid odor, grumous, excoriating, appearing early or late during the climacteric, with profuse hemorrhage, is reasonable evidence of cancer of the cervix. A leucorrhœa, moderate in amount, ill-smelling (the peculiarly fetid odor of cancer of the cervix being absent), accompanied by hemorrhage, suggests cancer of the corpus uteri. A leucorrhœal discharge with hemorrhage, containing material like the washings of meat, is said to indicate sarcoma. A watery discharge, as a rule, occurring during menstruation, odorless or of little odor, persisting, accompanied by profuse hemorrhage, indicates fibroids; with little or no hemorrhage, polypi. Profuse bloody discharges coming on gradually with declining menstruation, ceasing usually with the menstrual flow, point to fibroids. Persistent profuse discharges of blood occurring spontaneously, arising from sudden exercise or coition, occurring, as a rule, after the menopause, indicate cancer.—MISH.

Typhoid Fever.—Whenever the thermometer registers 102.2°, or over, the bath is resorted to, and again in half an hour; if below 102° and above 101° F., it is repeated in an hour; if below 101° and above 100°

it is repeated in two hours; if below 100° F., the patient is put into the bath again in three hours; but whenever 102.2° F. is reached, the bath is repeated, and so on until the temperature does not go above the bath point.—TYSON.

Cascara Sagrada is useful in rheumatism.
—HUNTOON.

Influenza.—

℞. Quininæ sulph..... 3 j.
Pulv. digitalis,
Pulv. scillæ .....āā gr. xx.
Ext. opii. ..... gr. v.
Ext. glycyrrhizæ .....q.s.
M. et ft. pil. No. xxx. Sig.: Take a pill four times daily.
—PEPPER.

Membranous Croup.—

℞. Hydrarg. chlor. mit..... gr. ij.
Sodii bicarb..... gr. xxiv.
Pulv. ipecac..... gr. j.
Pulv. pepsinæ ..... gr. xxiv.
M. et ft. chart. No. xij. Sig.: One powder every two hours.
—STARR.

Bronchitis.—

℞. Ammonium chlorid.,
Sodium iodid.....āā 3 iij.
Syrup of tolu,
Syrup of senega. .....āā f ℥ iss.

If a spasmodic element be present, sodium iodide, 2½ grains, may be added to each dose.—ESHNER.

Delirium Tremens.—

℞. Potass. bromid.,
Sodii bromid.....āā gr. xv.
Chloral hydrat ..... gr. x.
Tinct. Zingiberis ..... ♏ x.
Tinct. capsici. ..... ♏ v.
Spir. ammonii arom ..... 3 j.
Aq ..... 3 ij.
M. Sig.: Dose, a dessertspoonful.
—*Vanderbilt Clinic.*

Rheumatism.—The author does not believe that the changes in the joints in the cases of rheumatism examined by him are caused by direct bacterial invasion. He considers that they are caused by the action of toxic substances, which, under certain conditions, exert their influence on the joints, and he believes that we must consider as causative factors not only the toxins of those micro-organisms which we regard as the infective agents, but also those chemico-toxic substances which are produced indirectly by bacterial activity.—CHOOSTEK.

Hypertrophies.—1. Hypertrophies due to obstacles in the heart itself. This condition is typically represented by lesions of the valves. 2. Hypertrophies due to increased resistance in the vascular system. 3. Hypertrophies due to diseases of the heart muscle itself, from infection, overstrain, degeneration, etc. 4. Hypertrophies due to affections of the nervous system. —WHITTAKER.

Night-sweats.—

℞. Ext. secal. cornuti ..... 3.0.
Spir. dilut.,
Glycerini,
Aq. dest..... āā 5.0.
M. Sig.: For subcutaneous injection: 1 c.c. at bed-time.
—GOLDENBACH.

Alleged Reflex Causes of Nervous Diseases.—1. The essential feature in the production of many neuroses is the neuropathic state—the degeneracy—of the subject. 2. In hysterical subjects suggestion plays an important part both in the development and cure of the symptoms. 3. Disease of any organ may give rise to referred pain in some definite area, but not to other nervous disturbances, except as a secondary result of local disease of the organ. This local disease manifests itself by the ordinary local symptoms, and the nervous phenomena are due to exhaustion, anæmia, intoxication, etc. 4 In a few rare cases injury of a sensory nerve may give rise to epileptiform seizures. 5. Surgical operations for the relief of nervous symptoms should never be performed unless there are clear indications, apart from such symptoms, for an operation. —KNAPP.

Yeast Nucleins in Tuberculosis.—1. In cases of pulmonary tuberculosis with cavities it does no good. 2. It may retard the progress of long-standing cases, so long as secondary infection with pyogenic germs does not occur. 3. A temporary cure (the cases have not been long enough under observation to say more) may be obtained in early cases of small area. 4. It has proved satisfactory in urinary tuberculosis. Finally, the nucleins in other substances may act equally well as yeast nucleinic acid.—VAUGHAN.

Faith.—Dr. Mackay, in his work on "Popular Delusions," relates that, when the Prince of Orange was besieging the town of Breda, his army became so seriously afflicted with the scurvy as to be threatened with annihilation. When all legitimate remedies failed he caused a decoction of chamomile, wormwood, and camphor to be made, and announced it to his army as a wonderful remedy brought from the East with much danger and toil, and that a single drop of it, mixed with a gallon of water, was an absolute specific for their disease. The result equalled their expectation, and the measure of success was exactly equal to the measure of the faith.

Tonsillitis.—If you find that the patient cannot open the mouth you may almost invariably exclude diphtheria, and suspect one of the inflammatory non-diphtheritic forms of angina.—MASSEI.

Chronic Enlargement of the Tonsils will be benefited by painting every other day with a mixture of one-third compound tincture of iodine to two-thirds glycerine.

Typhoid Fever.—The tympany of enteric fever can often be favorably influenced by rectal injections of from five to six ounces of ice-water, retained for some time in the bowel.

Peritonitis.—1. Mechanical irritation of the mucous membrane by which it becomes abraded, or its vitality lowered, as by indigestible food or foreign bodies; and, in the latter case, by strangulation from a band or a hernia. 2. Chemical poisons, both organic and inorganic, by their injurious effects tend to lower the resisting power of the lymph tissue to the invading germs, provided the poison be not directly fatal to them. 3. Retardation or obliteration of the normal intestinal peristalsis, preventing the gut from casting out its invaders. A great increase in the number of bacilli by which the lymph-cells are overpowered, or a diminished number of the defending cells, or their low vitality enable the bacilli to pass into the peritoneal cavity, and by reproducing themselves in sufficient numbers cause a general peritonitis. That the foregoing is the etiology of many cases of peritoneal inflammation is now a demonstrated fact.
—CHILDS-MACDONALD.

A Brave Physician—The latest addition to the roll of gallant actions performed by medical men is that of Dr. Charles Toller, of Ilfracombe, who, during the recent heavy gale which raged on our west coast, and at the imminent risk of his life, descended by means of a rope a cliff on the Lee Bay Rocks, which are one hundred and fifty feet in height, in order to apply restoratives to an apparently drowned person. Strenuous efforts were made by Dr. Toller to restore animation, and the patient partially rallied, but expired a few minutes before being landed at Ilfracombe in the lifeboat which had been sent to the rescue.—*The Lancet.*

New Instruments.

A HEAD REST FOR THE JAVAL OPHTHALMOMETER.

By FRANK D. SKEEL, M.D.,

NEW YORK.

The following is a description of an experiment made with a view to improving the present form of head-rest in the Javal ophthalmometer.

Some time ago I suggested to Messrs. Fox and Stendicke that some such improvement should be made, and this engraving will show the results of their efforts. Two supports are provided, against which the forehead rests, each carrying a small screen which shields the eye from cross lights. The distance between these supports is adjustable and is regulated by a screw shown above. The eye-screen is mounted on a curved arm and swings from side to side to cover either eye. The details can be readily seen in the engraving.

41 East Twenty-third Street,
November 15, 1895.

LONG FLEXIBLE DOUBLE-CURRENT TUBE FOR HIGH IRRIGATION OF BOWEL, ALSO DOUBLE-CURRENT IRRIGATORS FOR INFANTS.

By ROBERT COLEMAN KEMP, M.D.,

NEW YORK CITY.

This flexible irrigator is a modification of the soft-rubber rectal irrigator described in the Medical Record of December 7th. The outer tube is of soft rubber—diameter, $\frac{5}{8}$ of an inch—the inner longitudinal tube is of linen. The linen tube is riveted in a hollow tip, and this tip unscrews from the outer tube. To clean the instrument unscrew the tip, and withdraw the central tube. The outer cap, etc., is similar to that in the instrument previously described. This irrigator is twelve inches long. It can be made longer if desired. The Ford Instrument Co. also make a short rectal irrigator similar to this, a flexible double-current irrigator—diameter, $\frac{1}{4}$ of an inch; length, 8 inches—is made for infants; also a short flexible irrigator four inches long. There is also a hard-rubber irrigator, and one of soft rubber—diameter, $\frac{1}{4}$ of an inch—in construction, similar to those described December 7th. In these small irrigators, however, the conducting tube is of metal-copper. They may be plated or made of silver or aluminum, which would increase the expense. I have found that in these small tubes the hard-rubber conducting tube cannot be made sufficiently small enough and of internal calibre to furnish a good current. Note, however, the linen tube, which can be substituted for metal. In connection with this article I mention an adult rectal irrigator, external tube of soft rubber, internal tube of copper. It can be bent to suit operator, is soft, and yet under his control.

449 Park Avenue.

Correspondence.

EXPERT TESTIMONY IN LUNACY CASES.

To the Editor of the Medical Record.

Sir: My attention has been called to an editorial in your issue of November 23d, entitled "The Commissioner of Lunacy as an Expert," which, if permitted to stand uncorrected, would do me a great injustice, and which, in view of my pleasant personal relations with the editor of the Medical Record, I must assume was written under a misapprehension as to the law and the fact in the matter rather than in a spirit of unfriendly criticism.

The law relating to the "commitment of the insane by criminal process" provides, among other things, in substance, that whenever any person accused of the crime of arson, murder, or attempt at murder, or highway robbery, shall have been acquitted on trial upon the ground of insanity, the jury shall bring in a special verdict to that effect, and so state in its finding, and the court before whom such trial is had shall order such person to be committed to some State lunatic asylum, there to remain for observation and care until such time as, in the judgment of a justice of the Supreme Court, founded upon satisfactory evidence, it is safe, legal, and right to discharge him.

From this it will be clearly apparent that the Commission in Lunacy has no power either to prolong the detention or cause the discharge of a person committed to an asylum pursuant to the statute cited and held on what is known as a "criminal order." A discharge from custody in such a case can only be made by a judge of the Supreme Court, who, upon receipt of notice from the superintendent of the asylum that the patient is restored to his right mind, must determine if it is safe, legal, and right to discharge him. The only possible jurisdiction the lunacy commission would have over a so-called criminal case would be to interfere in his behalf if it had reason to believe that he was cruelly or negligently treated. Furthermore, the views of judges, as well as of governors of the State, respecting the relations of the Lunacy Commission to such cases may be inferred from the fact that these high officials have frequently designated the medical member of the Commission as a special commissioner to determine the mental condition of persons charged with crime, and in whose behalf a plea of mental unsoundness has been made. Carlos F. MacDonald.

The Cambridge, 334 Fifth Avenue,
New York, December 3, 1895.

[We give place to this communication from our distinguished correspondent with an acknowledgment on our part that the article was written under a misapprehension of the law as it now stands and cheerfully disavow any motive for unfriendly personal criticism.—Ed.]

LENGTH AND POSITION OF THE APPENDIX.

To the Editor of the Medical Record.

Sir: Contributions to the subject of the anatomy of the appendix vermiformis, like that of Dr. Byron Robinson's to the Medical Record for November 30, 1895, are so valuable that their authors are presumably glad to have any possible source of error pointed out. In making observations, it will be observed that appendices become lax and elongated after the period of rigor mortis has passed, and Dr. Robinson's measurements were made without reference to, or at least statement of, that point.

It is also probable that the post rigor-mortis relaxation of the bowel allows the appendix to hang into the pelvic cavity much more after than it does in life. All of us who are engaged in abdominal surgery find

the appendix in the pelvic cavity occasionally, but in operative work, or in palpation of normal appendices through the abdominal walls, I do not find nearly so large a proportion of appendices in the pelvic cavity as Dr. Robinson finds in the post-mortem examinations. In making accurate palpation of the normal appendix through the abdominal walls, it is necessary to carry the cæcum quite high in order to roll the appendix out, so that we can press it against the psoas and iliacus muscles for fixation, and this movement may lift some appendices out of the pelvis; but certain it is that there are few normal appendices which cannot be found behind the cæcum when we are ready to fix them against the pelvic wall for palpation.

ROBERT T. MORRIS, M.D.

NEW YORK, December 1, 1895.

LIMITATION OF SERVICE IN THE CITY HOSPITALS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: At the annual meeting of the County Medical Society the discussion that took place in reference to the appointments in the city charitable institutions, a gentleman who was for some time in the service of the city hospital remarked, that formerly the field for an appointment was open to everybody, but admitted that the candidate must have had political influence. That distinctly proves that the field was not open to everybody; that the candidate must have been and continue to be the tool of a political wire-puller. He further remarked that at present the appointments are controlled by a medical trust, and only friends and members who have served the trust's purpose are open for appointment. In comparing the two I rather prefer (although I believe it is unfair and unjust) that the appointment should be in the hands of the medical trust than those of the politicians. I consider the appointment of civil service just, but some restrictions should be made; that is, a candidate for examination should be an American citizen, and at least a resident of the city of New York for three or five years, and practice medicine for five years. Then the service of visiting and assistant physicians and surgeons should be limited to a term of five years and only be permissible to serve two terms, as this service is only for the purpose of gaining experience. Five years is ample for that purpose, and by limiting the term of service it will give an opportunity to a greater number of the medical profession to gain this valuable experience.

LEONARD LANDES, M.D.

NEW YORK, November 30, 1895.

CHLOROFORM AND ETHER WITH OXYGEN.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Dr. Cole, in the MEDICAL RECORD of October 12th, reported some observations on the use of oxygen and ether in combination. In the issue of November 2d, Dr. R. C. Newton says: "The valuable and instructive paper of my friend, Dr. Cole, in your issue of the 12th ultimo, will doubtless set many other surgeons to experimenting with oxygen combined with ether." Several years ago it occurred to me that such a combination would be most desirable, for the reasons given by Dr. Cole. To satisfy myself of the correctness of my supposition I obtained a cylinder of pure oxygen and administered it in combination with chloroform to several private patients. In one or two instances it seemed to work admirably, but in others it was not as satisfactory as chloroform alone. However, I was satisfied that the principle of the combination was correct, so I demonstrated before some of the surgical staff of the Orange Memorial Hospital. Ether was the anæsthetic used on that occasion. The comment was, after the new process had been carefully watched for some time, "When you get through experimenting with the new combination, we will have the patient etherized and proceed with the operation." It was not a flattering success.

The three principal objections to the use of the combination, according to my experience, are. 1. The length of time it takes to satisfactorily anæsthetize a susceptible patient, the time being longer, as a rule, than when no oxygen is used. 2. Its utter inefficacy in many instances. 3. The danger of depending entirely upon the quantity of oxygen in the combination as a trustworthy heart and lung stimulant.

Respectfully,

JOSEPH WILLIAM STICKLER, M.D.

ORANGE, N. J., December 2, 1895.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending December 7, 1895.

	Cases.	Deaths.
Tuberculosis	76	112
Typhoid fever	26	7
Scarlet fever	64	3
Cerebro-spinal meningitis	2	0
Measles	224	16
Diphtheria	282	22
Small-pox	1	0

Color-blindness and Atavism.—A recent writer, M. Dubois, throws out a suggestion that will probably be new to most of our readers. It is recognized by astronomers that there are three classes of stars—first, the bluish-white stars, of which Sirius and Regulus are examples. More than half of all known stars belong to this class. In these stars combustion is at its maximum, and their atmosphere consists of superheated hydrogen and certain metallic vapors. The second class, of yellow stars, has for typical representatives Capella and our own sun. They are less hot than the first class, and the hydrogen lines in their spectrum are not so conspicuous as in the case of the white stars. This class contains about 33.5 per cent. of all known stars. The third class are the red stars, and of these Betelgeux is the representative. They are in a later stage of cooling than the second class, and the violet rays are deficient. This class includes about eight per cent. of known stars. From these known facts it is conjectured that color-blindness (or insusceptibility to the red rays of light) may possibly be a case of atavism—a "negative inheritance from that time long ago when the eye of our ancestors was not yet sensitive to red rays, which were almost entirely wanting in the white stage of the sun." This is a startling theory, but it suggests a plausible explanation of what is such a mysterious fact—viz., that color-blindness should so uniformly take the form of insusceptibility to the red rays. Atavism is without doubt a principle of wide application, and may be fairly relied upon to explain many apparently inexplicable facts. We will not venture to pronounce upon the correctness of its application in the present instance, but at least the theory is a bold and ingenious one, and, if accepted, would tend toward that unifying of knowledge which is the aim of science. Color-blindness, regarded as an isolated phenomenon, is mysterious, but if it be a case of atavism it takes its place in the scheme of ordered knowledge.—*The Lancet.*

The Edinburgh Royal University has received legacies to the amount of $375,000.

Treatment of Electrical Injuries.—The numerous deaths among the staffs employed in the electrical lighting works in Paris has attracted the attention of the Minister of Public Works, who has asked the Academy of Medicine to draw up directions concerning the treatment of those injured by contact with the wires, and also concerning the technical precautious to be taken. The medical treatment formulated by the Academy is the same for injury from electrical shock, no matter what the nature of the current inflicting the injury may be. But the technical precautions differ according to the nature of the current. If the person injured remains in contact with the electrical conductors, the assistant who extricates the injured person must be careful before commencing operations to have dry hands and wear a pair of thick flannel or stuff gloves, and not to take hold of the injured person by a region in perspiration. In non-interrupted currents the electrical conducting wires must not be cut. When the wire is cut it must be cut in two places. The medical treatment consists of placing the injured person where there is plenty of air, loosening the clothes, rhythmic traction of the tongue, rubbing the body, etc. M. Dupuy Dutemps has forwarded these directions to the prefects, urging them to make them known, especially among engineers and staff of the Ponts et Chaussées entrusted with the electrical lighting of streets, to the directors of electrical stations, municipal authorities, medical men, and dispensing chemists. The instructions corresponding to the respective currents will be pasted on the wooden structures to which the poles are fixed.—*British Medical Journal.*

The French Army Medical Service.—There seems to be a great deal of trouble in connection with the medical services of the armies and navies of civilized nations. The fundamental difficulty in all cases, is the antagonism between the regular army officers, who wish to control everything, and the medical officers, who wish to have independent control and authority over the branches of work for which they are responsible. The latest disturbance has developed in France. Dr. Noel has written to the *Bulletin Médical* a protest against the new methods adopted for the French medical service of the army. By recent orders, control of the whole of the personnel connected with the *Corps de Santé* has been turned over to the military officers proper, and the authority is taken away from the medical and sanitary officers. Dr. Noel says that in armies that are still dominated by the feudal spirit, where caste sentiment persists, and where the militant officer regards himself as a superior being, ambulances are commanded by cavalry officers. This occurs, for example, in Germany, Austria, and Russia. In the more modern armies, in which the organization is not modified to suit this peculiar traditional spirit of caste, such is not the case, and he instances the armies of Italy, Switzerland, England, and Japan. Dr. Noel does not place the army of the United States among those in which the feudal spirit has been extinguished, and he is, we presume, justified in holding such an opinion. He protests, in the strongest terms, against a rule which imposes upon the medical officers duties, but does not give them the authority to discharge them.

Strychnine in Pneumonia.—In the report of the Surgeon-General of the Navy, Commodore J. R. Tryon, of a year ago, mention was made of the apparently favorable results of the hypodermic injection of strychnine in the treatment of lobar pneumonia. In his report just issued, Dr. Tryon says, that the favorable opinion entertained of the value of this drug in the treatment of pneumonia has been further strengthened by the experience of its use during the past year. Forty-five cases of acute lobar pneumonia were treated in the Naval Hospital in Brooklyn during the past two years, with but three deaths, a mortality of only 6.0 per cent.

NEW BOOKS RECEIVED.

While the MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

MEDICAL RECORD VISITING LIST for 1896.

ELECTRO-THERAPEUTICAL PRACTICE By Chas. S. Neiswanger, Ph.G. 12mo, 80 pages. Illustrated. Published by E. H. Colegrove & Co., Chicago, Ill.

ELEMENTARY TECHNIQUE IN HISTOLOGY AND BACTERIOLOGY. By Ernst B. Hoag, A.B., B.S. 12mo, 130 pages. Price, $1 net. Published by E. H. Colegrove & Co., Chicago, Ill.

AN ELEMENTARY COURSE IN EXPERIMENTAL AND ANALYTICAL CHEMISTRY. By John H. Long. M.S., Sc.D. 12mo, 507 pages. Illustrated. Price, $3. Published by E. H. Colegrove & Co., Chicago, Ill.

A MANUAL OF SYPHILIS AND THE VENEREAL DISEASES. By Drs. James Nevins Hyde and Frank H. Montgomery. 12mo, 618 pages. Illustrated. Price, $2.50. Published by W. B. Saunders, Philadelphia, Pa.

PREGNANCY, LABOR, AND THE PUERPERAL STATE. By Egbert H. Grandin, M.D., and George W. Jarman, M.D. 8vo, 261 pages. Illustrated. Price, $2.50 net. Published by the F. A. Davis Co., Philadelphia, Pa.

THE INTERNATIONAL ENCYCLOPÆDIA OF SURGERY. A Systematic Treatise on the Theory and Practice of Surgery. By Authors of Various Nations. Edited by John Ashhurst, Jr., M.D., LL.D. Illustrated with Chromo-Lithographs and Wood-Cuts. In seven volumes. Vol. VII. (Supplementary Volume). Royal octavo, 1082 pages. Published by William Wood & Co., New York.

THE PRINCIPLES AND PRACTICE OF MEDICINE. Designed for the Use of Practitioners and Students of Medicine. By Dr. William Osler. Second Edition. Royal octavo, 1143 pages. Illustrated. Published by D. Appleton & Co., New York City.

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OUTLINES OF MATERIA MEDICA AND PHARMACOLOGY. A Text-book for Students. By Dr. H. M. Bracken. 8vo, 383 pages. Price, $2.75. Published by P. Blakiston, Son & Co., Philadelphia, Pa.

NOTES ON SURGERY FOR NURSES. By Dr. Joseph Bell. Fourth Edition, thoroughly Revised. 12mo, 180 pages. Price, 2s 6d. Published by Oliver & Boyd, Edinburgh, Scotland.

AN ESSAY ON MALARIA AND ITS CONSEQUENCES. By Robert Lindsay. 12mo, 116 pages. Price, 4s. Published by H. K. Lewis, London, England.

OUTLINES OF PRACTICAL PHYSIOLOGY. Being a Manual for the Physiological Laboratory, including Chemical and Experimental Physiology, with Reference to Practical Medicine. By Dr. William Sterling. Third Edition, Revised and Enlarged. Illustrated. 12mo, 402 pages. Price, $2. Published by P. Blakiston, Son & Co., Philadelphia, Pa.

SURGERY. A Practical Treatise with Special Reference to Treatment. By C. W. Mansell Moullin; assisted by Various Writers on Special Subjects. Royal octavo, 1250 pages. Illustrated. Third American Edition. Revised by Dr. John B. Hamilton. Price, $6. Published by P. Blakiston, Son & Co., Philadelphia, Pa.

SYSTEM OF SURGERY. Vol. III. Surgery of the Larynx, Tongue, Jaws, Teeth, Salivary Glands, Neck, and Chest; Diseases and Surgery of the Eye and Ear; Surgical Diseases of the Skin; Surgery of the Genito urinary System; Syphilis. By Frederick S. Dennis. Assisted by John S. Billings, M.D. Roy. 8vo, 919 pages. Illustrated. Published by Lea Brothers & Co., Philadelphia, Pa.

A GUIDE TO THE PRACTICAL EXAMINATION OF THE URINE. For the Use of Physicians and Students. By Dr. James Tyson. 12mo, 276 pages. Illustrated. Ninth Edition. Price, $1.25. Published by P. Blakiston, Son & Co., Philadelphia, Pa.

CATARRHAL DISEASES OF THE RESPIRATORY PASSAGES. By Dr. J. M. G. Carter. 12mo, 276 pages. Price, $1. Published by E. H. Colegrove & Co., Chicago, Ill.

NO. 32. STATE CHARITIES AID ASSOCIATION OF NEW YORK. Handbook for Hospitals. By Abby Howland Woolsey. Third Edition. Published by G. P. Putnam's Sons, New York City.

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Original Articles.

A CONTRIBUTION TO THE STUDY OF HEREDITARY CEREBELLAR AND HEREDITARY SPINAL ATAXIA, WITH THE HISTORY OF AN ATYPICAL CASE OF THE FIRST-NAMED DISEASE.

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DURING the past few years there have appeared many contributions to the literature of that constantly increasing class, the family and hereditary diseases of the nervous system. A class that now includes Friedreich's disease, Thomsen's disease, hereditary chorea, the various forms of familiary and hereditary spinal, myopathic, and neurotic muscular atrophy, hereditary spastic spinal paralysis and diplegias, a form of progressive bulbar palsy, diabetes mellitus, and perhaps other diseases. None of these contributions are of greater interest than those which have been grouped under the caption of hereditary cerebellar ataxia. Like a number of other diseases that have recently been raised to a separate entity, examples of this family disease, hereditary cerebellar ataxia, have been seen from time to time in the past, but they have been looked upon as non-conforming or atypical cases of hereditary spinal ataxia or Friedreich's disease, and as such have not been subjected to the careful scrutiny and examination which they deserved.

The first cases carefully observed were by Fraser, who recorded them in the *Glasgow Medical Journal*, page 90, 1880. On one of his cases a careful autopsy was made by the renowned pathologist, Joseph Coates. Fraser's cases are now considered among the fundamental observations of the disease.

It was Nonne's[1] great merit, that he, finding himself in the presence of three such cases, all of the same family, recognized the necessity of separating it from hereditary spinal ataxia, not only because of radical points of difference in its symptomatology, but of variance in time of development and in the mode of its occurrence. An autopsy of one of his cases showed that this autonomy was established by the pathological findings, which differed materially from those constantly found in cases of Friedreich's disease. A year later a paper by Sanger Brown,[2] containing a large number of observations of family ataxia, included a report of no less than six cases of this disease. To this paper of Brown were appended valuable remarks by Ormerod, of London, and Bernhardt, of Berlin. A point of great value in these commentaries was the emphasis both writers laid on the necessity of considering many of Brown's observations as cases entirely apart from Friedreich's disease. Since that time reports of cases have been made by Klippel and Durante,[3] by Brissaud and Londe[4] and by Londe[5] in which the symptomatology has been so definite as to lead observers to place these cases unreservedly in the category of hereditary cerebellar ataxia.

In addition to these a number of cases have been reported which will be mentioned farther on in this article, in which the symptoms were intermediary between hereditary spinal and hereditary cerebellar ataxia, or which included symptoms outside of these two diseases. These latter cases furnish great opportunity for study, reflection, and investigation.

Two years after the publication of Nonne's paper, Marie, in discussing the former's cases in connection with the interesting series of cases reported by Sanger Brown, and the cases of Fraser, and of Klippel and Durante, suggested the name hereditary cerebellar ataxia in contra-distinction to hereditary ataxia, which is the name universally given to the disease first described by Friedreich[1] in 1863. A name which is associated anatomically and historically with lesion in the spinal cord. And this for two reasons: in the first place, because the constant attending lesions of this disease are spinal, and secondly, because Friedreich described, and for a long time considered, these cases as anomalous forms of tabes or locomotor ataxia. And although the anatomical investigations of Schultze,[2] Kahler and Pick, and others soon attested the incorrectness of Friedreich's view, they at the same time put the disease on a firm anatomical basis.

The name hereditary cerebellar ataxia, its sponsor considered, would not only indicate the important clinical manifestation, the ataxia, but would impress the kind of ataxia, viz., cerebellar, while it would also suggest the *sine qua non* of its genesis: heredity. Furthermore, it was suggested by the fact that in the cases of this disease that had come to autopsy the most manifest lesion was in the cerebellum. Although Marie's designation is a satisfactory one thus far, it should not necessarily be considered a permanent one, as there have already appeared observations to show that a strikingly similar condition (if not quite the same) may develop without any hereditary antecedents or consequences.

These cases will be referred to later. In fact it is probable that heredity, in the proper and literal interpretation of the term, is not an absolutely necessary antecedent. If it be granted that the case reported herewith is an example of this disease (an atypical example), the occurrence of the disease without defective heritage must likewise be admitted. That is, no such or analogous condition existed in the immediate antecedents extending back as far as the grandparents. That it is a family disease, however, is indicated by the occurrence of it in all the children of the family, viz., two.

It does not seem necessary to dwell on the distinction between familiary and hereditary diseases. That a disease may occur in a family without being in the strict sense hereditary, must be conceded. It is believed to have been proven that the germ plasm may be defective in its primary constituent, or during its development, without the source of its origin being diseased.

The name hereditary cerebellar ataxia is applied, therefore, to a class of diseases in which heredity is the

[1] Archiv. f. Psychiat. u. Nervenheilk., 1891, vol. xxii., p. 283
[2] Brain, Part lviii., 1892.
[3] Rev. de Méd., October, 1892, p. 745.
[4] Rev. Neurologique, 1894.
[5] Ibid., October 1, 1894.

[1] Virchow's Archiv, vol. xxvi., p. 408.
[2] Ibid., vol. lxviii., 1887.

genetic factor, ataxia the clinical, and the cerebellum the seat of the most important pathological change. The name is the same as that given to Friedreich's disease (hereditary ataxia) with the interposition of the word cerebellar. The latter, indeed, may be called hereditary spinal ataxia, the former hereditary cerebellar ataxia, while those cases which conform to neither type, the cases described by Nonne as transition forms, and with which the cases of Menzel, Erb, and my own may be reckoned, may be considered as cerebello-spinal hereditary ataxia, or hereditary cerebro-spinal ataxia. The latter name especially when psychical and other symptoms pointing to cerebral defect are prominent.

It is more than probable that such cases will be found to exist and Nonne's recent contribution,[1] in which he describes six cases, would seem to point in this direction. Hereditary cerebellar ataxia differs from hereditary spinal ataxia not only in its symptomatology, but in its etiology and course. The former seems to develop in the period extending from late youth up to maturity, although it may develop in earliest infancy.[2] In this it differs very materially from the spinal form in which the great majority of the cases develop during the cycle between childhood and adolescence. That the former may develop in infancy is shown by Fraser's cases, in which the disease began in the third or fourth year. As Fraser's cases were the first on record and with autopsy, this fact is important. So far as any conclusions may be drawn from the small number of cases published, it would seem that the former had been observed oftener in males than in females, the proportion being relatively similar to that of hereditary spinal ataxia. This is in keeping with a fact which is generally conceded, that in all of the family and hereditary diseases of the nervous system males are more frequently affected than the opposite sex. As in hereditary spinal ataxia the familiary or hereditary element is all that we can find bearing on the occurrence of the disease.

Like in a great many other protal or teratological diseases, an antecedent or coincident history of tubercle may be discovered in the family. This can have no other significance than a general one, viz., the prevalence of this infectious disease and the greater vulnerability of those handicapped by inheritancy or by acquisition. The fact that a tubercular history has been found relatively more frequently in the antecedents of hereditary cerebellar ataxia than in hereditary spinal, is in keeping with the universal knowledge that tuberculosis is much more common during the epoch when the former occurs than it is with the latter.

Factors which may be considered incidental have been remarked by some reporters, such as psychical trauma (Nonne), the occurrence of infectious disease (Londe, Marie), etc. Naturally, such conditions may precipitate or aggravate incipient symptoms so as to render those previously unnoticed quite perceptible.

In none of the cases reported thus far has parental syphilis played any part. The entailment of neurotic inebriety has, however, been noticed as it has in hereditary spinal ataxia.

The etiology of hereditary spinal ataxia is practically similar to this, with the exception that direct inheritance has been traced only in a few instances, while the familiary occurrence of the disease is rarely, if ever, absent. Moreover, it is supposed by many to be not only familiary, but congenital. Nevertheless, Friedreich himself, and recently Schultze,[3] have stated that the familiary character may be absent.

The difference in the symptomatology of the two diseases is set forth in the following parallel columns:

Hereditary Cerebellar Ataxia.	Hereditary Spinal Ataxia.
1. Gait: Uncertain, reeling; gait of one inebriated. Patient frequently walks with body bent forward and the head thrown backward, and the feet wide apart.	1. Gradual impairment of co-ordination, first in legs, afterward in arms. Later in the disease the patient may reel as if under the influence of alcohol.
Does not have to watch the feet. Feet wide apart.	A quick backward and forward balancing movement.
2. Station: Romberg symptom absent.	2. Station: Closure of eyes, as a rule, increases the unsteadiness; this may be absent.
3. Titubation and inco-ordination and loss of dexterity in the upper extremities. Choreiform movements exaggerated on voluntary effort; "intentional."	3. Titubation of upper extremities very uncommon. Irregularity in voluntary movements of arms and fingers.
4. Not infrequently oscillations or jerky movements of the head, less often of the trunk.	4. Frequently jerky, irregular movements of head and neck. Sometimes like an irregular tremor.
5. Exaggerated contraction of the mimetic muscles on speaking.	5. Mimetic muscles do not show ordinarily over-contraction.
6. Ataxia is very much less, or disappears when the patient is lying, but the inco-ordination persists.	6. Ataxia is not so great when the patient is lying.
7. Speech: Hesitating, abrupt, explosive, ataxic, defective.	7. Affection of speech may be absent; when it does occur is a late symptom, and consists of an eliding of syllables and an occasional hesitation.
8. Eyes: Twitching of the eyeballs very common, but not nystagmus. Optic atrophy, progressive choroiditis, paralysis or paresis of the external recti sometimes.	8. Nystagmus is a very common symptom, but it may be lacking.
9. Myotatic irritability increased; reflexes exaggerated, such as knee-jerks; often ankle clonus.	9. Myotatic irritability is lost. Knee-jerks may be present in the beginning of the disease, but they soon disappear. Ankle clonus is never present.
10. Mental shortcomings varying from slight psychical disturbances up to a considerable degree of dementia.	10. Mentally, normal. Very rarely any defect.
11. Deformities of the extremities and spine, such as pied bot or scoliosis, do not occur or are most rare.	11. Deformities of the extremities, such as pied bot and spinal curvature, very common.

These are the principal symptoms of these two familiary diseases. There are additional symptoms, but they do not occur with sufficient regularity to justify considering them a part of the clinical picture. It will be seen that, even in parallel columns, the symptomatology of the two diseases does not appear to be so radically different. This will convey some idea of how similar some of the cases seem in reality. They are both family and progressive diseases. There is practically the same titubation in the gait, the same instability, and the same loss of co-ordination and choreic movements of the hands, and perhaps, also, of the face. The appearance of the face both when in repose and on speaking furnished a minor point of difference: in hereditary cerebellar ataxia there is a look of astonishment habitual to the features, and over-action of the mimetic muscles when the patient speaks or betrays emotion. This has not been considered a phenomenon of Friedreich's disease.

It is in the condition of the deep reflexes that these two diseases differ materially. In the former they are always present and frequently exaggerated; in the latter they are often absent, at least after the disease is developed, and no typical case has been recorded in which they were found increased. The presence of even the slightest clonus of the foot indicates a spastic condition to which the anatomical conditions existing in Friedreich's disease are inimical. To show the great importance that is attached to the state of the tendon reflexes as a diagnostic factor, it may be permitted to quote from Brissaud, who, lecturing on a patient with hereditary cerebellar ataxia (in whom there

[1] Archiv. f. Psychiat., etc., vol. xxvii., part 2, p. 479.
[2] Besold: Zeitschr. f. Nervenheilk., vol. v., pp. 2 and 3.
[3] Zeitschr. f. Nervenheilk., vol. v., parts 1 and 2.

were no visual troubles and the presence of scoliosis), said, "En somme, si j'ai éliminé la Maladie de Friedreich, c'est pour la seule raison que les reflexes rotuliens sont exagérés."

The remaining symptomatology in which they differ materially are the ocular and the mental conditions. Whereas such ocular symptoms as diplopia, dischromatopsia, achromatopsia, contraction of the visual field, and loss of light and accommodative reaction, all pointing to optic nerve lesion, have been found in several cases of hereditary cerebellar ataxia, these are most uncommon manifestations in hereditary spinal ataxia. In fact, it must be said that, whereas cases of the latter disease have been reported in which there has been diplopia and loss of light reflex, optic atrophy never occurs.

Cases of hereditary cerebellar ataxia in which there has been no real involvement of the optic nerve have been reported, so that, although it constitutes a very important line of demarcation between cerebellar and spinal ataxia, its absence should not convey the nonexistence of the former disease. Marie, and following him Brissaud,[1] have both laid undue stress on the eye-symptoms in hereditary cerebellar ataxia, the former going so far as to say that if the eye-symptoms are lacking the diagnosis cannot be made with certainty.

Londe, whose monograph on the subject aims to encompass all that has been written on the subject of hereditary cerebellar ataxia up to the date of its publication, emphasizes the belief that visual disturbances, ocular, motor, or sensory, which Marie considers pathognomonic, do not constitute an essential feature of the disease, and that in typical cases the symptom picture may be reduced to its simplest expression: general inco-ordination, with conservation or exaggeration of the tendon reflexes.

A careful examination of the records of the reported cases shows that in some there were no ocular symptoms, and in others very slight departures from the normal.[2] Brissaud proposes to call these cases in which ocular symptoms are wanting, variétés frustes of hereditary cerebellar ataxia. We do not admit the necessity or propriety of such subdivision.

The history of the case which I wish to communicate is as follows: A boy eleven years of age, of mixed English and Irish parentage. The parents are living and in good health. There is no history or manifestation of syphilis in either parent. No disease like the one from which the child is suffering, nor any symptom complex resembling it, can be traced in any of the ancestry. His paternal grandfather and grandmother both died of consumption. Five paternal aunts died in childhood, all with some tubercular manifestations, and his only paternal uncle has hip (tubercular?) disease. Thus it will be seen that there is a most pronounced tendency to the transmission of a constitutional condition favorable to tuberculosis. There is no history of defective mental or physical development, or the possession of morbid atavistic traits in any of the patient's immediate family. He is the second of two children. The fact that the mother has not conceived in the past eleven years, although she and her husband are apparently normal and vigorous, indicates relative unfecundity which bespeaks degeneration. The child born previous to the patient was a girl, who died at the end of her second year. The parents say that she had a "sort of a paralysis," that her eyes "danced" continually, that she was very "backward," never having learned to say words, to walk, or to use her hands. She had two or three attacks of convulsions, and finally died during an attack. The child did not look natural, the back of the head was flat and the forehead was bulging. This is quoted practically verbatim from the account given by the mother, and can be taken, I believe, to mean that the first child was defective in a way similar to the patient here described, only that the defect was greater and showed itself earlier. The "sort of a paralysis" spoken of by the mother was in all probability extreme inco-ordination of the extremities, which prevented it from learning to creep, to walk, or to use its hands. The fact that the child could move all four extremities speaks in favor of this view and against the supposition of any real paralysis. The "dancing" of the eyes indicates that nystagmus was very marked, just as the "backwardness" implies defective mentality.

Between the first and second pregnancies there was a space of two years. The pregnancy with the present patient terminated with a normal delivery. The child never had spasms; the teeth began to appear at the proper time, and when he was a year old he began to walk. The mother says that he began to walk and talk at about the customary time. Since his third or fourth year it has been remarked that he was "stiff in his joints," that he took "short steps" and was "continually tumbling;" "but he was always a great runner and walker," but was not able to climb like other boys. When he was four years of age it was noticed that he was short-sighted, a condition which was on the increase, and since then he has worn glasses. He has had measles, pertussis, and scarlatina, all in a very temperate form and without the slightest after-effect from any of them. When he was five years of age he began going to school, but in the following six years he has not been able to progress beyond the grade in which he started, except after the first two years he was once promoted, but later he had to be put back, and now at eleven years he is still in the baby class, or was until a short time ago, when he was returned with the advice that it was impossible to make any progress with him.

In April, 1894, in his tenth year, the mother says he had an attack in which he was unable to use the left side of the body. Although he could move the extremities, the left arm and leg were very clumsy and the hand lost all its dexterity. At this time speech was very indistinct. This seeming exacerbation of inco-ordination has recurred a few times since then, two or three times under my own observation; sometimes on one side, sometimes on the other, but more frequently on the left. And more than once has it been diagnosticated as St. Vitus's dance. The hands and fingers are often blue and extremely cold, and slight depressions of temperature make him very cold. It is quite impossible to keep him warm in winter. He complains of general fatigue, and of numbness and occasional cramps in legs; but not of pain. About a year ago, after having returned from a walk with his father, he felt ill and vomited a great amount of clotted blood. The hæmatemesis continued for three or four days. Some months ago he had a fall from a flight of steps and since then they think he is worse.

Examination. — A moderately tall, anæmic boy. Face has an aged, astonished, or frowning appearance which is heightened by the powerful convex lenses which he wears. Face looks somewhat asymmetrical, the right side being slightly more innervated than the left. Under the influence of the emotions, particularly those of depression, there is over-activity of the mimetic muscles, the face becomes a mass of wrinkles and takes on an elf-like expression.

He stands with the body bent forward and the chin pushed out, and with the feet wide apart. Station is quite as well preserved with the eyes closed as open. No Romberg. The gait is shambling, uncertain, titubating. This is most conspicuous when he endeavors to walk within a narrow space or to avoid successive obstacles. He falls with the greatest readiness. Lack of co-ordination is very manifest on attempts at purposive movements with the hands, worse with the left; while with the right hand there is a great deal of titubation. When he attempts movements requiring some dexterity, such as picking up successively a number of

[1] Leçons, Salpêtriére, 1893–94.
[2] Oulmont: Mercredi Med., No. 9, 1895.

coins and retaining them in the hand, grasping and holding a pencil to write, etc., clumsiness and incoordination are particularly manifest, while the ataxia of the upper extremities is seen distinctly when he puts the tip of the finger on the apex of the nose. This is more marked with the left hand than the right. Defective co-ordination of the lower extremities is seen

FIG. 1.—Facial Expression.

best when he attempts to go upstairs, to run, and to step over anything. When he lies on his back purposive movements with the lower extremities are much more accurate. The tendon reflexes are all more active than normal. The knee-jerks are exaggerated and there is varying ankle clonus on both sides; sometimes this latter is well marked, while at other times it cannot be brought out. The triceps reflex is lively, and muscular contraction to mechanical stimulus is pronounced, such as is obtained by tapping the extensors of the forearm. The lower extremities resist somewhat passive motion. There seems to be an inability on the part of the patient to relax the contraction of the muscles, which gives an impression of passive rigidity. Then the contraction will disappear. So it cannot be said that there is real spasticity. The muscular strength of the upper extremities is very considerably diminished, especially the extensors, and the grip of the hands is very slight, he being scarcely able to make the dynamometer register. The muscles of the back and thighs are also weak, and this is strikingly manifest when he attempts to rise from the completely prone posture. He gets up very like a patient with dystrophy of the pseudo-hypertrophic type, except that the crawling up the thighs and trunk is not so pronounced. The muscles feel flabby and pultaceous; when the tissues on the back of the forearm are pinched up there is none of that characteristic muscular resistance, and the mass lifted up is perfectly translucent, yet the contour of the extremities is well rounded, and there is no atrophy of individual parts of the body.

Careful examination of the sensory sphere fails to reveal any constant deviation from normal. The mother says that sometimes in the morning he complains of headache, and is excessively sensitive to touch on being handled or rubbed, but it has been impossible for me to corroborate this. There is no vesical weakness, and aside from slight constipation the bowels are normal. Muscle sense intact. The disturbance of speech is most striking, but a somewhat difficult one to describe. The sound is abrupt and the articulation defective. The linguals and labials are often not sufficiently constructed to be recognizable. When he attempts long words or tries to say several words, one after the other, they get jumbled up and it is quite impossible to recognize the words. There is none of the scanning of multiple sclerosis, but rather abrupt, forcible ejaculation attended by very perceptible effort of the muscles of expression. "Explosiveness," "abruptness," and ataxia are the three prominent characteristics.

Examination of the eyes reveals a paleness of the disk which Dr. W. A. Holden, who examined the eyes, considers to be within physiological conditions, and slowly progressing choroiditis. It is difficult to speak positively as to whether there is dyschromatopsia or not, but it is certain that there is no achromatopsia. The pupils are wide, alike on both sides, and respond slowly to light and accommodation. There is a progressive myopia. Forcible side to side movements of the eyeballs are accompanied by slight jerky movements which are not sufficiently rhythmical to be designated nystagmus. The movements of the eyeballs are free in every direction, but outward rotation is much less vigorous and complete than it is normally. There would seem to be no defect in the function of the other cranial nerves except the asymmetry of the face, which has already been mentioned, the exaggerated condition on display of the emotions, and the fact that he cannot whistle. This last does not seem to be due to inability to pucker the lips, for that he can do, but to the lack of reciprocal action between the muscles of the lips, the cheeks, and the respiratory muscles. It is also worthy of remark that until a year or two ago he could whistle. There is an irregular tremor of the tongue. Senses of smell, taste, and hearing are apparently intact.

As has been said before, he is deficient mentally, but he is not demented nor idiotic by any means. He would seem to have receptive faculties and a considerable capacity for memory; but in power or process of association he would seem to be entirely lacking. He has rational likes and dislikes, and has, apparently, ideas of right, of wrong, of possession, etc. He answers questions rationally, and also asks questions becoming a child of much fewer years. Yet, withal, he has never been able to put letters together so as to form words, nor to develop sufficient faculties to write simple sentences, although he could write his name. He has a bad temper, is easily provoked, does not like to be contradicted, and can be led more easily than dominated. He has no capacity for attention. One may try in the most forcible and praiseworthy manner to hold his attention, but after holding it for a moment it flits. There are no objective sensory troubles.

The genital organs are extremely undeveloped, the penis like an infant's, and only one testicle can be felt. The skin is dry, the hair falls out more than normally, and it is said that he does not perspire. He becomes fatigued rather easily, and oftentimes he is very drowsy and will sleep in the day. There is a deformity of the right foot, a typical so-called pied-bot, which is shown in the accompanying illustration. This deformity has not yet been noticed by the parents, nor is it to be remarked in the patient's gait. The shoes that he wears are of a pair.

The course of the disease has been a progressive one even since the patient has been under my observation. The fact that when the parents first brought him for treatment it was stated that symptoms dated from the fall already mentioned, may be taken as evidence that the disease has made a considerable progress in that time. It is unnecessary, probably, to add that fall was incidental to the disease, and not *vice versa*. The defective formation of bodily heat; the consequent depressed vitality; the increasing inco-ordination of gait, of movements, of speech; the retrogression of mental acquisition; the increasing loss of muscular strength, all go to show that the anatomical conditions at the

bottom of his disease are not only preventing anything like normal somatic and mental development as had gone on up until three or four years ago, but that there is an actual retrograde process at work. The muscles respond to the galvanic and faradic current, sluggishly of course, considering the pronounced lack of development, especially of the extensors, and there is normal

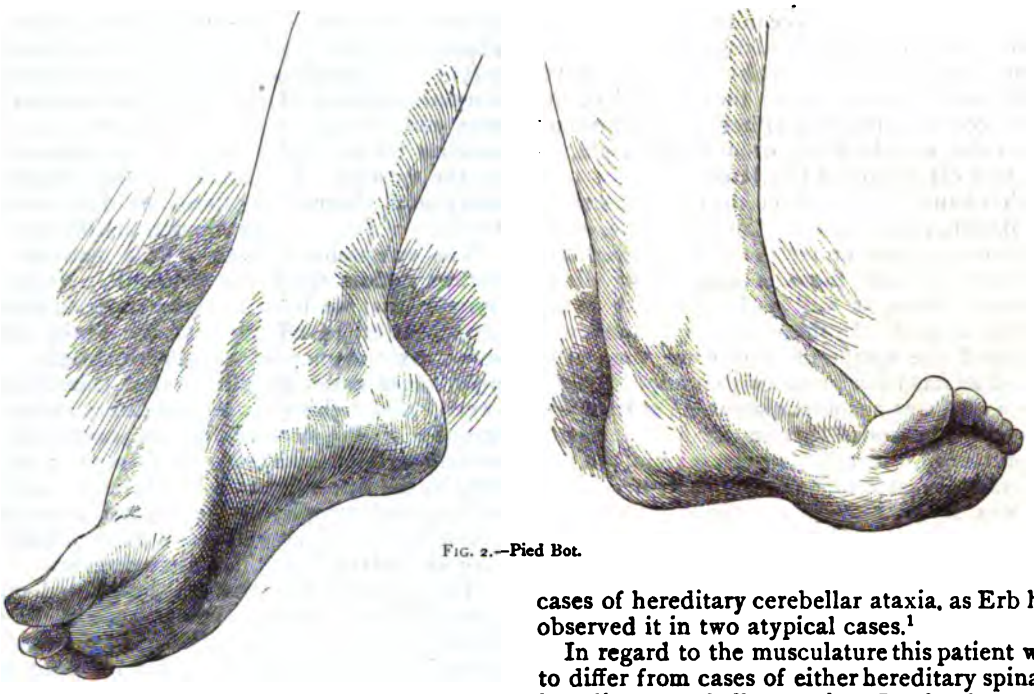

FIG. 2.—Pied Bot.

polar relationships. Faradic irritability of some of the nerves, notably the musculo-spiral, is diminished.

To recapitulate briefly the salient points of this case: 1. Absence of direct hereditary transmission. Evidence of its being familiary, a sister, in all probability, suffered from the same disease. 2. Onset in early childhood. The accompanying photograph is evidence that in infancy the child was free from the manifestations of the disease. 3. Disturbance of co-ordination manifested in all four extremities. Titubation of the hands and feet. 4. Gait: feet wide apart, reeling, inco-ordinate. 5. Increased tendon reflexes; exaggerated knee-jerks and ankle clonus. 6. Marked disturbance of speech, explosive, inco-ordinate; articulation very defective. 7. Profound deviation of intellect; associative faculties lacking; defective in attention. 8. Absence of sensory disturbance and intactness of the sphincters. 9. Progressive loss of muscular strength and tonus. 10. Shrivelled appearance of skin, lack of perspiration, senile, position of body and staring expression of countenance.

Thus it will be seen that in some points it differs very radically from hereditary spinal ataxia or Friedreich's disease, combined lateral and posterior sclerosis; while other of its symptoms point in no uncertain way to this disease. But the fact is that the case presents characteristics directly inimical to the postulated pathological condition of this disease. In brief these contradictory symptoms are: 1. The exaggerated tendon reflexes, knee-jerks, and ankle clonus. In Friedreich's disease the tendon reflexes are diminished or absent, particularly after the disease has been absent for some time. A case in which ankle clonus was an accompaniment has never been described. 2. The absence of nystagmus. 3. The striking defect of the mind.

The extremely early onset (Friedreich's disease comes on generally between the tenth and fifteenth years), the absence of sensory symptoms, the intensity of inco-ordination in the upper extremities, and the titubation are likewise uncommon concomitants of Friedreich's disease.

On the other hand, this patient shows symptoms and conditions which are found so frequently in hereditary spinal ataxia as to be considered of considerable diagnostic importance. Such is the pied-bot, a form of talipes dependent upon defective action, paresis, and subsequent contracture in the peroneal group of muscles. It is more than probable, however, that a history of this deformity will be found in subsequent reports of cases of hereditary cerebellar ataxia, as Erb has already observed it in two atypical cases.[1]

In regard to the musculature this patient would seem to differ from cases of either hereditary spinal ataxia or hereditary cerebellar ataxia. In the former muscular power is usually normal, even after the ataxia has become well pronounced, and although it sometimes becomes impaired in the course of the disease, the flexors suffer more than the extensors. Wasting of the mus-

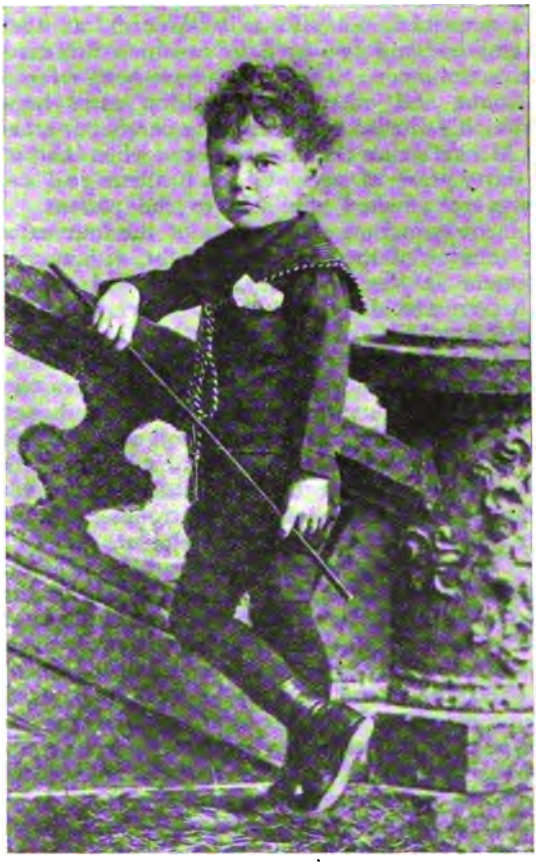

FIG. 3.

[1] Neurologisches Centralb., 1890, p. 378.

cles is very slight.[1] In the latter disease Londe,[2] in his analysis of all the cases on record, reached the conclusion that the subjective sensation of fatigue and feebleness of muscular force is but slightly diminished; and when it is diminished it is but the consequence of hospitalization and prolonged inability to give the muscles their proper stimulation. Nevertheless, in Menzel's case (a so-called intermediary case) there was remarkable diminution of muscular force in the upper extremities. The deficiencies of musculature which are so striking in my case cannot be attributed to the abovementioned factors. To my mind they should be referred to defective formation either in the primary constituent of the muscle fibre, or of later origin. I shall return to a discussion of this later.

On the other hand, it differs from the cases described by Nonne, Brown, Brissaud and Londe, Marie, *et al.*, which have been grouped under the title of hereditary cerebellar ataxia, in that there is absence of direct hereditary transmission, as well as by the early manifestation of the disease. In these latter cases many of them manifested the symptoms first some time after puberty. And as has been previously mentioned, optic atrophy was a frequent accompaniment. Yet it should be conspicuously mentioned that in the first authenticated case on record, Fraser's first observation, the disease began gradually at about the fourth year. When the patient was seven years of age the staggering had become very persistent, and he was obliged to leave school. In this case, moreover, the opthalmoscope showed conditions very subject to the personal element of the observer: pale papillæ, irregularity of their contour with venous congestion in certain points; arteries contracted. Muddy and opaque aspect of the choroid. Except in the absence of oscillations of the head and the mental defect, the case herewith reported resembles very closely the case of Fraser.

There have been a number of cases of familiary ataxia described, notably one by Menzel,[3] another by Seeligmuller,[4] and two by Erb,[5] to which this case has some resemblance. These cases have been referred to by Nonne and others as transition cases between Friedreich's disease and hereditary cerebellar ataxia.

In Menzel's case the disease began when the patient was thirty years of age. Of six brothers and sisters, three were affected similarly to the patient. The prominent symptoms were ataxia of the four extremities; rotation of the head to the right, with associated movements in the face; speech slow and explosive; pupils large and sluggish to light and accommodation; marked Romberg; exaggeration of the knee-jerks; no sensory troubles. Anatomically, there was found degeneration of the posterior columns and roots, as well as atrophy of the anterior roots in the lumbar cord; degeneration of the columns of Goll and Burdach, of the direct pyramidal and lateral cerebellar tracts throughout the rest of the cord and in the medulla. The pons and cerebellum were atrophic, and in the latter Purkinje's cells were very deficient.

The recitation of this case shows wherein it differs from the accompanying observation. It is particularly in the age of the patient, the mental condition, and the severe contractures. Otherwise my patient has in common with it the exaggerated knee-jerks, the slow and explosive speech, and the very nearly normal condition of the eyes. The case, therefore, conforms neither to the type of cases described under the name hereditary cerebellar ataxia, nor to those constituting Friedreich's disease. Furthermore, its symptomatology is quite different from the symptomatology of such familiary diseases as cerebral diplegia, as described by Sachs, by Freud, and by others; from paraplegia ataxo-spasmodic of Gowers, and familiary spasmodic paraplegia which has been described by many writers.

[1] Gowers: Diseases of the Nervous System, vol. i., p. 464.
[2] Loc cit.
[3] Archiv f. Psychiat., vol. xxii., 1891, p. 161.
[4] Ibid., vol. x.
[5] Ibid., vol. xxvii., p. 749.

It is advisable also to contrast it with the symptomatology of six cases recently described by Nonne.[1] He sums up his conclusions in these cases as follows: "The disease developed in patients without any hereditary condition existing in the family. It may follow a disease of the brain, as we have seen it after a sunstroke. The most important symptoms are: 1. A static and locomotoric, not purely ataxic, disturbance of co-ordination of the extremities, of the trunk and phonating speech muscles, with intact power of mimicry. 2. Insufficiency of the external eye muscles, with normal condition of the pupils and absence of nystagmus and change in the optic nerve. 3. Increase of patellar tendon reflex without accompanying rigidity of the muscles. 4. Absence of disturbance of sensibility and absence of sphincter disturbance. 5. Intactness of (or slight perversion of) the intelligence."

The symptoms in one of the patients which the author details reached a standstill. Nonne is of the opinion that we have in these cases to deal with the sequences of an affection of the brain, the result of some toxic agency of exogenetic origin. He looks upon these cases as still another transition form between Friedreich's disease, hereditary cerebellar ataxia, atrophy of the cerebellum, the cases previously described by him (which Nonne does not consider to belong in the title suggested by Marie, on account of the wide-spread atrophy of the central nervous found in one of his cases), as well as the cases published heretofore as "mixed forms" of these diseases.

The only criticism that will be offered on these last cases of Nonne is, that whereas some of these six cases appear to belong properly to so-called "transition forms," some of them, such for instance as the one coming on after sunstroke, can be explained by the previous existence of an encephalitis. They differ essentially in some points from the case herewith reported. Particularly in the intactness of intelligence, the absence of any familiary history. In common with it they have the early beginning, the abnormal liveliness of the tendon reflexes, the absence of eye-symptoms, the absence of sensory and sphincter disturbance, etc.

The symptoms of the patient herein described can be most rationally and logically explained, when more extensive defect of the nervous system is postulated than exists in either hereditary spinal or hereditary cerebellar ataxia. In the former disease there is sclerosis and shrinking of the posterior columns of the spinal cord, and of the columns of Goll and Burdach, analogous to that found in tabes. In addition a similar pathological process goes on in the crossed pyramidal tracts, in Gower's tract, in the direct cerebellar tract, in the medullary bridge of Lissauer; and with these there is a diminution of the cells of Clarke's columns. The lesions in the latter disease are pronouncedly in the cerebellum, and consist of a reduction in weight and volume which is associated with a thinning of the gray layer and a lessening in number of the cells of Purkinje. Naturally, with such a lesion there are others of such fibres or bundles of fibres the neurons of which are situated in the degenerated areas of the cerebellum. The projection fibres of the cerebellum are, happily, now very much better known than they were a few years ago, even although we are still in the dark as to their connections and functions. Therefore, just what these outlying lesions are, or what they will be found to be, cannot yet be said.

The patient, R. L——, has symptoms which cannot be explained by either set of lesions or by both combined. The retrocession of slight mental attainment at the sixth or seventh year, and the lack of mental development in the five years following on that age—years in which children make more radical mental progress than at any other period of their existence; a period when they acquire ideas of spoken and written

[1] Archiv f. Psychiat., vol. xxvii., 1895.

language, of moral and social relationships, when there is an enormous awakening as to their being and function—point unmistakably to lack of cerebral development which we believe could be called a lesion if it were possible to examine it.

The psychical condition of the child at the present time forms an interesting subject for study. His possessions and lackings in this line have before been commented on in some detail, but it may be well to repeat that it is the neural processes underlying attention, association, and complex memories that he is strikingly deficient in. These qualities of the mind we believe to be subserved principally by the great system of association fibres or tracts. And the fact that these mental attributes are deficient and undevelopable is in evidence that the neural processes on which they are dependent are lacking. Other symptoms, such as the decided exaggeration of myotatic irritability, the lack of readiness in the relaxation of muscular contraction, are explained most naturally by defect in the system of long projection fibres, which interrupts in part the inhibitory activity of the cerebrum on the former and interferes with the conductivity of impulses necessary to the latter.

Taking the symptoms which this patient presents in their entirety, it seems to me that they bespeak a defective formation of the nervous system, not of any individual portion such as certain parts of the cord or the cerebellum, but of the entire cerebro-spinal and sympathetic nervous system. In fact, if we take our perspective from the broad view-point of the development of the nervous system, it is not difficult to conceive how some perversion of the germ plasm destined for the portion of that part of the epiblast from which the nervous system is to develop, may cause a deficiency in the proper development of the nervous system. Such a defect, by very virtue of its protal origin, would not be limited to any individual part of the nervous system, but would be manifested throughout it. That is, it would not be alone in the central neuron, in the projection and association fibres which are built from them, but in the peripheral neuron as well.

The condition of the musculature of the patient R. L—— I consider of no small importance in bearing on the process underlying his disease. As has been said, the contours of the extremities are quite normal in appearance. There is neither apparent atrophy nor hypertrophy. The fact that the musculature is deficient is conveyed by what has been said concerning the way in which he rises from a lying posture. Then, when it comes to an examination of the muscles, it is seen that in some parts of the body, such as on the back of the forearms, they are strikingly deficient, as is shown by the translucency of the parts when the tissues are pinched up, by the extremely small amount of muscular tissue which can be recognized by the touch in these parts and by the rapidity with which the upper extremities become fatigued.

That the muscles exist, and that there is no degeneration in the muscles, is shown by their behavior to the electrical tests. That is, it would seem that some groups of muscles are represented in miniature. This is not the result of disuse, or of disease of the muscles themselves, but is, I believe, the result of defective formation consecutive to deficient protal distribution of peripheral neurons. I am aware that this theory leaves unexplained the integrity of the sensory system, but the fact that it is intact should not prevent an attempt at furnishing a rational explanation of existing defects.

The absence of sensible perspiration, the condition of the skin and appendages, to which attention has been called, bespeak shortcomings in the performance of its duties by the sympathetic nervous system. We have, therefore, in this case symptoms which, although partaking of the symptomatology of both hereditary cerebellar and hereditary spinal ataxia, has in addition certain conditions which are dependent upon a more extensive defect in the nervous system than either of these two diseases has been found associated with. The purpose of this report is to show that cases such as this cannot be encompassed by unvarying boundaries.

It also, I think, goes to show, as Nonne has pointed out, that there exist clinically cases which vary in their clinical manifestations from the picture produced by cerebellar atrophy, through the category of his original cases, through the cases described under hereditary cerebellar ataxia, to the many transition forms that have been described, and that these cases can be differentiated clinically from hereditary spinal ataxia.

I deem it a privilege to thank Professor C. L. Dana, in whose clinic at the Post-graduate Medical School this patient was found, not alone for the consent given to study the case, but for valuable suggestions made while studying it.

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A CHEMICAL AND EXPERIMENTAL RESEARCH ON "ANTIPHTHISIN" (KLEBS'S).

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In spite of the ill repute into which Koch's tuberculin so quickly fell, many investigators, struck with the specific and selective influence which it exercises on the lesions of experimental tuberculosis, as well as with some favorable clinical observations noted in certain types of the pulmonary disease treated by tuberculin, have persevered in its further study and have attempted to analyze its constituents, to do away with the manifestly dangerous products contained in liquid cultures of the tubercle bacillus, and if possible to separate some pure substance which might favorably influence the tuberculous process, or produce in men and animals a certain degree of immunity.

Koch,[1] shortly after his announcement of the discovery of tuberculin, published the result of his attempts to purify this substance, claiming, however, for the product he obtained no therapeutical advantage over crude tuberculin. Kühne[2] made a chemical analysis of its component parts, and found that the active substances present in it are of the nature of albumoses.

Baumgarten[3] obtained temporary cures of eye tuberculosis in the rabbit by treatment with tuberculin. Trudeau[4] demonstrated, by the treatment of the experimental disease in the rabbit's eye, that the substances which bring about reaction and, under certain experimental conditions, even temporary cure, are to be found in the filtrate of liquid cultures, and not in a solution or suspension of the washed bodies of dead bacilli, and that the heat used in making Koch's tuberculin precipitates some of the proteids present in the cold filtrate. The studies of Hunter[5] and Klebs[6] were directed more particularly toward the separation by chemical methods of the injurious from the possibly curative elements of tuberculin.

In a communication made in 1892,[7] and in an exhaustive and more recent publication on this subject, Klebs claims, by chemical methods which he describes, to have separated from tuberculin, and later from the filtrate of over-ripe liquid cultures, a product which, owing to its specific germicidal action, is capable of killing the tubercle bacillus even when intrenched in

[1] Koch: Deutsch. Med. Woch., October 22, 1891.
[2] Kühne: Zeitsch. f. Biologie, 1892, xii., No. 2.
[3] Baumgarten: Deutsch. Klin. Woch., 1891, No. 19.
[4] Trudeau: Transactions of the Association of American Physicians, May 24, 1892.
[5] Hunter: British Medical Journal, July 25, 1891.
[6] E. Klebs: Deutsch. Med. Wochenschrift, April 14, 1892.
[7] E. Klebs: Die Causale Behandlung der Tuberculose, 1894, pp. 578–81.

the living tissues of infected men and animals, and thus curing the disease.

According to Klebs's observations, the cure is brought about, not, as Koch thought, by the power of the specific product to incite a reactionary effort on the part of the body cells, but directly and solely through its germicidal influence on the tubercle bacillus. Klebs, having observed that tubercle bacilli in cultures die when a certain period in their cultivation is reached, holds that they perish because they produce toward the end of their existence in the culture medium a peculiar germicidal substance which destroys them; that, by the chemical processes he describes, he has obtained this specific substance freed from the poisonous alkaloids and albumoses also produced by the microbes during their growth, and present in tuberculin; that he has succeeded in separating from over-ripe cultures this germicidal substance, which he calls "sozalbumose," and that it is the natural specific for this dreaded disease.

Such deductions, if proved correct, would have so important a bearing, not only upon our existing knowledge of the tubercle bacillus and of the treatment of tuberculosis, but upon the etiology and treatment of many other bacterial diseases as well, that a study of the claims made for "antiphthisin," both from the chemical and experimental stand-points, and of the theory upon which these claims are based, was undertaken by us at the Saranac Laboratory for the Study of Tuberculosis, and an answer to the following questions sought:

1st. *Can a specific substance, differing chemically from the albumoses already known to be contained in the filtrate of liquid cultures of tubercle bacilli, be separated from such cultures in a state of purity by the chemical methods proposed and described by Dr. Klebs?*

As the directions given by Dr. Klebs for the preparation of "antiphthisin" were evidently intended to be sufficient for the guidance of others who might desire to prepare this substance, we preferred not to limit our chemical study to an analysis of his own product, but to include in our research a test of the chemical problems involved in the process of manufacture as laid down by him.

In order to ascertain the nature of "antiphthisin" we prepared large quantities of it according to the directions given, which were closely followed.

"Antiphthisin" is stated by Klebs to resemble "tuberculocidin" (the name given to a former preparation), but is made directly from the fluid filtered from the over-ripe bouillon cultures without heat, instead of from crude tuberculin, as is the latter. The same method is used in both, but the "antiphthisin" presumably contains more of the active albuminoid substances, because some are removed by heat in the manufacture of tuberculin, from which "tuberculocidin" is made.

Kühne[1] examined 100 c.c. of Klebs's "tuberculocidin" and found a small amount of deutero-albumose and traces of peptone as the ingredients, excepting the phenol used to preserve it and inorganic salts. The albumoses, etc., resembled those contained in the peptone of the culture medium, though possibly derived from the bacilli. The important step in making these modifications of tuberculin is said by Klebs to be the removal of harmful, fever-producing substances by precipitation with sodium-bismuth-iodide (a reagent used to separate alkaloids) in acetic acid solution. The useful germicidal substances are assumed to be retained in the filtrate, which is then treated with NaOH to remove the bismuth. This being filtered off, absolute alcohol is added to the filtrate. The resulting precipitate collected and dissolved in water is called "antiphthisin." This is preserved in 0.2 per cent. trikresol, and is made of $\frac{1}{2}$, $\frac{1}{4}$, or $\frac{1}{10}$ bulk of the original culture fluid.

[1] Kühne: Loc. cit., p. 252.

We first procured some potassium-bismuth-iodide through the kindness of Professor C. E. Colby (Columbia College, School of Mines), and with this made several samples of "antiphthisin." Later, with sodium-bismuth-iodide prepared by ourselves, we made larger quantities.

Seven flasks containing 900 c.c., covered with thick pellicles beginning to sink, and all showing a rich growth of ripe, pure cultures grown from December 20, 1894, to February 18, 1895—eight and a half weeks—on peptone-bouillon, were filtered free of bacilli, and 12 c.c. of trikresol, twenty per cent. solution in glycerine, added as a preservative. After standing twenty-four hours sodium-bismuth-iodide was added until no further precipitation occurred, the reagent being first treated with sodium acetate and acetic acid. To avoid great excess, the quantity of the precipitant needed was first closely determined by titration three times with 5 c.c. of the culture fluid. The bulky, red precipitate was settled and filtered; the filtrate tested gave no further precipitate with $NaBiI_4$; NaOH (norm.) added until reaction just alkaline; warmed, settled, and filtered, free of Bi $(OH)_3$; to the clear filtrate absolute alcohol added until no further opalescence produced. The final precipitate, washed with absolute alcohol and dried, was readily dissolved in 70 c.c. distilled water.

EXAMINATION.

Color—light straw (resembled "tuberculocidin" obtained in market).
Odor—none (without trikresol).
Reaction—slightly alkaline.
+ heat = O + acetic acid = O (absence of albumin).
+ NaOH + $CuSo_4$ = rose color distinct (indicative of albumoses or peptones).
+ $(NH_4)_2$ SO_4 (saturated) = opalescence (albumoses?).
+ NaCl (saturated) = O + acetic acid = opalescence (deutero-albumoses?).
+ $PtCl_4$ (excess) = opalescence (not found by Klebs).
+ $NaBiI_4$ + acetic acid = precipitate (the first was evidently incomplete—not found by Klebs).
+ HCl + H_2S (warmed) = O—(absence of Bi).
+ HNO_3 (conc.) + starch paste = O (absence of I).

The above reactions and others indicated that we were dealing with an albumose, or peptone-like body, which was incompletely precipitated by the first treatment with sodium-bismuth-iodide. The whole quantity remaining was therefore again treated with sodium-bismuth-iodide in acetic acid. This time there was much less "antiphthisin," and by a third treatment it was possible to completely remove all of it—no proteid being left.

These results show the absence of any substance different from the albumoses already described by Kühne as deutero-albumose, produced by the bacilli in very small quantities.

Klebs thinks this substance to be elaborated by the bacilli in growing. To test this point we treated some unplanted bouillon by the same method above described.

Two hundred and fifty cubic centimetres gave a residue identical in appearance and reactions with that obtained from the cultures. It was, however, less in quantity than that obtained from cultures of same bulk.

As it was evident that some of the albumoses, etc., in the original culture—*i.e.*, contained in the peptone or meat extract—might be in the product called "antiphthisin," we prepared some from peptone-free cultures, grown on the asparagine fluid suggested by Schweinitz.[1] 475 c.c. of this gave a trace of antiphthisin," which from its reactions resembled a deutero-albumose. Obviously this must have been derived from the bacilli, because a control experiment with the culture fluid gave nothing. A second treatment of the presumably pure "antiphthisin" with sodium-bismuth-iodide completely precipitated the proteid substances.

Some experiments with deutero-albumose were next made to determine whether this is incompletely precipitated by sodium-bismuth-iodide. This substance

[1] Schweinitz: New York Medical Journal, February 3, 1894.

was prepared in a fairly pure condition from Witte's peptone by the method of Kühne and Chittenden. It was then made up into the usual bouillon culture medium mixture, being substituted for the peptone in like proportion. When treated with sodium-bismuth-iodide, etc., a small residue, identical in its appearance and chemical reactions to the "antiphthisin" obtained from ripe cultures, was found to be present.

A similar proteid residue was obtained from a mixture of Liebig's extract of meat, sodium chloride, and glycerine in the usual proportions for culture media. Meat extract is known to contain a small quantity of albumoses.

Some experiments with the object of determining the reason for this incomplete precipitation of albumoses, particularly deutero-albumose, incline us to think it due to several causes. It may be due partly to the presence of neutral salts in which these albumoses are very soluble, and possibly because of slight solubility in excess of the reagent. The amount of acetic acid present seemed to bear no relation to the amount of "antiphthisin" produced. By careful precipitation it was possible to remove all the albumoses in the first treatment.

The components of tuberculin, so far as known, can be best compared with those of "antiphthisin" by the following table:

- Tuberculin (crude)
  - From the culture medium unaltered.
    - Glycerine.
    - Inorganic salts.
    - Extractives from meat.
    - Albuminat.
    - Albumoses (proto-, hetero-, deutero-)
    - Peptone.
  - From the bacilli as a result of growth.
    - Albuminat (?) (doubtless a nucleoproteid).
    - "Acroo-albumoses" (Kühne).[1]
    - Deutero-albumose (small amount).
    - Peptone (possible trace).[1]
    - Alkaloids (?).[2]
    - Protein (?) from bodies of the bacilli.
- "Antiphthisin" and "Tuberculocidin."
  - Inorganic salts.
  - Deutero-albumoses (*very* small amount and partly from the culture medium).
  - Peptone (?)
  - Trikresol.

Many animal tests were made with "antiphthisin" of one-tenth volume of original culture fluid. Doses from 0.5 c.c. to 3 c.c. seldom produced appreciable effects on tubercular guinea-pigs and rabbits when administered at various stages in the disease. In doses of 5 c.c. elevation of temperature was produced, and one pig was killed by that dose, showing characteristic tuberculin-reaction lesions. Ten cubic centimetres caused marked congestion in the tubercular eye of a rabbit, with a temperature rise of from 102° F. to 105° F.

The effects of large doses of "antiphthisin" were similar in all respects to those produced by small doses of tuberculin.

It is interesting to note in this connection that Mathes[3] found that deutero-albumose (and others) made from Witte's peptone, produced effects on tubercular animals identical to those of tuberculin when given in sufficient quantity. We have confirmed this.

2d. *Has "antiphthisin" any germicidal action on the tubercle bacillus in vitreo?*

Six cubic centimetres of a suspension of a virulent culture of tubercle bacilli on serum having been made in water, 0.5 c.c. was injected subcutaneously in the thigh of four control pigs. Three cubic centimetres of the same suspension were now mixed in a little sterilized beaker with 3 c.c. of pure "antiphthisin" prepared by us as stated above, allowed to stand six hours at the room temperature, and 1 c.c. of the mixture injected into five pigs in the same manner as in the controls. All the animals died within two months.

The average life of the controls was fifty days. The average life of the test animals receiving the cultures which had been left six hours in contact with "antiphthisin" was thirty-nine days. The lesions of the test animals differed in no appreciable manner from those noted in the controls.

3d. *Do "tuberculocidin" or "antiphthisin" exert any curative influence over the course of experimental tuberculosis in the guinea-pig?*

Twelve guinea-pigs were each inoculated in the inner aspect of the thigh, subcutaneously, with 0.5 c.c. of an emulsion made from tubercular glands and peritoneal tubercles taken from a rabbit dead with acute tuberculosis. Six were kept as controls, and treatment of the other six was begun by injecting subcutaneously on the following day, in each, 0.25 c.c. "antiphthisin" one-tenth conc.

Injections were continued every second or third day and the dose gradually increased, so that within a month the animals were receiving each 1.5 c.c. "antiphthisin." The dose was then reduced to 1 c.c., and injected at intervals of two or three days until death.

The average duration of life for the control animals was thirty-nine days; for the treated, thirty-three days. In two of the treated animals the extensive tubercular lesions found in all showed bluish congestive areas such as are usually seen in tubercular guinea-pigs injected with Koch's tuberculin. Otherwise the post-mortem appearances were about the same in both sets of guinea-pigs.

A similar experiment was also made with "tuberculocidin" purchased in open market, with materially the same results.

4th. *Is the death of the germs in over-ripe cultures due to the formation of a specific germicidal substance in such cultures, or to some other cause?*

Dr. Klebs's observation that if a culture medium in which tubercle bacilli have once developed be replanted no growth will occur, was several times confirmed by us. In testing carefully, however, such a medium before planting, and after the germs have ceased to develop on it, it was observed that its reaction had become markedly changed.

Peptonized glycerinated bouillon ready to plant with tubercle bacilli should be either neutral or faintly alkaline, but after an abundant crop of the bacilli has developed on its surface it may be noticed that its reaction has become more or less markedly acid, according to the depth of the culture medium in the flask and the richness of the growth. Whether this acidity is brought about merely by the abstraction from the medium of some of its alkaline constituents for the needs of the growing germs, or by the addition to it of an acid substance produced as the result of the microbes' metabolism, has not yet been accurately determined, and the cause of this acidity offers a subject for further study; but as "antiphthisin" is alkaline, no germicidal influence can be claimed for it on that ground. It seemed to us not improbable that the failure to obtain a second growth on such a medium, if replanted, might be due simply to its acid reaction alone, and the following experiment to determine the correctness of this hypothesis was therefore made:

Having grown cultures of tubercle bacilli on peptonized glycerinated bouillon for seven weeks, until the thick pellicle formed by the germs began to look humid and sink at the sides, a few drops of a sterilized solution of NaOH was added to the culture fluid until the acid reaction found to be present in it was changed to a perfectly neutral one. This neutralized medium was then filtered through a previously well-sterilized Kitasato filter into small sterilized flasks. Fresh plants of actively growing tubercle bacilli were made in all of these, and the entire lot placed in the thermostat at 39° C. No contaminations occurred, and, as is not un-

[1] Kühne: Loc. cit.
[2] Crookshank and Herroun: Journal of Physiology, vol. xii.
[3] Mathes: Deutsch. Arch. f. klin. Med., S. A., 1894.

commonly observed in the cultivation of the tubercle bacillus, but little growth took place during the first two weeks. From that time, however, the pellicles began to spread and thicken in the usual way, and five weeks from the day of planting the entire surface of the flask was covered with a rich growth.

Conclusions.—1. The substance made according to Klebs's published method, and called by him "antiphthisin," resembles deutero-albumoses in its chemical reactions, and can be precipitated by sodium-bismuth-iodide. Hence it has no peculiarity of behavior to that reagent to distinguish it, and as a similar substance can be obtained from unplanted bouillon, it cannot be considered an altogether specific product of the tubercle bacillus.

"Antiphthisin," prepared according to Klebs's published method, is practically highly diluted tuberculin, and its physiological effect on animals, when given in sufficient doses, is the same as tuberculin.

2. "Antiphthisin" possesses, under the conditions stated above, no germicidal power on the tubercle bacillus which can be demonstrated *in vitreo*.

3. When applied to animals, as stated above, neither "tuberculocidin" nor "antiphthisin" had any curative influence over the course of experimental tuberculosis in the guinea-pig.

4. Since cultures of the tubercle bacillus become acid as they grow, and, furthermore, since the addition without heat of a little alkali to a filtered culture medium upon which bacilli have ceased to grow renders it again fit for the development of a second crop of germs so long as any nutriment remains, it may be inferred that the limitation of the growth of the tubercle bacillus in such a culture medium is most likely due to the acidity induced in the medium, rather than to any specific germicidal substance produced therein.

A PRACTICAL METHOD OF MEASURING AND REGISTERING THE TRUE THERAPEUTIC DOSE OF INDUCTION-COIL CURRENTS.

By S. H. MONELL, M.D.,

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A FORMER paper by the present author described a new induction-coil apparatus with a number of original improvements designed by me to increase precision and efficiency. In this second paper I now present to the medical profession my method of dose measurement and registration, which, so far as inquiry discloses, is the first practical method with a scientific basis.

I am met at the outset of my proposition to measure and record induced medical currents by the curt remark that it cannot be done. With this declaration before us, let us review a group of contemporary statements upon the subject of faradic dosage. The authority for each will be easily recognized by all familiar with the literature of electro-therapeutics.

1. "A bar to the progress of faradism is the impossibility of satisfactory therapeutic measurement. Edelmann's faradimeter is incomplete and, I must even add, misleading as a physiological or therapeutic measure."

2. "The Edelmann faradimeter, which is not by any means, as was intended, a measure of faradic electricity, is too complicated and expensive for the practitioner, . . . and is merely a deceptive snare for physiological or therapeutic purposes. The strength of the current would be far better approximated by indicating the nature of the coil and the resistance offered than by the volt scale of this faradimeter."

3. "Unfortunately we have no means of measuring accurately the dose of faradism, the only means at our command being the millimetre scale placed at the side of the coils. This is a very rude method, indeed, but it is all we have at present."

4. "It is much to be regretted that we have no means of accurately measuring the therapeutic dosage of the faradic current."

5. "The old attempt to measure the faradic dose by a coil movable over a primary core, on a graduated scale, was so unscientific and inadequate as to be ridiculous."

6. "It is the ability to record the doses of the current to which must be ascribed the rapid progress of galvanism. To give the necessary impetus to faradism we must obtain this same precision, . . . and toward this end my efforts have been directed ever since I realized how seriously this valuable remedy was affected by its vagueness and uncertainty; and as early as 1886 I sought to approximate dosage by a defining and precising of details."

7. "The precise measurement of the faradic current for therapeutic purposes has not as yet been satisfactorily attained. The method heretofore in vogue, of measuring on a scale the distance the secondary coil is advanced over the primary, is inaccurate and delusive—in fact, means nothing—since the battery current varies with use; and no estimate is taken of the variable resistance encountered in the external circuit, which is altered by the location of the electrodes, by their size, and by the distance between them. The fact that this current possesses the same two qualities as the galvanic current—pressure and volume—makes it evident that we must in some manner estimate the relative voltage and amperage of the current employed in order to arrive at a practical conclusion of its comparative value."

The striking remark of Engelmann's, which closes the second comment cited above, although not observed by the writer previous to the preparation of this article, foreshadows what is substantially accomplished by the method to be described in this paper, and which was originated by me, January 29, 1894. My method also takes into account what is suggested as necessary in comment number seven, but before proceeding with descriptive details, certain relative facts require to be understood. These are as follows: No automatic meter or measuring instrument is required to select the proper dose of faradism for a patient, or to adjust it to the needs of therapeutic use. Direct currents need such an indicator, but induced currents do not. The educated skill of the operator regulates the dose, and does it adequately. The existing need is for a standard system of recording the dose administered, and thus impart uniform value to the reports of clinical cases, and introduce precision and definiteness into the special literature of the subject.

The accepted dose measurer of the constant current is the milliampèremeter, adopted universally within half a decade, and which in general estimation has lifted the galvanic current from empiricism and placed its therapeutics on a scientific basis. Let us, therefore, note exactly what the milliampèremeter accomplishes and what part it plays in the dose record, in order that we may better understand the problem before us in attempting to measure and record the dose of induction currents.

To enable separate observers to compare and repeat results in clinical cases treated by galvanism, we should take into account every factor which affects the action of the current. A comprehensive record must necessarily inform us then, on the following points: 1. Surface area or type of electrodes—which range from needles, sounds, tips, etc., to small or large pads, or water-baths, or may be clay, copper, zinc, carbon, platinum, steel, tin, brass; or covered with sponge, cotton, felt, etc., determining conducting power and density of the current. 2. Situation of both positive and negative electrodes during treatment. 3. Tissues treated and their pathological state, symptomatic conditions, etc. 4. Time and frequency of administration. 5. Reading of the milliampèremeter, or current volume.

Clinical reports of these particulars, with results of treatment, would be complete; and while of the various factors the meter furnishes but one, it supplies the last essential to the dosage of galvanism.

When we enter upon the problem of faradic dosage we find the factors no fewer, but differing in character. These are now: 1. Character of the current, as determined by the coil employed. 2. Description of electrodes and their situation during treatment. 3. Rate of current interruption. 4. Tissues treated, condition, etc. 5. Current strength. 6. Time and frequency of application.

The missing link in our clinical record is a means to state the current strength. We can sufficiently indicate the rest. How shall we measure the current strength? Now, certain features enter into the measurement of a constant current which are eliminated from the case of an interrupted or alternating current. The therapeutic requirements of the two are inherently dissimilar. The galvanic current is silent in its flow and physiological activity. Without observing the deflection of the galvanometer needle, or making other test, we may be in doubt whether or not the battery is in action until the current is strong enough to be felt by the patient, and as a guide to treatment the patient's sensations are incompetent. The predominating quality of the direct current is volume—its voltage being relatively small in medical uses—and "volume" cannot be determined by the eye or ear of the operator. On the other hand, the induction apparatus, through its break-piece, which is the essential, the very life of this form of electricity, gives forth to the ear and sight unmistakable evidence of action; and its current is one of predominating force, of insignificant volume, chiefly mechanical in its physiological effects, and nearly devoid of chemical properties. It therefore requires no peculiar safeguard, like the milliampèremeter, against an excess of electrolytic or cautery action within the tissues. Moreover, owing to the feeble power of dissociation possessed by the constant current, an enormous range of uncertainty enters into every galvanic application without a meter in the circuit; for the actual current strength—*i.e.*, dose—from the same number of cells and with the same electrodes will vary greatly with the degree of resistance of the skin, etc., so that similar conditions of E. M. F. are no guide whatever to similar doses and effects. With the galvanic current, with either 5, 10, 20, or 40 cells E. M. F., and with the electrodes in a glass of water, I can cause the meter to vary from 2 to 250 M. A., without altering the electrodes or the battery, simply by lessening the resistance of the water.

The nature of the induction current, however, is such that little of this great variability occurs in clinical applications when similar conditions of treatment are repeated. A given E. M. F. will produce a definite current strength from a given induction coil, and repeat it under the same conditions as often as desired. The influence of slightly varying skin resistances of different parts of the surface of the body is insignificant in the case of the higher voltage and penetrating capacity of currents from induction-coil apparatus. We have, in fact, but two practical conditions of resistance to consider in faradic therapeutics, viz., the greater general resistance of the skin in external treatment, and the lesser resistance of the moist, mucous surfaces of the cavities of the body. Thus presented, we observe that the problem of faradic dose-measurement, or means of record, is much simpler than was that of the now solved problem of galvanic dose-measurement; for if we can by any means indicate the electrical or mechanical energy of our induced currents under conditions identical with their clinical administration, we are assured of obtaining the same energy for therapeutic uses and repeating it upon patient after patient with substantial accuracy. A standard indicator of current strength will accordingly serve as a subsequent dose-register for future applications from all similar apparatus.

The methods so far suggested for measuring the dose of induction-coil currents are as follows:

1. A strip of suitable material, wood, celluloid, or vulcanite, is placed at the side of the coil and marked in fractions of inches, or of the decimal scale. The current increases in strength as the coil overlaps the primary, and the dosage is taken to be the extent of overlap during the séance. The capabilities of measurement are exhausted when the overlap is complete, and the record must be alike for one or four cells, or No. 36 or No. 16 wire coils. It is not surprising that this attempt to measure current strength by a foot-rule was never scientifically successful.

2. The graphic method of marking the current waves; a purely fanciful idea adapted for black-board illustration of certain currents characterized by sufficient amperage to operate the tracing-pencil, but neither practicable outside of the expert's hands, nor capable of demonstration at all with the currents of higher tension and frequency and consequently smaller amperage now performing so much of the therapeutic work of improved induction apparatus.

3. The Edelmann faradimeter.

The name faradimeter is felicitous and suggestive of a proper method, but it has never reached a more practical stage of development for ordinary use than have ships for navigating the air. It is a complicated, expensive, though highly scientific, meter for the voltage of the current in short circuit; and since therapeutic applications involve the interposition of body tissues this instrument has no relation whatever to a physiological unit.

4. Micro-coulombs were asserted to be the electrical unit by which to express faradic measurement, but when we turn to the coulombmeter for aid we are practically where the faradimeter left us.

5. Voltmeters, ammeters, and wattmeters that fill successfully their proper places in measurements of large commercial currents, do not supply us with any means to meter the small currents of medical coils. If a miniature wattmeter could be made to work it would be too expensive for general use.

6. Rate of interruption.

It is assumed that if this is stated in mathematical terms a certain amount of precision will be secured. Other factors, however, affect the question of dosage too materially to place dependence solely upon knowing the frequency of the periods.

This brings us to consideration of the method proposed and successfully employed by me for upward of a year. It is a method which, in my hands, has passed beyond the nascent stage of hopeful theory into the practical demonstration of constant and satisfactory use. The method was first made possible when I introduced my non-inductive fluid current controllers into the secondary circuit. They easily supersede in value all previous methods of regulating current strength.

The switch board of my induction apparatus presents a rapid interrupter (vibrations of 10,000 to 30,000 per minute); a slow vibrator capable of adjustment from about two thousand periods per minute down to less than one period per second; a cell selector throwing into circuit from one to six cells at will; an eight-button compound coil selector; a pole reverser and a metallic rheostat governing the primary current. This consists of a perpendicular column seven inches in height, wound with German-silver wire of definite resistance, making twenty turns to each inch of column. Attached to it is a registration scale to denote every wind of wire from zero to 140, and permit a record of position in every degree of use. This scale is also an advance in accuracy of record, first suggested by me. But the peculiar novelty introduced in this apparatus is the author's secondary circuit rheostat, which con-

sists of the glass tubes seen at the left of the switch-board and marked respectively 1 and 2. They contain prepared fluids of great resistance (much greater than water), and are the first competent controllers successfully applied to the secondary current of a medical induction battery. The capacity of the first (one megohm) is sufficient to control the full coil, high-tension current, and reduce the perception of it to zero in the most delicate external applications to a patient.

The second tube possesses a much lower resistance, for currents of less penetrative force. Each tube is scaled in ohms of their actual resistance, measured and calibrated for me by Professor F. B. Crocker, of Columbia College, New York. The rationale of my method is now extremely simple. The fluids in one or both tubes, and at certain heights of the movable contact rod, varying with the primary E. M. F. and current density, entirely nullify the patient's perception of the activity of the induced currents, *i.e.*, control them, and reduce their physiological and therapeutic manifestation to zero, and afterward regulate them to any strength we desire. What resistance to the energy of any given current does it require to do this? The answer to this question is the solution of faradic dosage.

The scale referring to tube No. 1 shows the total resistance of its four and a half inches of fluid column to be one megohm. As the movable electrode descends in the tube the resistance lessens until it is only 900, 800, 600, 400, 200 thousand ohms, and so on down to the minimum, when the electrodes of the rheostat are nearest contact. The great resistance of this tube is designed to regulate the higher tension currents of the compound coil, which, in this apparatus, I have caused to be placed invisibly behind the switch-board and fixed in complete overlap upon the primary helix. This coil is immovable and does away with former sledge methods of sliding coils on and off, while it generates at all times the maximum of inductive influence.

Tube No. 2 is of much lower resistance, ranging from 55,000 ohms down to a residual resistance of 4,000 ohms, and is suited to the regulation of currents of small voltage, from short, coarse coils, or other applications where great tolerance exists, as within the pelvis. An additional turn of a switch also cuts out these secondary rheostats and furnishes all currents direct from the coils, in case this is desired. The metallic rheostat in the primary circuit then regulates the dosage by altering the E. M. F., but this rheostat takes no part in my special method of dose registration.

In my method, in applying a given current strength to a patient, it is simply considered that the energy at first wholly absorbed within the secondary rheostat, when perception of the current is nullified on its passage through the rheostat to the patient, is transferred from the controlling grasp of the rheostat to exert an equivalent energy within the tissues when the descent of the movable rod in the tube reduces resistance proportionate to its descent, and in exact proportion raises the current strength in the part of the circuit between the applied electrodes. In other words, as the restraint of the current falls in the rheostat its released energy rises in the patient, and by measuring the degree of restraint we find the equivalent of the released energy.

"Things which are equal to the same thing are equal to each other," and knowing the graduated resistance in electrical units of ohms interposed and removed from the secondary circuit at will, our knowledge of Ohms's law substantially defines for us the values of therapeutic dosage. We have only to let a portion of the measured rheostat substitute itself for the patient's tissues while we at first test the degree of energy to employ, and next to pass on the same current value to the patient, to arrive at a very practical measure of the dose administered. The resistance of the body is compensated in the process and causes no error, and the battery E. M. F. is unaltered during the dose regulation.

Before describing further the details of my method, it is proper to cite the authority for the electrical measurements which constitute the scientific basis of accuracy claimed by me above.

"NEW YORK, December 17, 1894.

"DR. S. H. MONELL. DEAR SIR: I return herewith the two tubes containing liquid resistances which you submitted to me. I have calibrated each tube and provided it with a scale which shows its electrical resistance in ohms for every position of the movable electrode. My opinion in regard to these devices is as follows: 1. A liquid resistance is a very simple and convenient means of obtaining very high resistance for medical use. 2. By changing the liquid the range of resistance may be varied from several megohms to a fraction of an ohm. 3. The screw adjustment of the electrode enables the resistance to be gradually varied to any value, without the sudden shock which occurs when resistance coils are cut out. 4. The resistance is non-inductive, hence there is no reaction against or distortion of the current, which is very important in connection with induction (faradic) coils. 5. A short circuit cannot occur, the electrodes being arranged so that it is impossible for them to come in contact, whereas there is serious danger of short circuit in resistance coils with high-tension currents. 6. The resistance is practically definite and constant, provided the temperature remains nearly the same. With the small currents ordinarily used the heating effect is small, but if necessary the temperature can be tested by a small thermometer and kept constant or allowed for. 7. The effects of polarization and electrolysis are insignificant, since the potential is high and the current is alternating in the case of induction-coils, with which these resistances are to be used. 8. The liquid does not appear to be affected by the action, or to change in any way, but it is of course impossible without actual trial to tell what effect might occur in a long period of time. Any difficulty of this kind might be overcome by renewing the liquid occasionally.

"Yours truly,
"F. B. CROCKER,
"*Professor of Electrical Engineering, Columbia College.*"

While therefore the once proposed scale of fractions of inches was a purely fictitious and ridiculous travesty upon scientific dose-measurement, the author's method is a comparative record of the current strength and not a mere fragment of a tailor's yard-stick. As such a resistance register and rheostat is of general applicability, and may be placed by all instrument-makers upon high-grade batteries and properly standardized for clinical use, it may be fairly claimed that the general adoption of my method would supply the long-expressed need for precision in faradic dose records.

To illustrate the method let us hold, for example, two ordinary electrodes in the hands, select for our coil one thousand five hundred yards of No. 36 wire, and employ very slow interruptions of, say, seventy per minute. We raise the rod in tube 1 to its full height and switch four cells into circuit. Gradually lowering the contact rod, we note the point where the current becomes first perceptible to sensation. It is at 700,000 ohms resistance on the scale. Taking this as our zero unit, we continue to lower the rod until muscular contractions are produced as strong as we desire. The rheostat now indicates but 100,000 ohms, showing that 600,000 ohms of resistance have been removed from the passage of the current into our arm muscles, which feel and respond to the force previously expended within the rheostat. If now I record the facts: Coil, 1,500 yards of No. 36 wire. Interruptions, 70. E. M. F., four cells. Dose, 600,000 ohms, small sponge electrodes in hands, positive in right; I can repeat the exact ap-

plication and muscular effect whenever and as often as wished, even should the cells deteriorate by use so as to require five or six cells to equal the energy recorded. There is no parallel to this precision of record to be found in the literature of faradic electricity. The method allows for all possible variations in treatment.

Again, using a short, coarse coil, one hundred and fifty-four yards of No. 21 wire, for instance, we obtain sensation with a given contact at 36,000 ohms resistance of tube 2; and full tolerance is reached when but 4,000 ohms remain. The given dose is therefore the electrical energy represented in overcoming 32,000 ohms of resistance with the current quantity value indicated by the capacity of the wire in the induction-coil. It is not essential to know the galvanic amperage of different sizes of wire with a corresponding voltage, for we are not dealing with galvanic but with induced currents, in which volume is subordinate to potential and kinetic energy; and our different coils—long, medium, short, fine, and coarse—take on a definite individual identity under habitual use which serves the expert as a practical expression of their quantity values. Our second record reads with electrodes same as before, but a more rapid rate: Coil, 154 yards No. 21; frequency, 300; cells, two; dose, 32,000 ohms.

In the last case the lower voltage is seen to be commensurate with the greater volume conducted by the coarse wire, while the previous high voltage of the long fine-wire current was proportioned to the extremely diminished volume induced through it.

In making a vaginal bipolar application with a very rapidly interrupted high-tension sedative current we use tube 2, with its low resistance, owing to the enormous tolerance of the tissues treated.

An illustrative clinical record reads as follows: Vag. bipolar sedation, coil, 1500, No. 36. Rapid vibrator, E. M. F. 4 cells. Dose, 45,000 ohms, twenty minutes, daily.

If this seems to express a small dose (an inadequate estimate of the great tolerance of the pelvic tissues), it must be remembered that it is the difference between zero sensation and the maximum current strength administered with electrodes applied in actual treatment, which is recorded as the dose, and not the difference between the sensitive nerve-filaments of the hand and tissues whose dulness of sensation and low resistance to current diffusion permits them to accept with comfort and benefit an application which would be painful on the surface of the skin. If the dose was reckoned from a zero obtained in one arbitrary manner, say, by touching the electrodes with the finger or thumb before applying them to the patient, it would bear no genuine relation to the dosage of larger contact areas, of different varieties of electrodes and different parts of the body.

To be a scientific and universal method it must answer for all conditions of treatment, and my method does this perfectly. The use of a single cell, or of any number up to six (the battery contains six cells), will determine the zero at a higher or lower point on the scale, and the same cells, as they deteriorate, in time will alter their E. M. F.; but these variations do not alter the accuracy of my dose record, which is the difference between the minimum and maximum rheostat readings independent of the number of cells it takes to furnish the given inductive force.

The difference, also, in power to penetrate tissue resistance will create a different zero point for each length and size of wire, even with the same E. M. F. inducing force and same electrodes; but with standard coils, a standard method of finding the actual zero point in all cases, with any coil, with any number of the battery cells at any period of their life, my method furnishes a flexible, permanent, and accurate measurement of the true therapeutic dose. Its adaptability to varying conditions of current volume, voltage, resistance, and density removes all sources of error.

This method, carried out in its fullest detail, is particularly applicable to the records of clinicians and other observers whose investigations require an exact comparison of results. In general practice the physician will soon familiarize himself, at least approximately, with the position of the rheostat for various zero readings, just as the skilled book-keeper soon remembers the ledger pages of his accounts; so that actual tests for zero will be unnecessary except, perhaps, in the first treatment of a new case. If the full dose record is considered superfluous for the physician's own records in his ordinary office work, a modification will furnish satisfactory notes for personal reference. In using the modified method which I suggest, we need not repeatedly calculate the actual dose administered, but simply note the conditions under which the maximum current was applied by recording the lowest reading of the scale. For example: Coil, 1000, No. 36. Rapid V.; cells 5; scale 6000; tube 2; vag. bipolar, 20 minutes. There is no expert electro-therapeutist equipped with similar apparatus who, on reading this record, could not instantly apply the same treatment with the same dose, though he were a thousand miles away. The use of initials for full words will, of course, abbreviate the record in our private case-books and be equally intelligible to our understanding.

My resistance scales, therefore, clearly supply to induced currents a dose indicator as practical in their case as the milliametre is in the case of direct currents, and complete the hitherto imperfect record of faradic administrations. Of the other factors requiring report for purposes of uniformity in clinical observations, the character of the electrodes can always be identified by sizes, numbers, or names, as in makers' catalogues. Quantity and quality, the elements of induced currents subordinate to their energy and pressure force, are, as we have seen, sufficiently expressed by reference to the particular coil employed. A more exact description will hardly be required by experts in electro-therapy. As the trained electrician becomes accustomed to the quantitative and qualitative differences in effect between every coil in his apparatus, whether 500, 1,000, or 1,500 yards of No. 36 wire, or 800 or 500 yards of No. 32 wire, down to shorter coils of No. 21 or 18 size, he accurately knows the characteristics of currents from them all, and utilizes their diverse properties with intelligence and precision.

It would add no therapeutic value to his knowledge if the current volume, per wire, was noted by a meter in terms of amperage, or the E. M. F. in volts.

There now remains but one factor of dosage still surrounded by vagueness and lack of precision in theory, although clearly defined enough for practical purposes. This relates to the record of the rate of current interruption, a very important part of the matter indeed. Very low ratio (50 to 300) can, however, be stated in comparative figures, while very rapid interruption does not require a numerical term to express its frequency. Speed, as stated in mere figures per minute, is so involved with other qualities of adjustment, evenness, constancy, length of period, etc., that the advantage of a mathematical record can be greatly overestimated.

I have referred to this in other of my writings, and it is out of place to dwell on this point at present, though it is one of peculiar interest. A closely related feature, however, may claim our attention briefly.

It is the ideal of some who have sought to define faradic dosage by rate of interruption, and who have devoted much time and special thought to the improvement of faradic apparatus, to construct an independent interrupter, actuated by a current separate from that which supplies the inducing force.

The reason for this lies in the fact that every change in the regulation of current strength made in the primary circuit varies the rate and force of the interrupter in instruments as generally made. A prominent

writer has ably argued the advantages of such a method, and states that it can be adapted to every kind of contact-breaker, the motor power for the rheotome being furnished by a single separate cell. The importance of steadfast E. M. F. and unvarying evenness of interruption throughout all gradations of the induced current strength, is so great, so essential to the satisfactory employment of faradic electricity, that no battery not providing for independent secondary current control can be considered as representing the advanced progress of to-day.

Manufacturers of medical batteries, however, do not all agree with the writer who advocates the separate cell for the interrupter, and are well-nigh unanimous in declaring that the mechanical obstacles to the device are insurmountable in practice. The theory is correct, but makers have failed to apply it successfully to the spring vibrators in common use. My apparatus easily surmounts the difficulty; furnishing not alone one cell to actuate the break-piece, but places six at our disposal at will, as independently as any theorist could desire. My former article describing the improved induction apparatus designed by me, referred to this feature at some length, but I wish to emphasize again the far-reaching importance of the secondary rheostats which accomplish this purpose in my battery, and to state further that, were their usefulness and influence restricted to mere regulation of induced current strength, without jarring or irregularity, or change in the primary flow, the advantage they would thus contribute to clinical handling of both patient and battery would alone stamp this apparatus as without an equal in therapeutic convenience and capabilities. That beyond this these rheostats make possible a practical dose record, is proof of their fundamental necessity to a perfect instrument. If still unconvinced that they are indispensable, let us attempt to adjust a slowly interrupted induced current—say fifty periods per minute—to a dosage of strength sufficient to produce powerful but painless, rhythmical, and non-tiring contractions of certain arm muscles, with a gradual and even decrease to scarcely perceptible sensation. With the ordinary interrupter, sliding coil, or primary rheostat, it cannot be done, even with the costliest appliance in the market. With my apparatus it is done instantly and with the most striking success. As an object-lesson in the inadequacy of old methods of current regulation, and of the superior efficiency of my secondary rheostats, it leaves nothing open for argument. Professor Crocker's letter appreciatively sums up the rest.

865 Union Street, Brooklyn.

A Slap at the Bacteriologists.—These are useful assistants, but they are tyrannical masters, and the results of a given treatment must after all be judged, not in the laboratory, but in the hospital ward and the sick-room. A check must be imposed on garrulous bacteriologists who show a disposition to ride the cock-horse among us. We are grateful to them for such assistance as it may be in their power to render to medical science, but we cannot allow them to dictate to us what conclusions we are to draw from clinical investigation. Bacteriological statements are matters of inference, but clinical observations are facts; facts, too, which concern us more nearly than the interesting, but too often contradictory, deductions which foreign laboratory men foist upon us at the point of the scalpel.

A Naval Hospital Corps.—Surgeon-General J. R. Tryon recommends the establishment of a hospital corps for the navy, the limiting of the number of recruiting stations, and establishing a rendezvous at the Brooklyn Navy Yard, and another at the Mare Island Navy Yard.

INFLUENCE OF BILE ON THE PROTEOLYTIC ACTION OF PANCREATIC JUICE.

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AND

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The experiments recorded in this paper were planned for the purpose of throwing some light on the proteolytic action of pancreatic juice, under the conditions which normally exist in the duodenum. In brief, the questions which these experiments were planned to inquire into are as follows: 1. Does the presence of hydrochloric acid combined with proteids influence favorably or unfavorably the action of pancreatic juice on these proteids? 2. Does bile, when added to neutral proteids, influence favorably or unfavorably the action of pancreatic juice on these proteids? 3. Does bile, when added to acid proteids, influence favorably or unfavorably the action of pancreatic juice on these proteids? 4. Does pancreatic juice, acting alone on neutral proteids, have greater or less proteolytic power than when acting under the conditions found in the normal duodenum, that is to say, when acting in the presence of bile and combined hydrochloric acid?

It is claimed for these experiments that they are the first work of this kind which has been done with pure pancreatic juice, and for this reason, if for no other, they are deserving of some attention.

The classic work of Chittendon in this field was done with pancreatic extracts, and for these extracts his work is conclusive. But neither Chittendon, Kuhne, Lea, nor other investigators in this field have attempted any systematic research with pure pancreatic juice.

While it is not claimed that observations made with pancreatic juice are more reliable than those made with pancreatic extracts, it is claimed that these, the first systematic experiments ever made on the proteolytic action of pancreatic juice, deserve some consideration, even though this field has been so ably worked with pancreatic extracts.

Method.—The pancreatic juice was used immediately after it was obtained from the rabbit. One rabbit, as a rule, would furnish sufficient juice for an experiment. The juice was obtained by the method[1] devised by one of us (Rachford), and first published in the *Journal of Physiology* (vol. xii., No. 1, 1891). The proteid used in these experiments was the one recommended by Chittendon, which he describes[2] as "purified and dried-blood fibrin, prepared by thorough washing with water, extraction with cold and boiling alcohol, and lastly with ether. It was then ground to a coarse powder and dried at 100° to 110° C." The digestive mixtures containing the pancreatic juice and other fluids, as noted in the tabulated experiments, were kept at 40° C. for from four to ten hours. These mixtures were then filtered through weighed filters, and the residue (fibrin) left upon the filters

[1] Make an abdominal incision in the linea alba, two and one-half inches long. Bring the duodenum, which is readily found high up in the right hypochondriac region, through this opening, run down the gut to a point where the peritoneum binds it so closely that it will not come through the opening, and just at this point will be found the pancreatic duct, as it runs through a leaf of the pancreas to the small intestine. Resect two inches of the intestine at this point, leaving its mesenteric attachment; tie the cut ends of the intestine above and below, and drop them in the cavity, bringing the resected portion through the abdominal wound. The abdominal wound is now partially closed by stitches, leaving only sufficient opening for the mesentery running to the resected gut. This resected gut is now laid open opposite the mesenteric attachment and spread out on the abdominal wall. The ends of the gut are clamped and its lateral margins packed with absorbent cotton to prevent bleeding. Insert a small glass cannula through the pancreatic papilla into the pancreatic duct, and cover the exposed mucous membrane with absorbent cotton saturated with common salt solution. The flow of juice begins at once and continues from four to six hours. In this manner about one cubic centimetre of juice, uniform and powerful in physiologic action, may be collected.

[2] This method is described in Chittendon's Studies in Physiological Chemistry, vol. i., p. 77.

was thoroughly dried. After forty-eight hours of drying they were again weighed; the weight of the filter being subtracted from this weight would give the weight of the undigested fibrin. Six grains of the fibrin were used in each experiment, and the difference between this and the undigested residue would represent the amount of fibrin digested, and would therefore measure the proteolytic power of the digestive mixture which did the work.

Pure Pancreatic Juice. Minims.	Water. Minims.	Hydrochloric Acid, 0.1 Per Cent. Solution.	Bile, 4 Per Cent. Solution. Minims.	Fibrin Used. Grains.	Fibrin Digested. Grains.
	EXPERIMENT 1. TIME, 4½ HOURS.				
3	30	℥ ss.	50	6	1 3/8
3	80	℥ ss.	....	6	1 1/16
3	60	....	50	6	2
3	110	....	....	6	1 1/16
	EXPERIMENT 2. TIME, 4 HOURS.				
10	30	℥ ss.	50	6	2 3/8
10	80	℥ ss.	....	6	1 5/8
10	60	....	50	6	1 5/8
10	110	....	....	6	1 3/8
	EXPERIMENT 3. TIME, 6¼ HOURS.				
5	30	℥ ss.	50	6	4
5	80	℥ ss.	....	6	3 5/8
5	60	....	50	6	3 3/8
5	110	....	....	6	3 5/8
	EXPERIMENT 4. TIME, 6½ HOURS.				
6	30	℥ ss.	50	6	2 1/16
6	80	℥ ss.	....	6	2 1/16
6	60	....	50	6	2 1/16
6	110	....	....	6	2 1/16
	EXPERIMENT 5. TIME, 6 HOURS.				
7	30	℥ ss.	50	6	3
7	80	℥ ss.	....	6	2 3/4
7	60	....	50	6	2 3/4
7	110	....	....	6	2
	EXPERIMENT 6. TIME, 8 HOURS.				
4	30	℥ ss.	50	6	2
4	80	℥ ss.	....	6	1 1/2
4	60	....	50	6	1 1/2
4	110	....	....	6	1
	EXPERIMENT 7. TIME, 10 HOURS.				
9	....	℥ ss.	50	6	2 3/4
9	50	℥ ss.	....	6	2
9	30	....	50	6	2
9	80	....	....	6	1 3/4
	EXPERIMENT 8. TIME, 8 HOURS.				
8	....	℥ ss.	50	6	1 7/8
8	50	℥ ss.	....	6	1 1/4
8	30	....	50	6	1 7/8
8	80	....	....	6	1 1/4
	EXPERIMENT 9. TIME, 6 HOURS.				
10	....	℥ ss.	5	6	2 1/2
10	50	℥ ss.	....	6	1 3/4
10	30	....	50	6	2
10	80	....	....	6	1 3/4
	EXPERIMENT 10. TIME, 6 HOURS.				
12	....	℥ ss.	50	6	3
12	50	℥ ss.	....	6	2 1/4
12	30	....	50	6	2 1/4
12	80	....	....	6	2
	EXPERIMENT 11. TIME, 7 HOURS.				
4	....	℥ ss.	50	6	2
4	50	℥ ss.	....	6	1 1/2
4	30	....	50	6	1 5/8
4	80	....	....	6	1
	EXPERIMENT 12. TIME, 6 HOURS.				
10	....	℥ ss.	50	6	3
10	50	℥ ss.	....	6	1 5/8
10	30	....	50	6	2 1/2
10	80	....	....	6	2 3/8

With this table before us we can now study the questions which these experiments were planned to investigate.

1. Does the presence of hydrochloric acid combined with proteids influence favorably or unfavorably the action of pancreatic juice on these proteids? In answer to this question, Chittendon, working with pancreatic extracts, says:[1] "Experiments made in my laboratory have shown that as soon as free acid, especially hydrochloric acid, is present in a solution containing tripsin, then proteolytic action is at once stopped. When, however, acids, especially organic acids, are present in a digestive mixture containing an excess of proteid matter, so that the solution contains no free acid (or better with the proteid matter only partially saturated with acid), then tripsin will continue to manifest its peculiar proteolytic power, although to a considerable lessened extent." In our experiments we have found that the proteolytic action of pancreatic juice on fibrin is quite as strong in a one-thirtieth per cent. hydrochloric-acid solution as it is in a neutral solution. If there is any difference, in fact, it is in favor of the hydrochloric-acid solution. In only three (1, 4, and 12) of the twelve experiments did the pancreatic juice in neutral solution do more work than the pancreatic juice acting in acid solutions. In two (8 and 9) experiments the same work was done in the acid as in the neutral mixture; while in seven (2, 3, 5, 6, 7, 10, and 11) experiments slightly more work was done in the acid mixture than in the neutral. From these observations we conclude that the proteolytic action of pancreatic juice is not retarded by the presence of a small percentage of hydrochloric acid—such, for example, as existed in our experiments and probably also exists in the normal duodenum.

We are encouraged to publish this observation, iconoclastic as it may seem, because some comparative anatomy[2] studies made by one of us (Rachford) lead to the same conclusion. In these studies it was found that flesh-eating animals had the common opening for their bile and pancreatic ducts very near the pyloris, and that the more exclusively flesh-eating the animal was the nearer to the pyloris was this common opening. If the acid contents of the stomach destroyed the proteolytic action of the pancreatic juice, it is needless to say that the opening of the pancreatic duct would not approach the stomach in the exclusively carnivorous animals, even though such an arrangement might best serve the purposes of fat digestion.[3]

2. Does bile when added to neutral proteids influence favorably or unfavorably the action of pancreatic juice on these proteids? In answer to this question, from experiments made with pancreatic extracts, Chittendon[3] says "the addition of bile to a neutral pancreatic juice (pancreatic extract) causes but little change in its proteolytic action." "A slightly increased action is the only effect produced on the tripsin."

In our experiments we have found that the addition of bile to pancreatic juice very decidedly expedites the proteolytic action of pancreatic juice on neutral fibrin. In one experiment only (4) did the pancreatic juice do more work acting alone than it did acting in the presence of bile, and this result being at variance with all the other experiments was probably due to some unavoidable error of technic. But if we average the results in the other eleven experiments we find that the proteolytic action of pancreatic juice on neutral fibrin was increased one-fourth by the addition of bile. Pancreatic juice acting alone digested, on the average, one and five-sixths grain of neutral fibrin, while pancreatic juice acting in the presence of bile digested, on the average, two and three-sixths grains of neutral fibrin. We conclude, therefore, that bile, in the duodenum as well as in our experiments, materially expedites the proteolytic action of pancreatic juice. This conclusion is sustained by the comparative anatomy research previ-

[1] Digestive Proteolysis. Cartwright Lectures, 1894.
[2] The Comparative Anatomy of the Bile and Pancreatic Ducts in Mammals from the Physiological Stand-point of Fat Digestion. Medicine, Chicago, January, 1894.
[3] Studies in Physiological Chemistry, vol. i., p. 136.

ously referred to. In this study it was demonstrated that there was a preliminary mixing of the bile and pancreatic juice before entering the duodenum in all flesh-eating animals, and it is not probable that this arrangement has been brought about exclusively by the physiologic laws of fat digestion.

3. Does bile when added to acid proteids influence favorably or unfavorably the action of pancreatic juice on these proteids? In answer to this question, Chittendon[1] says: "In the presence of combined hydrochloric acid, the bile salts produced no effect whatever; the trypsin was entirely without action." Our experiments lead us to the conclusion that bile very greatly aids pancreatic juice in its proteolytic action on acid fibrin. We found in eleven out of twelve experiments, that the proteolytic action of pancreatic juice on acid fibrin was increased by the addition of bile. Pancreatic juice acting alone digested, in the average, one and fourteen-sixteenth grain of acid fibrin, while in the presence of bile, the same pancreatic juice in the same time digested two and nine-sixteenth grains of acid fibrin, a difference of eleven-sixteenth grain. In other words, the presence of the bile enabled the pancreatic juice to do one-third more work on acid proteids than it could have done alone. Here again the conclusions from our laboratory experiments are in accord with those which may be drawn from the fact in comparative anatomy above mentioned, viz.: the more exclusively carnivorous the animal the more closely does the common opening of the bile and pancreatic ducts approach the pyloris.

4. Does pancreatic juice acting alone on neutral proteids (fibrin, etc.) have greater or less proteolytic power than when acting under the conditions found in the normal duodenum—that is to say, in the presence of bile and combined hydrochloric acid? The answer to this question is to be found in the combined answers of the questions which have preceded it. To facilitate conclusions, the following averages are taken from the experiments above outlined: Pancreatic juice digested $1\frac{5}{8}$ grains of fibrin. Pancreatic juice + Hcl digested $1\frac{14}{16}$ grains of fibrin. Pancreatic juice + bile digested $2\frac{3}{8}$ grains of fibrin. Pancreatic juice + Hcl + bile digested $2\frac{9}{16}$ grains of fibrin.

If the propositions in this outline be true, one may read at a glance some rather startling physiologic facts. *a*. A small amount of hydrochloric acid does not retard the proteolytic action of pancreatic juice on proteids. *b*. The pressure of bile greatly increases the proteolytic action of pancreatic juice on both neutral and acid proteids. *c*. Pancreatic juice acting in the presence of bile and hydrochloric acid can accomplish more work in digesting proteids than can pancreatic juice acting alone, or acting in the presence of either hydrochloric acid or bile. That is to say that pancreatic juice + bile + hydrochloric acid can accomplish more work in proteolysis than can any other known pancreatic digestive mixture.

It is an exceedingly interesting fact that although hydrochloric acid does not measurably increase the proteolytic action of pancreatic juice, yet in the presence of bile it enables pancreatic juice to do more work in proteolysis than it could do in the presence of bile alone.[2] In the normal duodenum of the carnivorous animal we find that nature has provided that pancreatic juice shall act under precisely those conditions which we have found, by our experiments, best serve the purposes of proteolytic digestion. That is to say, pancreatic juice in the normal duodenum of the carnivorous animal acts in the presence of both bile and hydrochloric acid.

If the experiments and conclusions set forth in this paper be true, we can understand from the standpoint of proteolytic, as well as from the standpoint of fat digestion,[1] why the bile and pancreatic ducts have not only been united, but have had their common opening placed near the pyloris in all animals exclusively carnivorous.

323 Broadway.

[1] Studies in Physiological Chemistry.

[2] This is in strange accord with the fact demonstated by one of us (Rachford), Journal of Physiology, vol. xii., No. 1, 1891, viz.: Pancreatic juice can do more fat splitting in the presence of bile and hydrochloric acid than it can in the presence of either of them alone.

[1] In the comparative anatomy paper, above noted, the influence which the physiologic laws of fat digestion may have had in determining the arrangement of these ducts has been fully considered.

Progress of Medical Science.

Strabotomy. — Dr. Landolt considers the advancement of the antagonistic muscle a much more valuable surgical procedure for the relief of squint than tenotomy of the squinting muscle. Even in cases of simple insufficiency of convergence or divergence, where tenotomy is admissible, the results of the latter are often unsatisfactory, because a considerable portion of the adducting or abducting power is lost. When the squint is excessive tenotomy is often inconvenient on other grounds. In the operation of advancement the excursions of the eye are always increased, without any loss in the power of the antagonist. Moreover, both convergence and divergence gain more by this operation than by tenotomy. Finally, the operation of advancement never causes any disfigurement. Tenotomy may be considered in cases of motor insufficiency, latent squint, or squint of a low degree, according to most modern opthalmologists; but Landolt believes that in all three classes of cases advancement offers greater advantages. It has never in his hands caused an over-correction of the defect. It must, however, be generally done on both eyes.—*New York Medical Journal.*

Plaster-of-Paris Bandage—To Remove Easily.—In *La Semaine Medicale*, No. 3, 1895, L. Gigli recommends a plan to facilitate the disagreeable task of removing a plaster-of-Paris bandage which is worth considering. After applying the usual layer of cotton around the limb a layer of parchment paper previously moistened and wrung out is wrapped above this and then a large-sized cord well rubbed with vaseline is placed upon this in the direction that one wishes to saw open the apparatus. Over this the plaster bandage is laid on. When, in the course of time, the dressing is to be removed, this cord, whose ends have been tied together, is loosened and one end tied to a thin steel wire which has been nicked at close and regular intervals and the wire drawn through. Each end of this wire is attached to a handle and with a backward and forward motion the plaster is at once sawed through, after which the dressing may be immediately laid off. —*Albany Annals.*

A Judge Scores "Vitapathy."—The following strong denunciation of a so-called "vitapath," who was arrested and fined (by Judge Dustin, of Cincinnati) for practising without a license, has been published. The judge, who was doubtless actuated by the fact that a man was known to have recently died without medical attention other than that of the prisoner, said, in pronouncing sentence: "Men who knowingly go into a sick-room and prevent anything being done for a dying man by silly incantations and laying on of hands are responsible for his death and ought to be on a par with a murderer in the eyes of the law. God help the dying man who relies upon you or any of the so-called graduates of quackery. You speak of vitapathy being of a higher power than medicine, and you say you ordain ministers at the same time you matriculate vitapathic physicians. Your methods are an insult to intelligence, their practice is a criminal abuse of ignorance, and your college a disgrace to civilization."

MEDICAL RECORD:

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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OLD NATIVE REMEDIES.

DR. HENRY S. PURDON, of Belfast, Ireland, contributes to the *Dublin Journal of Medical Science* an article upon the above subject. He states that in the Belfast vegetable market there is a stall presided over by a herbalist, and that many Belfast citizens still prefer the advice and treatment of this man to that of the registered and qualified physicians. Dr. Purdon makes this fact the text of some remarks upon the value of some of the vegetable remedies that he found at the herbalist's stall, and that are still popular among the people.

Saint-John's-wort is a herb that is recognized by its yellow flower, and is commonly called the "Rose of Sharon." This was formerly used internally in the form of a decoction for colic and gastric disorders, and also for ague. Locally, the leaves were often made into an ointment with lard and used as a dressing for wounds. The *Calamus aromaticus*, or sweet-flag, was once strongly recommended by Dr. Graves as a sheet-anchor in malaria, in doses of from twenty to sixty grains. The common carrot, or rather its seed, is still largely used as a carminative and stimulant, while the carrot poultice is popular as an application in ulcers. The scarlet *pimpernel*, called also the shepherd's-water-glass, is still used in some places as a remedy for chronic or muscular rheumatism. One of the more popular remedies, and one which we find used in this country, is the mountain-sage. Decoctions of this are given to promote perspiration and to cure colds and bronchial troubles. Dr. Purdon says, with a certain amount of *naïveté*, that tansy is still largely grown in cottage gardens, and he noticed it on stall in the market, "it being considered an emmenagogue of much power and largely used by herbalists." We regret to say that it is largely used by herbalists and others in this country also. The herb yarrow is used to a great extent by the poorer class, as an aromatic tonic, and it was formerly given in urethritis. The technical name, *Achillea millefolium*, is derived from Achilles, who is supposed to have learned its virtues from his master, Chiron, the Centaur. The couch-grass, *Triticum repens*, or dog-grass as it is also called, is one of the most useful of the herb remedies, and is still popular in modern hospitals, as well as in country districts. Walnut leaves are sold, and have been sold for many years, to be used in an infusion, internally and externally, for scrofulous affections. The older physicians thought that the walnut had a singular power of healing foul ulcers and sores. Doubtless this is due to the tannin which is contained in it.

A survey of the drugs just mentioned, and their alleged properties, does not give one a very high opinion of the powers of the herbalist. The fact is, that the day of teas and decoctions and infusions and old-woman's remedies of that character is gone by entirely. While we still have some powerful drugs, such as foxglove, among domestic remedies, the vast majority of the herbs sold for various disorders are of slight potency. Used as they often are in the form of hot teas and infusions, they have some value perhaps as stimulants and diuretics, but this value is really very slight. The elder novelists who constructed romances in which some wonderful physician or mysterious witch produces an extraordinary cure by the use of some secret herb, gathered by the light of the moon, would now find their occupation gone if they conformed their tales to any degree of reason and probability. The great secrets of the modern medical art, so far as drugs are concerned, have been brought out by the chemist and physiologist rather than discovered by the botanist or herbalist.

"URANALYSIS" AND "SYMPHYSEOTOMY."

OUR esteemed contemporary, the *Medical News*, has a reprehensible habit of misspelling a good many words and an obstinacy in holding out, even when convicted of error by every other authority as well as by incontrovertible facts. The editor has been quite put to it of late to find a reason for his unreasoning and unreasonable dislike of the two excellent words at the head of these lines, but now he is happy, for he thinks he has on his side the Rev. Dr. Skeat, the author of the "Etymological Dictionary" (which he miscalls *Etymologic* Dictionary). It seems he wrote to Dr. Skeat, asking him what he thought of the coinage of the word *uranalysis*, and received the reply: "I need not say that *uranalysis* means 'analysis of ure;' whatever 'ure' means I do not know." We fear Homer was nodding when he penned that epistle, for surely Dr. Skeat must have heard of οὖρον, οὐρέω, οὐράνη, and οὐραχός. If the Greek language sanctioned the formation of the word οὐραχός, surely Dr. Skeat ought not to make funny over *uranalysis*, of analogous derivation, especially when the word has the sanction of such an excellent and usually reliable authority as the author of Gould's "Medical Dictionary."[1] Even if we had not such good authority for the use of the word, we would prefer it to the wretched hybrid *urinalysis*, half Latin, half Greek, and altogether an abomination. We are sorry to note, however, that in Dr. Gould's dictionary this word (for both are given there) is incorrectly stated to be derived from two Greek words.[2] We wonder what Dr. Skeat would say to that etymology? We trust the editor of the *Medical News* will ask him in his next letter.

As to the spelling of *symphyseotomy* (for our esteemed

[1] Uranalysis (u-ran-al'-is-is) [οὖρον, urine; ἀνάλυσις, analysis]. Urine analysis.

[2] Urinalysis (u-rin-al'-is-is) [οὖρον, urine; λύσις, loosing]. The analysis of the urine.

contemporary called for light on this point also), Dr. Skeat is more happy; he writes: "It is not the case that Greek compounds are formed from genitives. They are formed from stems. Every Greek scholar knows all about it; it is not a question of 'opinion' at all, but of simple *facts*." This time, we are glad to say, Dr. Skeat is absolutely right, and we trust our esteemed philologic(al) friend will heed the admonition and spell symphyseotomy with an *e*. The stem of φύσις, we need hardly tell the erudite editor of our esteemed contemporary, is φυσε. The genitive of the word (we mention the genitive, for it shows us the stem from which the compound is formed) was once φύσιος, and that is why we have *physiology*, a word of very ancient coinage. But when *symphysis* was made, the Attic had won a predominance over the Ionic, and the genitive of φύσις was φύσεως, and the stem was, and is, φυσε. That is why it is correct to write *symphyseotomy*. The lexicographer above mentioned, to whose authority we have appealed in the case of uranalysis, seems to have had a confused idea of the presence of an ε in the Attic stem of φυσις, for we find that he gives the preference to such spelling as symphyseal, epiphyseal, epiphyseitis, and the like, but, strangely enough, not to symphyseotomy. We cannot understand the exception as regards this word. The editor ought really to bring the lexicographer to task for his inconsistency.

CRIMINAL NEWS.

One of the features of the new medical journalism is the reproduction of the likenesses of contemporaries who have achieved the distinction of being president of a medical society, a railway surgeon, or a real professor. Another even more interesting phase of this evolution is the medical news column, in which the personal life of the every-day doctor is told with all its tragedies and vicissitudes. The stories are presented with no waste of words, but with conciseness and point that suggest much to the imagination, and yet leave little to add to the reality.

"Dr. B——, of I——, Okla., was fatally shot on November 1st by his fourteen-year-old son," is an example of the modern style of current medical news. "Dr. C——, of C——, Ind., died on November 8th of an overdose of morphine." "Dr. D——, of M——, Ariz., was shot by a sheriff who came to arrest him."

The record continues: "Dr. E——, of D——, Tex., injected three grains of strychnine into his arm by mistake, instead of cocaine—a drug to which he was addicted. He died within an hour.

"Dr. F——, of S——, Ind., was shot by Mr. Thompson, of the same place. Mr. Thompson had spoken derogatively of the doctor's skill, and Dr. F—— had expostulated with him, using a cane.

"Dr. G——, of D——, Tex., was shot by Mr. Hardcastle, of the same place, for causes not stated.

"Dr. H——, of S——, Ky., has been put in jail for intoxication and wife-beating. If he had lived in London he could have gotten off for $3.

"Dr. K——, of N——, Mo., killed a man on October 27th with a gun. The man was a burglar.

"Dr. L——, of L——, Ky., has been arrested for running off with a girl of sixteen, both on time.

"Dr. M——, of M——, Ky., has been sued for $10,000 for breach of promise, but is still practising.

"Dr. N——, of L——, Ark., has been sued for $20,000 for alienating a lady's affections.

"Dr. O——, of the same town, was killed on November 1st for doing the same thing as respects another lady.

"Dr. P——, of C——, Ill., has been arrested and sent to an asylum for announcing that Chicago is the New Jerusalem.

"Dr. Q——, of C——, O., has been arrested for sending to a patient a dun on a postal card."

The news thus gathered from the Mississippi Valley and the region of the Great Divide, shows an unquietness in the life of the American doctor which must startle those who live in the placid regions of the East. Within the space of two months we find records of six murderous and fatal assaults, six criminal arrests or suits, and two fatal poisonings.

Some of our contemporaries print these items as though they represented the news of the profession. We hope and believe, however, that most of the discreditable and criminal acts thus reported relate to men who are not really educated and qualified physicians. It would be better if medical journalism left such matters to the daily press, and confined its news to the records of scientific work.

AN UNKNOWN MEDICAL HERO.

We have often in these columns referred to the injustice which has been done by society to the claims of physicians, as compared with those of persons of other callings. The great memorials in the past have been put up to those who made a name in wars, politics, art, and literature. Measured by the actual benefit done to mankind, the progress in the comfort of life, security, and happiness, the names of many comparatively obscure physicians should stand foremost. Sir Richard Quain voices this sentiment, and in connection with it describes the obscurity into which the name of Dr Snow has fallen. To this physician, says Sir Richard, Great Britain owes, first, its immunity from epidemic cholera for the last quarter of a century, and, of course, for all future time. Through preserving Great Britain from cholera, he has saved millions of lives. In Sir Richard Quain's words, Dr. Snow "made us masters of the deadly plague of cholera. Dr. Snow thereby saved millions of lives. The sole reward which England has conferred upon him is midnight obscurity." "If he had been a soldier," he continues, "instead of a doctor, if he had slain his thousands, instead of saving his millions, every town would have hailed him as a hero, and the nation would have honored his memory with monuments more enduring than brass." Dr. Snow's work, so far as it concerned this point, consisted in his discovering that cholera was a water-born disease. In that discovery lay the secret of its practical extirpation and prevention. As long as people drink pure water they will not have cholera. This simple truth, which modern science has abundantly con-

firmed, was discovered and taught by Dr. Snow. It was, furthermore, discovered, not by accident, but by long and patient research, and the addition of fact to fact and argument to argument. Sir Richard Quain adds that he hopes to live until he has seen a monument erected to the memory of Dr. Snow, and he proposes that the memorial be in the form of a drinking fountain on the Thames Embankment. As the *Hospital* remarks, in reference to this matter, the medical profession is not altogether blameless, so far as Dr. Snow is concerned. We fear that there are really very few of us who do not belong to those who never knew or had forgotten that there was such a man. Furthermore, those who do remember him will perhaps also remember that, in his lifetime, his discovery was opposed by a man of such prominence as the late Sir William Gull.

We are glad to see Sir Richard take up the cudgels in behalf of Dr. Snow, and trust that he will succeed in showing to contemporary civilization the merit of that physician's work.

PHYSICIANS AND THE CONFIDENCES OF THEIR PATIENTS.

THE Circuit Court of Michigan has recently decided that a physician is obliged to testify in regard to the ailments of his patients, in a court, if called upon to do so. The question came up over the application of a life insurance company, which had assured the person for $20,000. The company learned after the issue of the policy that the applicant had misrepresented his physical condition, and it began a suit to annul the policy. Courts have often discussed this question, whether physicians shall be compelled to disclose facts regarding the condition of their patients, and various decisions have been made, sometimes one way, sometimes another. The rulings in this State, at one time, were that the physician should be compelled to disclose things that did not, in any way, throw discredit or shame upon the patient, and this seems a reasonable method of dealing with the matter. No reputable physician, in any event, whatever the law, would disclose to the public facts which were confided to him in confidence, and which would reflect injury upon his patient if made public. No human laws could compel physicians to do this, and, therefore, it would be much better to have laws that could be carried out.

An Exploring Trip under the Direction of Two Alumni of the Medical Department of the University of Pennsylvania.—Dr. William H. Furness, 3d, and Dr. H. M. Hiller, both members of the Class of '91, have started for the South Sea Islands, where they will spend at least a year in collecting ethnological and archæological specimens for the University. Should the field prove fruitful, it is probable that their stay may be prolonged to two years. After arriving at San Francisco they will sail for Yokohama, touching at Honolulu. They will proceed to Singapore, and from there will take passage for the Philippine Islands, visiting other groups of the East Indian and South Pacific Archipelagos in a chartered vessel.

News of the Week.

The Improvements in the College of Physicians and Surgeons.—It is reported that the new buildings which are to be added to the College of Physicians and Surgeons of Columbia will be finished by the end of the winter. The additions consist in an extension to the main building of the college, which is to be used for the Institute of Anatomy, and a building to the west of it, which is connected with, and an extension of, the Sloane Maternity Hospital. The Vanderbilt Clinic has been enlarged to twice its original size, and the two upper floors are to be devoted to the study of pathology and bacteriology.

Medical Examiners' Fees.—Our esteemed contemporary, *Puck*, has a very striking cartoon, *à propos* of the Holmes case, upon the subject of insurance companies and their employees. The point of the cartoon is that these companies are so eager to insure everybody and to make money that they are careless in their methods and secure cheap and incompetent men as their agents. The recent general cut in the prices for medical examiners' fees we have already spoken of, and stated that it was, we presumed, a purely business matter, and if they, the companies, could get good men for a lower price they had the right to do so. But, in the light of recent events, it seems that it is not likely they can get good men. Insurance companies had better try and economize in some other way than by cheapening the price paid to their agents for careful examinations of people that are to be insured.

The Sero-therapy Treatment of Cancer. — Messrs. Hericourt and Richet return to the subject of the serotherapy treatment of cancer. In an article read in September before the Academy of Sciences of Paris, they state that they have continued their method of treatment since their first report in April last, and they have reached the following results: After the injections the pains from cancerous tumors diminish almost immediately, and these pains continue to diminish for a considerable time. The ulcerations become less, and the tendency to hemorrhage also is less marked. The tumor decreases in size, and, in fine, the evolution of the disease is retarded and the general state improved. But, unfortunately, this amelioration does not end in cure. At the end of about two months a gradual return of the symptoms takes place. They therefore say, in conclusion, that while the treatment by serotherapy does not cure cancer, it does ameliorate the condition to a degree greater than any other known treatment.

Further Gifts to the University of Chicago.— Miss Helen Culver has given to the Chicago University $1,000,000, and Mr. John D. Rockefeller promises $2,000,000. Miss Culver's gift is to be used for biological teaching and investigations. The result of these new gifts will probably be the organization of a medical school.

The Best Symptom in any patient is prompt pay; as, long as it lasts you need not care what else ails him, unless he is likely to die.

Dr. J. Edwin Michael, a well-known surgeon of Baltimore, died in that city on December 6th, aged forty-seven. At the time of his death, Dr. Michael was Dean of the University of Maryland and President of the Medical and Chirurgical Society of the State.

Alcoholism in France.—The question of "alcoholism," which has been much discussed in this city, in connection with Sunday closing, is exciting great attention in France, on much broader grounds. Some of the most prominent scientists and public men in France are directing their inquiries to combating the increase of alcoholism in that country. Their investigations bring out some curious facts. They show, for example, that in England, since 1852, there has been a diminution of the consumption of alcohol from 286 litres per head per year to 270 litres in 1892, and that in Sweden the consumption per head has diminished one-half. If we are not mistaken, the figures show that in this country the consumption of alcohol per head has steadily increased.

St. Luke's Hospital and its Pathological Department.—At a recent meeting of the Board of Managers of St. Luke's Hospital the following resolutions were passed:

"That the matter of the completion of the proposed pathological building and its equipment be referred to the Building Committee with power.

"*Further*, That in the opinion of this Board a sum of not less than $200,000 should be obtained and set apart for the endowment of the pathological department, and that special gifts should be obtained, if possible, for the equipment of this department.

"*Further*, That the matter of endowment of the pathological department be referred to the Executive Committee, with power to appoint a special committee on this subject from the members of the Board."

The hospital has just received $20,000 for the endowment of beds.

An Office Thief.—On Saturday, December 7th, a pocket-case of instruments was stolen from the office of Dr. Ettinger, of this city, by a sneak thief in the guise of a patient waiting for the doctor. He was a man five feet eight inches tall, dark eyes and mustache, slight of build, and with prominent features. Dress was rather shabby; had a dark derby and overcoat. From appearance and language was born here, of Hebrew extraction.

The St. Louis Academy of Medical and Surgical Sciences.—An association with the above title was organized on November 6, 1895. In order to become a member of the Academy one must possess a good literary and medical education. As evidence of his literary qualifications and ability as a scientific worker he must deposit with his application a thesis, a pathological specimen with descriptive text, a drawing of a normal or abnormal specimen with text, or some other evidence of his worth. The evidence is passed upon by the Committee on Credentials. If the evidence is accepted the ballot is taken. Membership in the society is to be limited to fifty. The following officers were elected for the ensuing year: *President*, Dr. George W. Cale, Jr.; *Vice-Presidents*, Drs. James Moores Ball and Arthur E. Mink; *Secretary*, Dr. Emory Lanphear; *Treasurer*, Dr. Wellington Adams.

Albany Medical College Alumni Association of Greater New York.—A large number of the graduates of the Albany Medical College, resident in this and adjoining cities, met at the residence of Dr. Hanks, No. 776 Madison Avenue, on the evening of December 5th, and organized an association with the above title. The following officers were elected: *President*, Dr. John W. Warner; *Vice-President*, Dr. Horace T. Hanks; *Secretary*, Dr. Warren C. Spaulding; *Assistant Secretary*, Dr. R. F. Macfarlane, of Long Island City; *Treasurer*, Dr. Allen T. Fitch. The first annual dinner is to be given Thursday, January 9, 1896.

The Loomis Hospital and Dispensary.—Drs. A. Alexander Smith and Henry F. Walker are the consulting physicians of the Loomis Hospital and Dispensary for Consumptives, at 230 West Thirty-eighth Street. Dr. Charles McBurney is consulting surgeon; Dr. William M. Polk, consulting gynecologist; Dr. Warren Coleman, pathologist; Drs. Henry P. Loomis and Charles E. Quimby are visiting physicians; and Dr. Joseph Carlisle De Vries is house physician. The officers of the Board of Managers are: *President*, Mrs. Richard Irvin; *Vice-President*, Mrs. Henry Chapman; *Treasurer*, Mrs. Alfred L. Loomis; *Secretary*, Mrs. John A. Lowery.

Regulation of Medical Practice in Washington.—A bill has been introduced into the United States Senate to regulate the practice of medicine in the District of Columbia. A Board for Examination and License is provided for.

Dr. Thomas Taylor, of Washington, D.C., has been awarded a gold medal by the International Society of Hygiene in recognition of the value of his investigation of butters, fats, and mushrooms in the United States.

Another Hospital for the Insane in Illinois.—At its last regular session the Illinois Legislature provided for the establishment of a new insane asylum, to be called the Illinois Western Hospital for the Insane. $100,000 has been appropriated for the purchase of a site.

Regulation of Maternity Hospitals in Connecticut.—At the last session of the General Assembly of Connecticut a law was passed forbidding any person to keep a maternity hospital, unless he had previously obtained a license therefor, issued by the Mayor or Board of Health, or Health Officer, where any such place was situated. Records of the inmates and of the births, deaths, discharges, etc., must be kept, and must be accessible to inspection.

The American Medical Review is the title of a new monthly journal published in this city, and edited by Dr. Daniel Lewis. The contents of the first number are well arranged and the general appearance of this new journal is most promising. We wish it every success.

The Medical Department of the Navy consists of one hundred and seventy members when its ranks are filled. There are at this time fourteen vacancies, and nobody seems to want to get in, at least no one who is worth having.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON GENERAL SURGERY.

Stated Meeting, December 9, 1895.

B. FARQUHAR CURTIS, M.D., CHAIRMAN.

Bloodless Amputation of Shoulder-joint.—This was the history of a case in which the transversalis colli, suprascapular and subclavian arteries (third division), were tied, under cocaine anæsthesia, with subsequent bloodless amputation of the shoulder.

DR. JOHN A. WYETH reported the case as follows: John S——, aged thirty-one, by occupation a groceryman, with no early personal or family history which throws any light on this case, came under my care, October 2, 1895, in the New York Polyclinic Medical School and Hospital.

In 1889 he had received an injury of the left arm near the shoulder-joint, which he considered a fracture, from which he recovered with some stiffness of the joint. He noticed nothing of interest beyond this until 1893, when, in descending from the deck of a ship, he caught hold of a rope to prevent himself from falling, and severely strained this same arm, and remembers having heard a ripping sound, followed by great pain. The arm has never been right since. Four or five months after this injury he noticed it began to swell. It was not excessively painful, except on sudden motion.

When I saw him first, on October 2, 1895, there was a large, round swelling, which occupied the upper end of the humerus, the deltoid region, and extended somewhat over the end of the clavicle and scapula. On October 5th, under chloroform anæsthesia, I made an exploratory incision for the purpose of getting a specimen for microscopical examination. Cutting directly down through the deltoid muscle, I came immediately into a large, vascular, osteo-sarcoma, which had hollowed out the medullary canal and substance of the head of the humerus, into which I passed two or three fingers very readily. The bone gave way with a peculiar crackling sound, like the breaking of an eggshell, and was followed by profuse hemorrhage, which could only be arrested after rapidly packing the cavity with at least three yards of sterilized gauze; over this an Esmarch elastic bandage was carried. This hemorrhage greatly weakened the patient, and by October 9th I became alarmed about his condition of anæmia, and injected into the right median cephalic vein a pint and a half of hot saline solution, one drachm of salt to a quart of water. This was followed by a rapid improvement in the heart action, fuller pulse, better appetite, and increasing strength. There was, however, considerable hemorrhage whenever the packing in the tumor was changed; so much so that, on October 15th, in order to control this bleeding and to dispense with the packing, which was so tight that it caused him a great deal of suffering, I tied the left transversalis colli and suprascapular, and the left subclavian artery, in the third surgical division. The operation was not easy of accomplishment, by reason of the great swelling of the shoulder, which lifted the clavicle fully an inch higher than the normal position, and prevented the manipulation of the parts, displacing the clavicle and shoulder on account of the great pain. The patient could not tolerate any pressure upon the shoulder. I was afraid to administer ether or chloroform on account of his exhausted condition and, believing I could tie these arteries by the judicious employment of cocaine, it was done. In the entire procedure, twenty-five minims of a four per cent. solution were employed. The operation was quite tedious, and the subclavian artery, when finally exposed, was two and a half inches from the surface of the wound, and deep below the clavicle, where it was caught up by an aneurism needle and tied. The patient lost practically no blood from the incision in the tumor after this operation.

On October 20th, under ether anæsthesia, I made a rapid, bloodless amputation of the shoulder-joint by the method which I first employed in doing this operation in 1889. The operation consists in the insertion of two steel pins about fourteen inches long and less than a quarter of an inch in diameter. The anterior one passes through the skin and part of the pectoralis majoralis muscle, well back behind the level of the shoulder-joint. Not more than one and a half inch of this pin should be concealed by the tissues it perforates. Over the spine of the scapular, well up behind the joint, the second pin is passed, taking hold of nothing but the integument, and, may be, a little of the surface of the trapezius muscle. Around the shoulder, over the clavicle and scapula, and behind the pins, the points of which are shielded by bits of cork, strong rubber tubing is tightly wound four or five times and then tied. The amputation can then be made at leisure, disarticulation completed, and the vessels taken up at will. The operation is entirely bloodless, and the tourniquet need not be removed until the procedure is completed. It is always advisable, however, to loosen the tourniquet before the final suturing in order to see that no important bleeding points have been overlooked.

I have performed three operations of a similar nature by this method, and a number of others have been done by competent surgeons, without hemorrhage in any instance. It was the employment of this method in shoulder-joint amputations which led me to employ it in amputations at the hip-joint, of which I have done seven, with no hemorrhage in any case, and only one death from the operation. The tourniquet remains in position until the operation is nearly completed.

In the present case, it being one of malignant tumor, and as the soft parts up to the level of the joint seemed to be involved, I did not endeavor to cover the joint surface with cutaneous flaps. It was my intention, as soon as the wound began to granulate and the patient recovered sufficiently, to infect it with some septic organism, preferably with streptococci erysipelatis, and on November 19th an injection of five minims of a pure culture of Fehleisen's coccus was made. They were repeated every other day, gradually increasing the dose by three minims until twenty-six minims were injected. So far, however, no regular erysipelas has been precipitated. He has had septic chills, with exacerbations of temperature following, which on one occasion reached 40.7° C. (105.5° F.). These injections have been discontinued for the time being, and, despite the severe ordeal he has undergone, the patient has gained flesh and weight, and does not look like the same individual that came to me on October 2d.

The specimen, which is here presented, shows an osteo sarcoma of the upper end of the humerus. There is no sign of recurrence of the neoplasm.

Carcinoma of the Rectum; Excision by the Kraske Method.—DR. HOWARD LILIENTHAL, in presenting the patient, said the case exemplified the fact that carcinoma of the rectum was not necessarily very malignant. The patient was a man, forty-five years of age, and had had of his knowledge cancer of the rectum for one year. When Dr. Lilienthal first saw him he regarded the case as practically inoperable, for the ischio-rectal fat was involved, together with the rectum extending well up. But the man absolutely refused colotomy and wished the diseased tissues removed. He was an alcoholic, took ether badly, hemorrhage was great, and Dr. Lilienthal was compelled to hurry the operation, with the result that some tissue at the side which felt harder than normal was left, although

it may not have been carcinomatous. The posterior urethra was also involved and was attacked during the operation. In spite of the extent of the operation the patient rapidly recovered, and during the past three months had been working at his trade as a plasterer. The operation was done last June. The bowel moved only once a day, and gave no warning. He complained only of loss of erectile power of the penis, due probably to involvement of the urethra by the disease and the operation. There was one suspicious spot where the anus had been which looked like a recurrence, but it could be removed, with the probability of a long lease of life.

Old Dislocation of Shoulder.—Dr. C. L. Gibson presented a boy, eighteen years of age, who had sustained dislocation of the left shoulder at the age of twelve. There was now very considerable motion in spite of the dislocation. The muscles were markedly atrophied, the ligaments relaxed, so that dislocation could be made to take place in different directions. In view of the fair use of the arm, he doubted whether any of the procedures suggested in these cases would be advisable.

Congenital Dislocation at the Knee.—Dr. Thomas H. Manley presented a case of what seemed an unusual type of congenital dislocation—an infant, born four months ago, forceps used to hasten delivery, no manipulation of the limbs. Everything went well until the child was two weeks old, when the mother observed something wrong about the knee. Examination showed dislocation, falling down of the condyles of the femur into the popliteal space, upward and forward displacement of the tibia. There was no paralysis, no vascular disturbance. The child was able to move the limb forward and backward to considerable degree. Dr. Manley had found but two cases of similar dislocation on record. When the child got older and stronger he would make an effort to get the bones into normal position. It might be necessary to divide ligaments, perhaps also the hamstring.

Aneurism of Subclavian Artery, Probably Traumatic.—Dr. Manley also presented a man, about thirty-eight years of age, who had sustained an injury of the shoulder on board ship two years ago, which laid him up a few days. A month later there was loss of power in the left arm. This improved. A year and a half ago he had pain in the neck and weakness of left arm, and soon noticed a throbbing tumor near the clavicle. The tumor was visible, there was a distinct upward and forward motion of the clavicle with the pulsations; it was evidently an aneurism, probably of the second part of the subclavian artery, and, it was believed, due to the former trauma. There was a specific history, but a doctor had applied treatment by rest for nearly a year and large doses of iodide of potassium. The patient's health became reduced, and when Dr. Manley saw him he decided to try tentative measures, allowing him to go about and apply massage to the tumor in a manner to favor, if possible, formation of clot, and spontaneous cure. The general health had improved.

Supra-malleolar Osteotomy for Flat-foot.—Dr. Willy Meyer presented a girl, aged twenty-three, on whom he had performed supra-malleolar osteotomy for flat-foot in 1893, an operation regarding which he was enthusiastic at that time. In all he had performed it ten times on five cases. This patient was allowed to get up without a support about the thirty-second day, and had a good arch on the left foot, not quite so good on the right, and having no support, she placed too much weight on the left foot and developed pain, calling for further operation about two months later by Dr. Gerster. The right foot remained in good position. Some months later, with the aid of Dr. Whitman, the position of the left foot was corrected, plaster applied, and afterward the Whitman splint was worn. The result had been very satisfactory, and to-day the patient could go about without the splint. Dr. Meyer would now always try physiological treatment, as discussed at the last meeting of the Section, before resorting to supra-malleolar osteotomy in flat-foot, and thought the latter operation would be required only in marked cases.

Weak and Stronger Solutions of Cocaine.—The Chairman said, in relation to Dr. Wyeth's case, that he had used cocaine anæsthesia even in exploratory laparotomy and in gastrotomy. If it were carefully employed it would enable us to dispense with general anæsthesia for operations of considerable severity in patients in whom general anæsthesia was contraindicated.

Dr. David Goodwillie preferred a two per cent. solution to four per cent., as described by Dr. Wyeth, and in operations on the face had found it act admirably.

Dr. Willy Meyer would not like to risk four per cent. solution hypodermically, as he had seen alarming symptoms of poisoning from even small doses. During the past two years he added a one-hundredth of a grain of nitro-glycerine in order to counteract the ill effects of the cocaine on the brain. Such advance had been made in the use of cocaine that now, as practised in Germany, one-fifth to one-tenth per cent. solution was found sufficient. A small amount of morphine could be added.

Dr. Thomas Manley had used cocaine in major operations on the extremities, genital tract, peripheral tumors, etc. Alcohol seemed to increase its analgesic influence and diminish its toxic effect. He used a one per cent. solution of cocaine, and in no case administered more than one grain by injection. It destroyed the pain-sense but not the feel-sense.

Dr. Wyeth said he had been a strong believer in cocaine anæsthesia since its first introduction, and had used it in many hundreds of operations of all grades of severity. He always employed a four per cent. solution, and had seen no toxic effects, but it should be remembered that he employed only one or two minims in one place, and during an extensive operation did not exceed twenty-five minims. The application was made at intervals as the operation proceeded. He had tried weaker solutions, but preferred the four per cent. Dr. Gibson had once tried the weak solution and had to give it up because the nurses and patients complained that it was not efficient in deadening pain.

Dr. Dawbarn said that where cocaine had produced death, respiration had failed before the heart. Nitroglycerine and whiskey counteracted the evil effects of the cocaine by dilating the cerebral blood-vessels, and it was his custom to precede the use of cocaine by a large draught of brandy or whiskey if the operation were of any gravity.

Dr. Lilienthal mentioned the fact that patients were apt to flinch when it came to tying arteries, and Dr. Wyeth corroborated this statement, expressing the opinion that the vaso-motor nerves must carry some sensory fibres.

Dr. Dawbarn, referring to Dr. Lilienthal's case of resection of the rectum, wished to place himself on record as being in favor of inguinal colotomy in every case of cancer of the rectum. The danger was but slight, not more than five per cent. mortality; it would prolong life and make it much more comfortable if the disease below could not be removed. It facilitated healing in operable cases. The colotomy wound would close of its own accord after a time.

Dr. Royal Whitman said, in regard to Dr. Manley's case of congenital dislocation at the knee, that he had seen a good many cases of the kind. Instead of waiting for age, it would be wiser, he thought, to bring the proper articulating surfaces into position at once and try to retain them there.

Dr. Manley said the hamstrings were contracted, and he thought it better to wait until the child was three months old, by which time it would be stronger, before operating.

Dr. Wyeth had not examined Dr. Manley's case of aneurism, but in nearly all cases of supposed aneurism of the first part of the subclavian the real origin was from the ascending or transverse portion of the arch of the aorta, and when that was true the treatment was very different. If only the subclavian were involved, he would tie the artery in its third division. If that did not succeed he would try introducing, and leaving in, pins twelve to twenty-four hours, repeating it two or three times, in order to produce a coagulum. The patient should have explained to him the possibility of embolism arising from it.

Two Successful Hip-joint Amputations, the Second of which was Performed by a New Method.—Dr. F. Tilden Brown read the histories of the cases. The first was one of round-cell sarcoma of the left biceps femoris in a man, aged twenty-two, who was admitted to the Presbyterian Hospital, December, 1894. The origin was in an injury of the knee twelve years before. During the operation the pelvis was brought to the end of the table, and a low sand-bag was placed under the left buttock. Esmarch's bandage was not used, through fear of disseminating sarcomatous elements, but the limb was held nearly perpendicular a few minutes before piercing the thigh with new $\frac{3}{16}$ inch mattress needles, and applying above them the rubber tubing after the adaptation of Wyeth. The Furneaux-Jordan incision was made, and amputation completed twenty-five minutes after commencing the operation. The whole leg was left for leverage during its manipulations by his assistant. The femoral artery was ligated with silk, the other vessels with catgut. The wound was closed without drainage. The patient made a good recovery.

The hæmostatic effect of the rubber tubing, supported by the transfixing needles, was all that could be desired. But an objection to the method was noticed in that the skin and muscles about the joint were made so tense and hard by compression of the tubing that the region was much more inaccessible to instruments and fingers. Even after disarticulation the margin of the cotyloid cavity was difficult to trim up for the same reason. Apparently recognizing this fault, Dr. Wyeth proposed to adopt Lanphear's suggestion to insert the outer pin at a higher point, so that the rubber tubing would be held in the notch just below the anterior superior spine of the ilium.

The second case was one of tubercular osteo-arthritis of the hip in a female, aged twenty-seven, admitted June, 1895, discharged August, 1895. The disease had probably started from a fall four years before. It was proposed to excise the joint if the condition found justified it, otherwise to amputate. July 11th an incision was begun, one-half inch below the anterior superior spinous process of the ilium, prolonged downward in the intermuscular septum between the sartorius and rectus on the inner side, and tensor vaginæ femoris and glutei on the outer. This afforded excellent access to the capsular ligament, with scarcely any bleeding. A cavity with considerable tubercular *débris* was here cleared out. Opening the capsule, advanced tubercular disease was found. The conditions of disease in the joint and muscles, and weakened condition of patient, were not thought favorable for excision. The thigh was held perpendicularly, one jaw of a specially made clamp was passed through the existing incision, guided by the finger, under the sartorius and under the femoral vessels close to Poupart's ligament, the other jaw being outside the wound and bearing upon the cutaneous surface overlying the vessels. As the clamp was moderately tightened and the limb lowered, pulsation in the femoral ceased. The application of the clamp had required but a moment. Its tip had been sheathed with rubber tubing, possibly an unnecessary precaution against injuring the vessels. He then proceeded with the amputation, extending the existing incision along the outer border of the rectus downward to the bone, stripping off remaining attachments to joint and femur. A circular skin cuff was cut and turned back, and the muscles severed to the bone by circular incision. Some of the small branches of the sciatic required the application of pressure forceps, but the femoral vessels and their branches were absolutely dry on their proximal side. The remaining steps of the operation were not unusual. The patient had made a good recovery, although still a victim of pulmonary tuberculosis.

The following were points of merit in this operation: 1. The incision permitted the best exposure of the joint through tissues which contained no vessels or nerves of importance, and the same incision served for the easy adjustment of a clamp upon the femoral vessels before advancing to the critical stages of the operation. 2. The angled shape of the clamp was such that while it securely compressed only the femoral artery and vein between their sheath and overlying skin, it served at the same time as inward retractor for the sartorius muscle, and the instrument was wholly out of the operative field. Esmarch's bandage could be applied up to the groin and yet space remain for the incision and clamp. 3. The continuation of the incision was in a line where there was a minority of the arterial branches of the sciatic. 4. The open wound and its final suture were most accessible to the operator. 5. Belief that this operation, including the period of anæsthesia, could be performed in a shorter time than any of those where the danger from hemorrhage was as thoroughly guarded against.

Dr. Wyeth said he thought the device of Dr. Brown, connected with that particular operation in which there was tubercular destruction of the head of the femur, and in which an exploratory incision had to be made at first, with the possibility of being followed by amputation as a second part of the operation, was very clever. It seemed to him, however, that the same amount of anæmia might have been obtained by simple deligation of the femoral artery and vein. It was a very easy matter to tie the femoral artery under cocaine, and therefore he could see no particular merit in the instrument presented, although it was an ingenious one. In amputation at the hip for tumor below that region, he thought the method was not an advance forward but backward. It did not control a great part of the hemorrhage, and this was now considered a chief cause of shock. The mattress needles and rubber tubing, the needle inserted high up, was the most satisfactory method. He was a very strong advocate of catgut in tying arteries, and had not had secondary hemorrhage therefrom.

Dr. Dawbarn said that in all hip-joint amputations he hamstringed his patients in order to prevent retraction of the muscles and their unequal length and pocketing after division. This saved time spent in suturing them on a common level.

Dr. Brown said the old form of incision in hip-joint amputation would not, as did his, permit of ligation of the femoral vessels, but a second incision would have to be made. He thought a possible objection to the mattress needles and constriction by rubber tubing was injury to the vaso-motor supply.

Post-mortem Examination of the Parts Involved in a Bassini Operation for Inguinal Hernia Six Weeks after its Performance.—Dr. George E. Brewer reported the case, as it was unusual to have opportunity to examine the united parts so short a time after the Bassini operation. The manner in which the several structures had adhered together was described.

The Treatment of Torticollis.—Dr. Weiss recommends the use of curare in this disorder. He employs a filtered solution of curare, of the strength of two grains to three drachms of sterilized water. This is given in doses of from fifteen to thirty minims.

THE NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, November 13, 1895.

GEORGE P. BIGGS, M.D., PRESIDENT.

Intestinal Perforation.—DR. F. M. JEFFRIES presented three specimens of intestinal perforation. The first was from a man who had been taken to St. Vincent's Hospital on November 9th. When found by the ambulance surgeon he had refused to talk, and had been suffering from abdominal pain. The pupils had been dilated and the pulse weak and rapid. On admission his temperature was 103° F.; pulse, 136; respiration, 24. He had some colicky pain for a short time, and more or less constant vomiting of greenish mucus. Constipation was present. His temperature fell on the third day after admission to 98° F., but just before death it rose to 105.6° F. The abdomen was at first retracted, but on the second day it was distended, and percussion showed flatness on the sides. A diagnosis of intestinal perforation was made. At the autopsy a large quantity of yellowish fluid was found in the abdominal cavity, the intestines were matted together by lymph, and there was a perforation eight inches from the ileo-cæcal valve. There was a recent pleurisy over the left lung, and a hypostatic congestion of both lungs. The pericardial cavity contained about two ounces of dark reddish-brown liquid. The valves of the heart were normal; the muscle-wall was pale and thin. The liver showed moderate cirrhosis. The spleen was fairly normal. The capsule of the kidney was non-adherent, and presented a smooth, glistening surface; the epithelium was swollen.

The second case was a woman, fifty years of age, who had been brought to Bellevue Hospital suffering from alcoholism, and consequently very little of the previous history could be ascertained. It was learned, however, that about one week previous to admission she had fallen and struck the right side. The vomiting was continuous at first, and consisted of the contents of the stomach; later on, it contained biliary matter. There were great pain and tenderness over the entire abdomen with considerable enlargement in the right hypochondriac region. On admission the temperature was 104° F., the pulse thready and irregular, and there was evident peritonitis and shock. Cathartics and purgative enemata were given with little result. The autopsy showed fatty infiltration of the heart, interstitial nephritis, and suppurative peritonitis with perforation about seven feet from the ileum. There was also a large uterine tumor.

The third case was an Italian woman, who had been found dead in her room. The autopsy showed some œdema of the brain. The cavities of the heart were dilated, and the walls infiltrated with fat. On opening the abdomen a large quantity of extremely offensive yellowish fluid bathed the intestines. The latter contained yellowish fæces, and there were a number of ulcers, with perforations in two or three situations.

General Miliary Tuberculosis.—Dr. Jeffries also presented a case of general miliary tuberculosis. The patient was a negro, who at the time of admission had a high temperature. So far as could be ascertained he had enjoyed good health up to twelve weeks ago. The autopsy showed miliary tubercles.

Hydronephrosis.—DR. JAMES EWING presented two cases. The first specimen had been removed from a woman about forty years of age. As was often the case, the condition had been entirely overlooked during life. The usual symptom of a line of tympany running down over the course of the tumor, produced by the colon being pressed forward by the tumor, was absent in this case because there was a well-marked meso-colon which allowed of the large intestine being pushed to one side. The hydronephrosis was due to cancer of the uterus. It was estimated that a pressure of about one pound would have been sufficient to empty the pelvis of the kidney, showing that the pressure that had caused the hydronephrosis had been slight. There was the usual dilatation of the pelvis and flattening of the kidney, and the cavity was divided into several compartments by hypertrophy of the septa of the original organ. Microscopical examination of these septa showed a new growth, and at either end the remains of the kidney showed epithelioma. The tubules themselves were nearly normal, except that they were dilated. The tumor contained nearly normal urine. In the urine a single specimen of worm was found under the microscope. It resembled closely the filaria sanguinis, but the worm had not been definitely identified.

The second specimen had been removed from a subject in the anatomical department of the college. Death was supposed to have been due to cirrhosis of the liver, showing that this condition had been overlooked also during life. In this case the distended colon passed over the tumor. The sac measured 28 ctm. in one diameter and 42 ctm. in another. The contents were not urine, but a fluid which became almost solid on boiling it. It contained a large quantity of blood, and in a portion of the tumor were a number of blood-clots, showing that death had been due to hemorrhage into this large mass. There was an almost entire atrophy of the kidney substance. The ureter was pervious up to within one or two inches of the pelvis of the kidney. This sac also contained septa, but much thinner than in the first specimen. The tubules in the other kidney were much hypertrophied, showing that this kidney had been doing double duty for a number of years.

Cystic Tumor in the Kidney of a Bullock.—DR. GEORGE P. BIGGS presented a kidney from a bullock showing the very marked lobulation of these kidneys. In one end was a large multilocular cystic tumor containing a clear amber-colored fluid. The remaining portion of the kidney tissue appeared to be normal. Such cysts, the speaker said, were not very uncommon in sheep, and were usually regarded as congenital.

Mitral Stenosis Confounded with Uræmia.—Dr. Biggs then presented a heart removed from a woman, thirty-three years of age, who had lived only about two hours after admission to the New York Hospital. She had been sick for about two weeks. On admission there was acute œdema of the lungs, and the heart-sounds were feeble. The urine contained a large percentage of albumin and numerous casts, and was of low specific gravity. The clinical diagnosis had been uræmia complicating pregnancy, but Dr. Biggs said he had ventured on the diagnosis of mitral stenosis, and this had been confirmed by the autopsy. The uterus contained a well-developed fœtus of about eight months. The other organs showed an extreme degree of chronic venous congestion. The heart was distinctly hypertrophied, and both cavities were markedly dilated. The wall of the left ventricle was rather thinner than normal. The right ventricle was both dilated and hypertrophied, the wall in many places being ¾ ctm. thick. The valves of the right side were perfectly normal. The aortic cusps were slightly thickened and retracted. The mitral valve showed a marked degree of stenosis, not admitting the tip of the little finger. The left auricle was considerably dilated and hypertrophied. The speaker said that he had based his diagnosis of mitral stenosis on the history of acute œdema, the expectoration of blood-serum, and the recollection of another similar case seen some years previously. In this previous case there had been no cardiac murmurs, the woman had been pregnant and had given a history of attacks of sudden and alarming pulmonary œdema coming on only during pregnancy. Dr. Janeway had stated that the cardiac murmurs would appear if cardiac stimulants were administered, and this had proved to be the case. It became necessary in this instance to induce premature labor. She recovered. This con-

dition, Dr. Biggs said, of rapid and irregular heart action without murmurs often led a physician seeing the case then for the first time to mistake the real condition. He recalled a recent case of this kind in which one well-known physician had repeatedly examined the heart and had stated that there was positively no heart disease present, and yet death had occurred from this cause shortly afterward. Pregnancy decidedly aggravates these symptoms, and the question of inducing premature labor or abortion claims careful consideration.

Dr. Ewing remarked that the specimen from a bullock showed the difference between congenital and acquired tumors; the congenital tumors showed lobulation and division, while the acquired tumors had a more dense capsule about the cyst, and showed the remains of the original kidney tissue.

Karyokinesis.—Dr. J. S. Ely exhibited under the microscope a specimen of frog's blood showing karyokinesis. One white corpuscle was shown in which the chromozones had been collected together in the centre, and another in which the chromozones were just separating from each other. Dr. Ely said that karyokinesis had been first definitely studied in 1889 by Sprank, who had found it in blood from frogs, and from human beings. In human blood it should be found in about one on a thousand of the white corpuscles. Sprank had also observed it in leucæmia. It was believed that the small mononuclear leucocytes were the ones which underwent this change, the polynuclear leucocytes being now looked upon as having originated from the mononuclear leucocytes probably by a process of subdivision. If it could be shown that the so-called transition stages among the leucocytes were definitely derived from the small mononuclear leucocytes, and that they then gave rise to the polynuclear leucocytes by a process of direct cell division, the polynuclear leucocytes would have to be regarded as degenerate cells. The polynuclear leucocytes were much more commonly found in pus, and recent investigations of Janofsky went to show that the cells which migrate in suppurative inflammation were for the most part mononuclear leucocytes, and that in the formation of the polynuclear leucocyte, or the typical pus cell, the process is one of direct cell division, and not a process of karyokinesis.

Heat-stroke in the Navy.—During the past year fifty-five cases of heat-exhaustion among the engineer force of the United States Navy have been reported, the greatest number of cases appearing on the following vessels: Bennington, 11; Bancroft, 8; Columbia, 6; Amphitrite, 5; Raleigh, 5. In his annual report just issued, Dr. Tryon says that these figures are significant and merit attention by the department. The average temperature of the engine-rooms of modern ships, under ordinary cruising conditions may range from 106° F., with hatches large and open like the Charleston, to 152° in badly arranged and closed ships like the Amphitrite. In the fire-rooms the average temperature under the above conditions may range from 124° in ships with only one set of fires in each fire-room, like the Charleston, to 189°, when the fire-room is between two sets of fires, like the Cincinnati and Amphitrite. In the case of the Cincinnati, when only one set of fires is used in each fire-room, the average temperature is reduced from 189° to 159°. The result of these high temperatures, together with overwork and other trying conditions, is plainly shown by the number of disabilities in the Engineer Corps attributed to this cause. Since January 1, 1894, eleven chief engineers and three past-assistant engineers have been or are now on sick leave, and of this number six have been recommended for retirement and two have died.

Clinical Department.

THE DIAGNOSIS AND TREATMENT OF FRACTURES.[1]

By W. L. HUGHLETT, M.D.,

COCOA, FLA.

In the whole domain of medicine and surgery there is no class of cases that call for greater knowledge and skill on the part of the general practitioner than cases of fracture, none that so frequently get the members of our profession involved in suits for damages. While we are rarely called upon to perform operations of great magnitude, any of us are liable at any time to be called to attend the most serious fractures that can occur; we should therefore be prepared to render promptly such service as may secure for the patient useful limbs and for ourselves commendation rather than censure and lawsuits. It is to be regretted that there is no fixed standard, and that our leading men differ so materially on this subject. The best thing for us to do is to master thoroughly the anatomy and physiology of the human body, so that when bones are broken we may have at least knowledge enough to restore the fragments to a normal position, and skill enough to confine them favorably for nature's beautiful reparative processes. The diagnosis of fractures is not always easy. It takes no special skill to tell that a bone is broken if the fracture be in the shaft of a long bone, or of a rib, or a depressed fracture of the skull; but when fractures run into the joints, involve the epiphysis, are intra-capsular, occur at the base of the skull or in the vertebræ, diagnosis is sometimes very difficult. It is often difficult to say whether a fracture of the long bones is oblique, transverse, simple, or comminuted. I assisted in a case of amputation of the thigh (when a student), the patient being a large negro man who had been run over by a car wheel; this case was diagnosed by several competent surgeons as one of severe comminuted fracture. After the limb had been removed I made a dissection and found a simple transverse fracture of the middle one-third of the thigh. This man's leg might have been saved had a correct diagnosis been made. The symptoms of fracture, as a rule, if in a limb, are quickly noted. There will be loss of function, swelling about the injured part, deformity caused by muscular contraction, pain increased by attempts at motion, and generally crepitus on motion. We shall also have a history of severe blow, fall, or violent exercise. (A few years ago I treated a young man for fractured thigh caused by running a base in a game of ball; simple muscular force.)

The most serious error in diagnosis is to confound a fracture with a dislocation. This is most likely to occur at the shoulder, the elbow, and hip. If we know we have a fracture to deal with a few days may be allowed to elapse until swelling has subsided, but if there is doubt, in my opinion the best practice is to put the patient under the influence of an anæsthetic and settle the diagnosis. In this way a dislocation is readily reduced, or if we find we are dealing with a fracture we get more accurate knowledge. If we fear any heart or kidney complication we may often use morphia and atropia hypodermically, instead of chloroform or ether. In the case of children I always prefer, and nearly always use, chloroform. Anæsthetics carefully administered promptly relieve the nervous shock and pain and permit of thorough manipulation when required. Not only is this a great consideration, but if we are ready with our apparatus we can at once apply the dressings and the patient rouses to find the dreaded operation of bone-setting all over, much to his delight.

[1] Read before the East Coast Line Surgical Association, at their meeting at St. Augustine, Fla., September 4, 1895.

No man can be really expert or scientific in the diagnosis of fracture unless he be thoroughly acquainted with the anatomy of the parts, not only with the bony structures involved, but the muscles, nerves, and blood-vessels as well. I have seen paralysis result from the nerve being caught in the callus of a fractured humerus, and death has resulted from simple fractures from emboli or thrombus forming in the vessels. I know of one case where fracture of the femur by a pistol-ball caused aneurism of the femoral artery, a spicula of bone having pierced that vessel. Occasionally we see gangrene following fractures, the nerve and blood supply having been cut off.

It is necessary, then, that we not only be very careful in handling injured parts, but cautiously to consider all the accidents that may occur in the course of treatment. Unless we are dealing with a complete fracture, extreme care is required in handling the affected parts. For instance, a partly fractured clavicle had better be left alone than made complete, as callus is quickly thrown out at the point of attachment and union takes place with less deformity. An impacted fracture of the neck of the femur or humerus had also better be left alone—unless there is great deformity. A few years ago a boy was brought to me with a complete fracture of the ulna, in the middle third, and a green-stick fracture of the radius, so that his forearm was bow-shaped. I put him under chloroform and cautiously attempted to straighten the arm. In spite of caution and gentleness I snapped the radius, and so made a complete fracture of both bones; I dressed the arm at once, and fortunately the boy made a good recovery. I do not see that this accident could have been avoided; however, if the boy had not recovered with a good arm, I should no doubt have been charged with results. I would like, also, to impress upon you that a common fracture with children—fracture of the clavicle—may be easily overlooked. I have seen two cases that were entirely overlooked by me on first examination. In these cases there is sometimes no pain and no deformity. As in one of these cases, the child was found running around complaining of nothing except slight pain in the shoulder-joint. If asked to throw a stone, however, they will either not attempt it, or if they attempt to do so they will cry out with pain at the seat of fracture; the second day diagnosis will be easier because some swelling will have taken place.

When called, then, to any case that is injured—though to all appearances slight—let us not be hasty in forming or giving out opinions, but consider every question involved not only for our own safety, but to satisfy clamorous friends. In doubt resort to anæsthesia, and never make a business of promising brilliant results, because experience teaches that while as a rule all fractures do well, and sometimes most unpromising cases are followed with remarkable results, yet in many simple cases we have accidents and bad results that cannot be foreseen.

There is another point that must not be overlooked: fractures that occur in railroad accidents are generally more serious than those from ordinary causes; the force is violent, shock is great, and injury generally more extensive than external appearances indicate. Those of us who have had occasion to amputate for railroad fractures generally find the bones broken and split up far beyond the point of injury.

Now as to treatment. The reparative process which nature institutes to repair a broken bone is something wonderful. In the museum of the Medical College of Virginia is a femur that had been fractured in the middle third. It had never been set, or if set, not properly. The fragments had been separated about two inches and remained so. Nature took the case in her own skilful hands, threw out a bridge of bone between these separated fragments and created as firm and strong union as though the fragments had been set in perfect juxtaposition.

We also see in the lower animals fractured limbs repaired without apparatus. Let us then remember that nature will repair the damage if we give her a chance.

I do not deem it necessary here to dwell upon the varieties of fracture, or the nomenclature of the subject; suffice it to say that in railroad surgery we shall have chiefly to deal with compound fractures, especially such as involve the joints. A few years ago a compound comminuted fracture almost invariably called for amputation; now, thanks to asepsis, antiseptics, and greater skill, amputation is the exception, not the rule. I shall speak briefly of the materials used for splints and the treatment of the fractures most frequently encountered.

Of material. Of first importance is plaster of Paris (dental plaster preferred), then may follow shaped wooden splints, perforated tin or zinc, Levis's splint, Russian felt, wooden boards and strips, leather, cardboard, starch bandages, adhesive plaster, elastic bandages, etc. If we have access to any or all of these things we would be likely to choose a splint ready made, but unfortunately we are often called to out-of-the-way places; then the ingenuity of the surgeon is taxed, and he is frequently compelled to make out of rough boards or some other handy material the needed splints. I have used pieces of cigar-boxes, orange-boxes, and other handy material, well padded with layers of absorbent cotton, with just as perfect result as could be desired. The plaster-of-Paris bandage, in my opinion, is the most valuable single material at our command. We will now consider some of the more frequent fractures and their treatment.

Fractures of the skull are serious in proportion to injury of its contents. Bryant says that "slight fracture of the skull with concussion is more dangerous than compound fracture with no injury to contents."

When the fragments are depressed they should be elevated at once; if there are symptoms of congestion large doses of bromide may be given, patient kept in a dark room, and cooling applications applied to head. Fractures at the base of the skull are always serious—mortality about fifty per cent. They are nearly always accompanied by severe constitutional disturbance, bleeding from the nose and ears, frequently by a discharge of watery serum from the ears, now known to be cerebro-spinal fluid. Treatment must be symptomatic.

Fracture of the clavicle, Roberts says, is successfully treated without apparatus if the patient will go to bed and remain on the back; this position is strongly advised in the case of young ladies, as deformity is found to be less than when any form of apparatus is used. I have generally used Sayres's apparatus with good results. In one case, at the suggestion of Dr. Worley, I used the figure-of-8 bandage across the shoulders with a good result. I recall one case of a girl who would not allow any bandage or apparatus; she had a very good result—deformity hardly noticeable.

Fractured ribs are best treated with wide adhesive straps entirely encircling the chest; this compels diaphragmatic breathing and relieves the pain incident to ordinary respiratory movements. Fracture of the scapula is likewise best treated with adhesive straps or wide bandage.

Fracture of the spinal column in any part is a serious lesion, as pressure from depressed or displaced bone is liable to cause paralysis, and confinement to bed causes bed-sores and exhaustion. When caused by diseased conditions extension and the plaster jacket may give some relief, but in direct injuries from accident exploratory incision, with elevation of fragments and removal of spiculæ of bone seems the rational course; the subsequent treatment being directed to injury of the cord.

Fractures of the pelvis are always serious, and the possibility of injury to the contained organs must be

borne in mind. They can only be treated on the expectant plan.

Fracture of the humerus at or near the surgical neck is infrequent, though it sometimes occurs, and is likely to be confounded with subglenoid dislocation. When satisfied that we are dealing with a fracture, the arm should be fixed in an immovable apparatus, a wedge-shaped wad of absorbent cotton placed in the axilla, and arm bound firmly to body with a wide bandage, the forearm being supported with a sling. "Fractures of the shaft of the humerus are satisfactorily treated with moulded splints of gutta-percha, felt, or Levis's perforated tin, well padded; the forearm to be carried in a sling."

It is in the shaft of this bone and the shaft of the femur where we most often have no union, or bad union with a large callus. I am of opinion that this can be explained on the ground of greater mobility of the parts and the constant tendency of attached muscles to separate the fragments. These conditions create more or less irritation continually about the point of injury, and in consequence we have an abnormal production of callus and imperfect bony union. The treatment quoted is on good authority, but I think creates in the mind of the young surgeon an idea that should not exist, that is, that the fracture is simple and treatment also simple. If we would secure good union in these long bones we must put the injured parts at perfect rest, and confine them so for at least six, and, better, eight weeks before they are disturbed in any way. It is better practice to keep on a perfectly fitting apparatus for one or two weeks longer than might be absolutely necessary, than to remove them and run the risk of recurring fracture. I permitted one patient with a fractured thigh to get on crutches in ten weeks, as there seemed to be firm union. Unfortunately his crutch slipped, causing him to get a severe fall, which again fractured the thigh in the same place, necessitating another lay up of ten or twelve weeks.

Fractures of the lower third of the humerus and the upper third of the radius and ulna, involving, as they frequently do, the elbow-joint, are serious accidents. We are generally confronted by a greatly swollen condition of things, and confused as to diagnosis. Hamilton's practice was to apply cold applications until the swelling subsided, then to put up the arm in the flexed position, and on or before the seventh day to begin gentle passive motion as a preventive of anchylosis. No doubt this treatment worked well, or it would not have been advised by so eminent an authority; however, the minds of men are widening and the science of surgery advancing. An entire change in this treatment is now advised. Allis, of Philadelphia, and Thorn, of Toledo, now advocate the extended position, with perfect immobility of the joint, until motion can be made without causing pain. By demonstration Thorn claims this position to be anatomically correct, and by reasoning, as well as by experience, concludes as follows:

"If the joint structures are not encroached upon, certainly there can be no necessity for submitting the parts to the chances of torturing the patient. Rest for the injured parts to prevent inflammation, rest for the inflamed parts to hasten recovery. Do not treat what does not exist. If the joint is not injured, anchylosis cannot obtain; if it is injured, rest is what it needs."

To my mind the greatest bugbear in the treatment of fractures is the fear of anchylosis, and the greatest torture to the patient usually comes from the unnecessary efforts made to prevent it. I say to my patients when there is freedom from pain begin to use the joint, not before. Then time and voluntary effort will complete the cure. From a personal letter I quote Dr. Thorn as follows: "To my mind, doctor, the most important contention is that against passive motion."

If after firm bony union has taken place, and gentle passive motion been tried, we find that we still have a seriously anchylosed joint, we may proceed, under anæsthesia, to break up adhesions and restore the function of the joint. This, however, in a large percentage of cases, will fail, and then our only other resort is to resect the joint. I assisted in one case where forcible effort was made, under anæsthesia, to break up adhesions in the elbow-joint, but the operation only did temporary good; generally these operations would be followed by more or less inflammation, after the subsidence of which we found our joint again anchylosed. In fracture of the upper third of the ulna it should be remembered that dislocation of the head of the radius may take place in the course of repair; it is therefore necessary to confine this fracture in a plaster dressing, a good plan being to place the arm in a flexed position and carry dressing from a point above the condyles to the middle third of the forearm. This dressing should prevent rotation, and as far as possible prevent contraction of the ulna, which is supposed to cause the dislocation of the comparatively loose attachment of the head of the radius in its normal position. Fractures of the lower forearm are frequent; they should be promptly reduced and held in place by well padded splints; care should be taken against undue pressure on the blood-vessels at the wrist. The wooden splints should be held in place by elastic bandages or straps. In case a plaster dressing is used it should be split up as soon as the plaster sets, for any considerable amount of swelling under an unyielding plaster cast may be the cause of serious injury. Fractures about the wrist-joint should be treated on the same general principles suggested for the elbow-joint—perfect rest and local measures to allay inflammation. Fractures of the metacarpal and phalangeal bones are satisfactorily treated by light board splints, well shaped and wadded to fit the hand.

We may now briefly consider fractures of the lower extremity. Fractures of the neck of the femur, whether intra- or extra- capsular, require considerable time for repair. Bonnet's trough splint, with moderate extension, seems of all the older methods to be the best. Professor Despres, in his "Treatise on Fractures," claims that no splint is superior. In my opinion the plaster cast enveloping the hips and carried down the injured thigh to the middle third is the apparatus *par excellence* for this accident. This at once immobilizes the joint, and with slight extension is all that can be desired. It must be remembered that this accident is most frequent in the aged, consequently repair is slow and seldom by firm bony union. Bryant says: "Gentle traction can be practised for two or three weeks, after which patients may be allowed a little exercise on crutches, as long confinement in bed may lead to bed-sores and exhaustion." It seems, however, to me a mistake to allow any motion in these fractures under six or eight weeks; in nearly every case of ununited fracture that I have seen we find a history of early effort at motion, which, no doubt, had disturbed the reparative process. The fracture-bed, so highly recommended by some, is only within the reach of a few, hence I need only mention it. On any bed, where a fracture of the thigh is to be treated, it is well to put a wide, smooth board under the mattress to prevent sagging of the body. There are various methods of treatment for fractures of the shaft of the femur. After a study of many methods I am disposed to think that those worthy of special mention are the long external splint and Buck's extension apparatus. I have lately treated two cases of fracture in the middle third by a combination of these two methods with most satisfactory results. There is scarcely over half an inch shortening, and no deformity to speak of in either case. I prepare the bed and the patient as directed for Buck's extension, elevate the foot of the bed four to six inches, then apply the pulley and weight for extension. The limb is then set in as natural a position as possible, and a long exter-

nal padded board splint is applied. For a grown man I make this splint about four inches wide, and long enough to reach from the axilla to a little below the foot. The splint is held in place by three wide, many-tailed bandages, placed one around the chest, one around the thigh over seat of fracture, and the other around lower third of leg, made to confine the foot if there is tendency of the foot to turn inward, which I have found generally to be the case.

This apparatus is simple, easily applied, and has given me excellent results.

In four or five weeks, or after union has taken place, I remove the external splint and apply a plaster cast at the same time, removing nearly all the weights used for extension. I do not think it good practice to allow a man to walk on a thigh that has been fractured inside of twelve weeks; from the experience that I have had I am sure that firm bony union does not take place in much less time, and no doubt some of the shortening and deformity in this fracture is due to the weight put upon the hardly consolidated callus. I insist that nature have time to do her perfect work.

Fracture of the lower third of the femur, involving the condyles and the knee-joint, do best put up in some immovable apparatus, the limb in a slightly flexed position. When the fragments of the lower third of the femur are displaced by the contraction of the gastrocnemii muscles Bryant advises division of the tendo Achillis. Dr. Thorn's rule for passive motion at the elbow-joint applies as well to the knee-joint.

Fracture of the patella is of frequent occurrence, and the fact that there is such a variety of apparatus for its treatment shows that the best surgeons are not agreed. Drs. Senn and Fluhrer advocate wiring, Bryant and Roberts the posterior padded splint with elastic straps. Wiring promises bony union, and possibly a stronger joint, but it converts a simple into a compound fracture with the possibility of septic infection. Treatment by splints and bandages secures only ligamentous union, with some impairment of function, but no material danger to life. The treatment by hooks, screws, and other similar devices is not good surgery; they are painful and endanger the patient to septic infection. The average surgeon will do better with his posterior splint, elastic bands, and subsequently the plaster bandage, than experimenting with other, perhaps more scientific, methods. The operation of wiring, while perhaps the ideal method, calls for considerable skill, and certainly is not without danger. I assisted in a New York hospital in wiring a simple transversely fractured patella, but never saw the patient after the operation. It was whispered around that he went the way of all flesh.

Fractures of the tibia and fibula are common. Simple fractures of the fibula in the lower two-thirds may be satisfactorily treated by simply bandaging the leg, the tibia acting as a splint, and resting in the recumbent position. In fracture in the upper third of the fibula, near the head, the limb should be flexed and kept so; then may occur separation of the fragments requiring wiring.

Fractures of both bones of the leg do well either in splints, fracture-box, or plaster cast. The best apparatus that I have any account of is that advised by Professor Despres. This is a plaster splint which does not encase the limb, but is applied laterally.

Strips of prepared plaster bandage of required length, and two to three inches wide, are soaked a few minutes in warm water, an assistant holds the limb in proper position, the bones being set; we then take one of these strips, and beginning just below the knee on either the inner or outer side of the leg, it is carried down one side around (or under) the foot and up the other side, additional plaster is rubbed on this, then another layer of bandage, and so on until a good strong splint is moulded to the leg. The leg is held steady for twenty minutes, or until the plaster has hardened, which is then held in place by three elastic strips—one at the top, one about the fracture, and one at the ankle. This apparatus allows the patient to take any desired position in bed, prevents displacement of fragments, and allows of frequent examination and dressings in case of compound fracture without changing the apparatus. The elastic bands give way for swelling and contract as the limb shrinks, so that even pressure is maintained. This apparatus need not be changed during the whole course of repair of a simple fracture of the leg.

Fractures about the ankles, as with other joints, require immovable apparatus and perfect rest. I prefer the plaster cast. This should not be applied, however, until swelling has subsided, and even then it is well to split the cast to allow for any swelling that may occur.

Fractures of the metatarsal and phalangeal bones of the foot, if not compound, do well in an old easy-fitting shoe split through the top to allow for swelling, bound with an ordinary roller bandage. When compound I have used thin pieces of board padded to fit the bottom of foot held in place by adhesive strap and bandage.

I have thus briefly suggested a treatment for the fractures most commonly met with. After all, the successful treatment of a fracture depends largely upon the knowledge and ingenuity of the surgeon, for it is possible to have a bad result from the use of the most scientific apparatus available, and a good result without any. With reference to the treatment of compound fractures—as before indicated—great change has taken place. We no longer amputate every limb that happens to have severe compound fracture. However bad the fracture, if the blood and nerve-supply is not cut off there is always some chance to save the limb. In simple compound fracture, that is, where the opening through the skin is small, slight comminution of bone and slight hemorrhage, the wound should be closed with adhesive plaster or antiseptic collodion (iodoform or aristol collodion) and fracture treated as simple. When there has been severe comminution of bone, some hemorrhage, where dirt of any kind has entered the wound, it should be left open and treated antiseptically; finely powdered iodoform or boracic acid kept constantly applied. When pus forms it should be let out and parts irrigated with carbolized water.

If free arterial bleeding occur the vessels should be secured if possible, and closed by torsion or ligature, the wound enlarged if necessary for this purpose. Should the vessel lie very deep, as in the calf of the leg or upper forearm, it may be ligated above the seat of injury, as it has been demonstrated that the ligation of vessels does not much retard the repair of fractures. In case the plaster cast is used for compound fractures, a window should always be left over the seat of fracture to permit frequent examination and dressing. When from destruction of tissue—threatening gangrene—or extensive injury likely to render the limb useless, amputation may be performed, the sooner the better. In that unfortunate class of cases—ununited fractures—various methods of repair are in use. These consist of dowel pins of ivory and bone, screws, nails, silver wire, bone rings, etc. Dr. N. Senn advocates and uses bone rings. It occurs to me that strong silver wire thrown around the fragments would answer the same purpose as the bone rings, and could be much more readily removed after union had taken place.

It must be borne in mind that certain acquired or constitutional diseases play an important part in the repair of fractures. Syphilis, rheumatism, scrofula, tuberculosis, rachitis, lithiasis, etc., may collectively or separately prevent union even when the fragments are most favorably adjusted. We have all seen in scrofulous and strumous subjects diseased conditions of bone refuse to heal under any form of local treatment, until the patient was put on suitable constitutional treatment. We have seen rheumatic arthritis set up in a joint and so erode the heads of the bones that anchylosis of the worst form has been produced. We have seen gravel

produced in the bladder from excess of uric-acid compounds and long confinement on the back. Syphilis, of course, in any stage, but more especially in the tertiary one, would seriously complicate the treatment of any fracture.

I must conclude this paper, but before doing so I wish to call attention to the application of the plaster bandage. I have seen some very bungling work with plaster, but when carefully applied it is the ideal splint. Excellent plaster bandages are made ready for use by Johnson & Johnson, New York, but any surgeon with a little time on his hands can prepare his own. Strips of cheese-cloth or crinoline, two or three yards long and two to three inches wide, rubbed full of fine dental plaster and rolled up as an ordinary bandage, answer every purpose. In preparing a limb for a plaster cast some little care is necessary. The limb should be washed and dried thoroughly, any sore spots covered with a little subnitrate of bismuth, then vaseline or olive-oil rubbed on. The limb now being ready, should be smoothly bandaged with soft flannel over the entire part we expect to enclose. I usually use two layers of bandage. The plaster bandage is then soaked for a few minutes in warm water and is ready for winding around the limb. Over each layer of bandage I rub a little extra plaster, the same having been previously prepared to a creamy consistence in a handy vessel. The cast is now allowed to set. If we are likely to have swelling, I split the cast at once, otherwise it is left alone. In removing the cast for purposes of examination, or when from shrinking of the limb it has become loose and needs to be made smaller, I cut carefully through the plaster, then with scissors cut through the flannel bandage. We generally find the bandage has become attached to the plaster cast and has formed a nice padding for the splint.

A plaster cast, when properly made, is very strong. They are generally made twice as heavy as is necessary, adding unnecessary weight and inconvenience; but I believe that greater care in constructing will remedy these objections.

AN ANENCEPHALOUS MONSTER.

By RICHARD H. WOOD, M.D.,

CLIO, MICH.

With so many cases of monstrosities before us it may well be questioned whether it is necessary to refer to such common occurrences. But inasmuch as the one I have to report resembles so closely the cases related by Dr. Boweman, of Ontario, and Dr. Hinman, of Michigan, I offer it in the hope that it may aid those who are competent to properly classify these abnormalities and to bring out some knowledge of their etiology.

Mrs. G——, aged thirty, farmer's wife, was taken with labor pains about 5 P.M. I was called at 6 P.M. She claimed that her time was up a week before. Found abdomen fully distended, and palpation revealed fœtus lying transversely in uterus. Os rigid, like a hard rubber ring, with a few nodules along the margin, and dilated to the size of a half-dollar. Pains being slight I gave uterine sedative and went home. Summoned again at 11 P.M. to find that membranes had ruptured and an unusual amount of liquor amnii had escaped. With some difficulty the feet were reached and brought down through the partly dilated os, and in about two hours a dead fœtus was delivered. It consisted of a monstrosity of the anencephalous type. It had been dead perhaps a week. The shoulders were large and well developed. The integument of the upper extremities was sound. The lower extremities were small and the legs long, but the bones were not at all ossified, and the integument upon the lower extremities was broken and exfoliated in patches. The sex, barely discernible, was female. The nails on the fingers were plain, but those on the toes were hardly perceptible owing to lack of development. The eyes looked almost upwards, the nose was broad and flattened. The head was wanting in its posterior aspect, neither scalp, occipital, nor parietal bones being present. There was nothing like a cerebrum. A thin membrane, transparent, covered this posterior cavity, and on the integument, at its junction with this membrane, was a narrow fringe of long dark hair. The bones of the face were quite solid and could be felt through the membrane from behind. This monstrosity weighed about four and a half pounds. The placenta was only four inches in diameter, perfectly circular, and of unusual thickness. The cord was attacked at the centre. The mother had a specific taint, and had been suffering for weeks from a profuse purulent discharge.

POISONING BY OYSTERS.

By J. N. BELL, M.D.,

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The following case of oyster poisoning occurred recently in my practice. I was called hurriedly, on the morning of October 7th last, to attend the family of Mr. F——, three of the members of whom—father, mother, and daughter—were suffering from incessant vomiting and griping pains in the abdomen, the mother being in a state of collapse.

Upon inquiry as to what they had eaten for supper the evening before, I found that they had partaken of stewed oysters (canned).

A fourth member of the family, a little girl, aged three, who had not eaten any of the oysters, but had partaken quite freely of the broth, was not even nauseated.

Bismuth, subnitrate, hypodermic injections of morph. sulph., and brisk catharsis constituted the treatment. All recovered within twenty-four hours.

The point of interest in this case is that the toxic principle was undoubtedly contained in the substance of the oyster itself, and was not developed in the process of canning.

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SEVERE SPASMODIC MUSCULAR CONTRACTIONS DUE TO REFLEX IRRITATION FROM CICATRICIAL TISSUE.

By HENRY H. SCHROEDER, M.D.,

NEW YORK.

While acting as resident physician for the Glenwood Hot Springs Company, Colorado, last summer, the following interesting case came to my notice. One of the local physicians in the neighboring town had operated for ingrowing toe-nail, and five or six days later noticed considerable suppuration and fetor about the wound, which, however, by the end of the second week after the operation, healed under antiseptic treatment. About fourteen days after healing occurred I was requested by the physician to meet him in consultation, as the patient had been having spasms daily for the past week. The patient was a girl, twenty years of age, and, when I saw her, was somewhat anæmic, although previous to operation she had been healthy and vigorous. At the moment of my arrival she was having a violent spasm of the muscles of the left leg (the operation was upon the toe of the right foot). While manipulating the leg the spasm suddenly shifted to the larynx, causing a distressing and alarming dyspnœa similar to that caused by a very aggravated attack of globus hystericus. In spite of large and repeated doses of chloral, bromides, and mor-

phine, this condition had come on every evening and lasted through the night, the spasms alternately affecting the glottis and legs. Further examination showed that the toe which had been the seat of operation was red, swollen, and extremely painful to the touch.

Discarding the view held, that the paroxysms were due to ptomaine poisoning, since the wound had healed fourteen days previously and there were no signs of pus, I advised the immediate application to the toe of a sedative ointment made up of opium, belladonna, and cocaine in generous proportions, with lanolin and vaseline as a base, and if this proved ineffectual, as I very much feared it would, the excision of the large amount of cicatricial tissue which was a result of the suppuration and excessive granulation after operation.

The attending physician told me two or three days later that the convulsive seizures had ceased shortly after the application of the ointment, and that the toe had lost all redness, swelling, and tenderness.

A few weeks later a chair happening to fall upon the toe it again become swollen and subjected to increased pressure from the cicatrix, which occasioned a return of the spasms. The trouble, however, quickly yielded to the local treatment.

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HEREDITY AS AN ETIOLOGICAL FACTOR IN EPILEPSY.

By A. H. HENDERSON, M.D.,

Monè, Shan States, Burma.

The following struck me as an interesting set of cases in proof of heredity rather than contagion as a factor in the spread of leprosy:

Case I.—A man, aged twenty-two, well developed, presented himself with a slight scaly appearance on parts of his arms and slightly hypertrophied spots of about half an inch in diameter on his upper lip. The first symptoms appeared on the outer part of his thigh nine years ago, where in one year two ulcers appeared, healing in three months, and leaving scars now visible. Now the skin in several places is roughened and inclined to be scaly.

Case II.—A girl, aged fifteen, sister of patient mentioned in Case I., with tubercles on both alæ nasi and lobes of both ears, together with an offensive ozena. The disease commenced eight years ago on the outer part of the thigh as a white scaly spot, which increased in size. The feet are now swollen, and there are ulcers on the plantar surfaces. This case led me to inquire into the family history.

Case III.—The father of above mentioned patients had presented the same symptoms for thirty years. He had ulcerations all over his body. One of the toes had gone, in fact his was a typical case of leprosy. The interesting part is that the wife, the mother of both children, is perfectly healthy.

The popular feeling here is strongly in favor of the view that leprosy is spread by contagion. I presume it may spread in both ways, though as far as my experience goes, heredity, rather than contagion, has to bear the blame.

The Medical Profession in Russia.—Russia has 15,740 qualified doctors, 310 of whom do not practise, giving one doctor to 8,000 persons throughout the empire. As by far the greater number of the doctors live in the cities, and the urban population of Russia is only fourteen per cent. of the whole, the peasants are poorly provided with medical assistance. One-fifth of the total number of doctors are in the army or navy, and five hundred and fifty-three are women.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

MEETING OF GENERAL MEDICAL COUNCIL—CLEFT PALATE—INJURY TO BRACHIAL PLEXUS—SOME EXHIBITS AT THE CLINICAL SOCIETY—THE SALVATION ARMY'S SHELTERS—EDINBURGH COLLEGE OF SURGEONS—THE HUXLEY MEMORIAL.

London, November 29, 1895.

The General Medical Council has been sitting during the week, but whether its work has been worth the cost is a question that perturbs many. On Tuesday the President delivered his address, which follows the lines of its predecessors. Then the question of increasing the direct representatives of the profession was the next most interesting topic. It came up in connection with the petition of the British Medical Association, and may be said to have made some progress, inasmuch as two more members voted for it than on the last occasion on which it was considered. The plan has never commended itself to the Council as a body, which finds its numbers quite large enough, and many feel too large. The plan, in fact, was but the scheme of a fraction of the profession, though a noisy one, and but for the careful conduct of the representatives would have been found ridiculous. Its shortcomings are inherent in the plan, one of the most inadequate for reforming the council.

Dr. Glover brought forward the inadequate requirements respecting midwifery cases, on which also the British Medical Association had a petition in accordance with the resolution passed at the last annual meeting. It appeared, however, that the petition had not been properly adopted and forwarded by the executive of the association and had to be withdrawn. So the scandal, as many deem it, of insufficient instruction in midwifery, still adheres to certain qualifying bodies.

The person who was struck off the register for his conduct in regard to Count Mattei's nostrum applied for a reconsideration of the ruling, but without success.

On Wednesday the case of the Apothecaries' Hall, in Ireland, came up, and was subsequently considered in a different aspect. I have already informed your readers of some of the peculiarities of this case. There is no doubt that a dead-set has been made at the Hall (through its conjunction with the Surgeons' College) with a view of extinguishing it. It is scarcely to be denied that this corporation could well be spared, as, too, could some others. The Hall ought not to have obtained the position of a qualifying body, but having obtained it and exercised it lawfully, is natually unwilling to be disfranchised by a side wind.

The Hall faculty applied to the Council to appoint for it examiners in surgery, as was done for the London Hall, and opposition to this was, of course, offered, with much talk about the power to do so and its limits. At length it was agreed to obtain the opinion of the standing counsel on several points, postponing a decision to the end of the week, so I cannot report it to-day.

The disciplinary powers of the qualifying bodies were discussed in a rambling way, and eventually a resolution was carried instructing the Executive Committee to report to the Council at its next meeting.

The results of visitations and examinations were considered. As usual a number of returns and other official documents were produced and some other cases for the judicial powers of the Council investigated.

The sad case of a medical man who was alleged to have caused the death of a woman through negligence or want of skill when attending her in labor, occupied the courts on Monday and Tuesday. The defence was illness, for which he had taken chloral. A verdict of guilty was found, and the judge, taking into consider-

ation extenuating circumstances, pronounced a sentence of imprisonment, without hard labor, for three months. He stated that had intoxication led to the sad result, as was at first alleged, the sentence would probably have been a year's imprisonment at hard labor.

The best time to operate for cleft palate seems unsettled, some surgeons recommending early operation, others advising some delay. On Monday, Mr. Owen read to the Medical Society of London notes of five cases on which he had operated this year and of which four were completely successful, one of the patients being only eight months of age. Mr. Owen is decidedly in favor of early operation, but he recommended spring and summer as the most favorable seasons, as then the children may be taken into the open air, a point to which he attaches great importance.

Mr. Morgan demurred to this early interference and thought a delay until the child was two years of age would be better, and at that age no serious defect of speech would have arisen.

Mr. Clutton remarked that the age for operating depended less on the extent of the cleft than on the shape of the palate and thickness of the tissues. The flaps, he said, could be brought down without undue tension when the palate was arched, but when it was flattened the difficulty was much greater. He had observed improvement in the voice follow operation later in life. This would depend greatly on the length of the hard palate, which when short might not catch the laryngeal vibrations.

Mr. Davies-Colley said the flap operation which he devised so diminished tension that union of the hard palate could be relied on to follow, but union of the soft palate might fail for a time. He was much in favor of early operation, not only for the sake of the perfection of speech, but to prevent the facial deformity which occurred in long-standing cases.

Mr. A. Lane insisted on securing sufficient room and advised cutting through the united lip should it be necessary.

Mr. Walsham recommended that the edges of the flap should not be pared until the end of the operation, so as to have the surfaces fresh.

At the same meeting Dr. Beevor related a couple of cases in which it was thought the brachial plexus had been injured. There was paralysis of all the muscles of the arm and loss of sensation along the outer surface of arm and forearm. The small muscles of the hand, the flexors of the thumb and fingers were not paralyzed.

Among a series of interesting cases exhibited at the last meeting of the Clinical Society I may specify one shown by Dr. Buzzard (President), of early Charcot's disease, benign form, in a woman aged thirty-eight. No destructive changes have at present appeared. Twenty months ago the right foot swelled greatly, but without pain, the tarsal joint being affected and containing fluid; six months ago the whole left lower limb swelled without pain. At present the left is much enlarged and there is great laxity of the ligaments of this joint. But for the absence of pain such cases would probably often be classed as rheumatic arthritis, of which a case was shown by Dr. H. Campbell, the chief lesions being limited to the elbows, but there was grating in the wrists and in the temporo-maxillary articulations.

Mr. O. Paget showed a case of myositis ossificans in a child five years of age, who was minus the first phalanges, the metacarpals articulating direct with the second. The thumbs were normal. The pectorals were ossified at their insertion and the latissimus dorsi along its outer border. The sterno-mastoids were affected in the same way. There was a node on one of the ribs and another on the forehead. No history of gout or rheumatism.

Mr. Clutton showed a boy in whom the tibia was absent, and there were other malformations; also a photograph of a similar case.

A decision has at last been obtained on the Salvation Army's Shelter case. The magistrate has granted a prohibition order. For two years and a half this shelter has been more or less before the public as a centre for spreading infectious fevers. But for the energetic medical officer of health, Dr. Waldo, this danger would have continued unabated. More than one thousand persons were crowded into a space only enough for four hundred, and when a vagrant with small-pox entered the result was easy to foresee. It appears that this charitable part of the Salvationists' social scheme was more than self-supporting. It is strange but true that the promoters object to be put under the same control as common lodging-houses, but they must submit. Some two years ago the Local Government Board sent Dr. Airey to inspect the several shelters, but his report has not been made public. If the suppression be due to the fears of the late government, the present Cabinet may be expected to have no need for such reticence. There is no general election at hand, and the public health should be a strong platform in the government programme.

The Edinburgh College of Surgeons was founded nearly four hundred years ago, and, as pointed out in the *Scotsman*, is the oldest medical corporation in Scotland. I lately reported the quarter-centenary of Aberdeen University. Both these bodies started in the reign of Jamie IV. of Scotland, himself "ane singular guid chirurgeon," so that the princes now following the craft have a capital precedent for their actions.

On Wednesday there was a meeting of those interested in promoting a memorial to the late Professor Huxley. It was resolved to erect a statue in the Museum of Natural History, to provide a medal in connection with the Royal College of Science, and to devote the balance of subscriptions to the futherance of biology.

OUR PARIS LETTER.

(From our Special Correspondent.)

TREATMENT AND PROPHYLAXIS OF DISEASE BY HYPODERMIC INJECTIONS—THE GLYCERO-PHOSPHATES—SEROPATHIE AND VACCINATION — ANECDOTE OF RICORD AND INOCULATION, ETC.

PARIS, November 23, 1895.

IMMUNIZATION and seropathie are more than ever engrossing attention, not only in the laboratories and at the École de Médecine, but with the profession at large. To-day in the treatment of disease, whether prophylactic or curative, the Pravaz syringe is rapidly taking the place of the Meritt. Whether this would be an advantage may be open to question; it is, however, quite certain that the abscesses and erythematous eruptions frequently observed after the free use of the hypodermic syringe, are of quite as much moment as the disordered stomachs and constitutional symptoms so often seen after the exhibition of drugs. When we arrive at the prevention of syphilis by this method, inoculation will have indeed reached perfection.

A favorite injection with the Paris profession just now is the glycero-phosphate of lime, soda, or iron, whose introduction is due to Professor Albert Robin. His experiments were made chiefly with the glycero-phosphate of lime, which is used with some success in tuberculosis, anæmia, and neurasthenia, the ordinary dose being from twenty to thirty centigrammes injected every morning, and continued for at least several weeks without interruption; if the benefit is marked at the end of that time, it is well to stop the injections for one week and then begin again, and these periods of alternate rest and treatment have sometimes to be kept up for several months.

But let us look for a moment at the effects of vaccine serum, or *serum vaccinicum*, as it is termed by Professor Hlava and Dr. Houl, of Prag, who have been

endeavoring to solve a problem of vast importance to science as well as to preventive medicine, namely, replace the inoculation of animal virus by injections of serum taken from an animal made refractory to vaccinia.

A first serum is prepared in the following manner: two heifers are vaccinated and their lymph secured on the fourth day after inoculation; it is proved that they are immunized against vaccinia by a double revaccination without success. After bleeding them the serum of their blood is taken up. This serum is injected to three heifers without morbid reaction; vaccinated afterward, one of them remains healthy, the other two present pustules, but small, withered, and having a dry appearance.

Thirteen children are submitted to the same experiment; they support the dose injected (1 to 2½ centimetres cubes, from 15 to 35 drops for each kilo or two pounds of weight) very well. These children are subsequently revaccinated; six remain without pustules, on the others they are rare.

In the first experience the evolution of vaccinia was disturbed by gathering the lymph on the fourth day.

In a second series of experiments the disease was left to develop itself freely on the animal in order to take the serum only after it was cured. Five heifers receive this serum by injection; this inoculation being followed by an eruption of small dry pustules without special character. But on five children treated in this manner vaccinia was well developed. These facts show plainly that the serum taken at the end of the disease is less active than that taken earlier. A third series of experiments were then made with the complete blood of the animal mixed with citrate of soda, and taken on the fourth day after inoculation. This liquid immunized perfectly two heifers against vaccinia; a third animal did not resist it because the dose injected was insufficient. On the children it produced an elevation of temperature, 38.6° C. to 39.5° C.; or about 100.2° F. to 101° F., but prevented the breaking out of vaccinia.

These experiments are certainly interesting and merit the attention of all thinking men. They can, however, only as yet be considered a step in the right direction. They have not decided the crucial questions: Does vaccinal serum possess immunizing properties against small-pox, and Has the method by injections—as a method—any advantage over that usually employed?

While on the subject of inoculation, it may be interesting to recall how Ricord nearly lost his great reputation as an authority. The question arising whether the virus of a secondary syphilitic ulcer could produce the disease, was appealed to Ricord, who unhesitatingly decided in the negative—little suspecting that a trap was being laid for him by a rival professor and a distinguished editor who is still living. They proposed to inoculate a healthy monkey; to this Ricord agreed, and accordingly all met at the hospital a few days later, including the monkey, who was duly inoculated from a patient in the syphilitic wards having a secondary syphilitic ulcer. In a few weeks the monkey was thoroughly saturated with the poison and left to die, to the great mortification of Ricord, who was just then entering upon the apogee of his fame. The experiment was not repeated until some time later, with tertiary syphilitic virus, which, it is now well known, can also produce syphilitic symptoms after inoculation.

Failure of the Oregon Medical Law.—According to the *Medical Sentinel* the recently enacted law regulating the practice of medicine in Oregon seems likely to prove ineffective. It is stated that a Chinaman, who was practising without a license in Portland, was arrested and tried three times before he could be convicted, and then only had to pay a fine of $50. Another irregular practitioner was tried and acquitted.

PRIVATE MEDICAL COLLEGES AND PUBLIC HOSPITALS.

To the Editor of the Medical Record.

Sir: Confusion exists in the minds of many physicians and others as to the exact relation which the medical colleges bear to the public hospitals. The undergraduate medical colleges which recently induced the city's authorities to turn over all the public hospitals to them, and who absolutely control their medical boards, have, as a matter of fact, no right whatever to exercise such control. These colleges are private stock companies, chartered by the State, and conducted as any other stock company for the sole benefit of the stock-holders. They advertise, and hold out every inducement possible to get students to attend them—more students, larger dividends, more reputation, and more consultations from the students—which means more cash income to the stock-holders, who are the professors. In other words they are conducted as business enterprises, and are in no sense charitable institutions or public benefits, except as any other stock company honestly conducted is a public benefit.

They cannot lay claim even to a desire for better educated physicians, for they fought the State legislature, inch by inch, in its efforts to raise the standard of medical education, and require a preliminary examination of the applicant for matriculation, for fear students would be driven away and the income of the professors be reduced.

We mention these facts, not in a sense of criticism, nor do we arraign the colleges for adopting the same business methods of other corporations engaged in money-making; but they are mentioned to show that these medical colleges must take their places along with all other business firms.

The public hospitals are built and maintained by taxation of all the citizens, and all the citizens ought, therefore, to have equal rights to enjoy all the benefits to be had from them. Their wards should be open to receive any citizen for care and treatment who is qualified to receive it by reason of his ascertained inability to care for himself.

Appointments to positions on the medical boards of these hospitals should be equally open to competition by all the citizens of the city; none should be rendered ineligible for any reason except by their demonstrated lack of skill and experience to perform the professional duties of such positions. This is only common justice.

Instead, we have to-day a condition of things which is not only an insult to nearly four thousand physicians in this city, but that actually robs them of the right to even compete for a place on the medical board of a public hospital.

Three or four men, each a "boss" in one of these private medical corporations, got together and, taking advantage of the ignorance of the Mayor and some of the Charity Commissioners, and by promising influence to aid in retaining another, secured the passage of the outrageous resolution.

Hereafter no physician is eligible to be a member of the staff of a city hospital, which he is taxed to support, unless he has a "pull" with a "boss" of one of these private corporations and is willing to wear his collar.

By this resolution of the Commissioners a still greater injustice was done: the old medical boards of the public hospitals were turned out, and it is true that some of the men who had proper "pulls" were reappointed, but in a number of instances men of excellent professional standing, and a record of years of faithful service in the hospitals, were replaced by young and recent graduates, who were the relatives of the "bosses" or their immediate henchmen.

The Commissioners of the Department of Charities and Correction have no more right to disqualify a number of competent physicians from the right to perform the duties of attending professionally the in-

mates of the public hospitals because they have not the proper "pull" with certain medical bosses, than the Commissioners of the Dock Department have to show favoritism in letting contracts for building the city's piers and disqualifying certain contractors, because they have not the proper "pull" with a political "boss."

In one case the lowest bidder should build the pier, and in the other the man best qualified, after a civil service examination, should attend the sick.

And this is all done under the name of "reform." But where does its twin sister, "Fair Play," come in?

AN IMPARTIAL OUTSIDER.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending December 14, 1895.

	Cases.	Deaths.
Tuberculosis	78	102
Typhoid fever	18	6
Scarlet fever	76	6
Cerebro-spinal meningitis	1	1
Measles	242	15
Diphtheria	252	36
Croup	0	6

Micro-organisms on Coins.—The *Revue d'Hygiène* publishes an interesting account of some experiments made at the bacteriological laboratory of the Military Hospital of the Dey at Algiers. Dr. H. Vincent explains that money is specially liable to be contaminated by saliva, pus, pathological secretions, dust, and the morbid germs that may be found in dirty pockets or on dirty fingers. He does not think, however, that evidence of this danger can be easily obtained by placing dirty coins in culture broth. The investigations at the Dey Hospital were conducted in a different manner. A piece of cotton-wool about the size of a pea was dipped in water and sterilized. Pieces of wool thus prepared were seized with pincers that had been held in a flame and were gently passed over the coin to be examined. The pieces of wool were then placed in culture broths and kept in a temperature of 35° C. The product, which soon contained various micro-organisms, was sown anew in gelatine plaques so as to isolate the bacteria. In other cases it was inoculated in doses varying from one to five cubic centimetres, in the blood or under the skin of rabbits, guinea-pigs, and white rats. A lengthy description of the methods employed and the results obtained is given. The number of bacteria found on the surface of coins varied very considerably—on silver and gold from four hundred and sixty to thirty-five hundred, and on copper a still larger number. To destroy many of the non-pathogenic microbes some experiments were made at a temperature of 37° C. The injection of mixed cultures from coins only produced death or serious results in about one out of every ten inoculations. Death was sometimes rapid, with symptoms of acute septicæmia. In one case tuberculosis was communicated to a rabbit by a piece of wool which had been passed over a ten-centime copper coin. In another case there was slight tetanus. There can be no doubt that germs of disease are often to be found on the surface of coins—notably the microbe of suppuration, the staphylococcus pyogenes, and the streptococcus. Nevertheless, as the experiments were repeated they proved that there were fewer infectious germs than had been anticipated. Another series of experiments was then made which demonstrated that, though coins are often contaminated they possess in themselves antiseptic qualities which greatly reduce the risk. If pathogenic germs are placed on coins it is seen that they do not live long. The time varies according to the temperature and the nature of the metal. In a cold temperature the germs of typhoid fever and the Friedlander bacillus are killed in eighteen hours if placed on a sterilized copper or silver coin; and the pyocyanic bacillus and that of green diarrhœa in twenty-four hours. At a temperature of a pocket, about 36° C., the bacilli of typhoid fever, of blue pus, of diphtheria, and the streptococcus are destroyed in less than six hours. The bacilli of diphtheria are among the most tenacious, and in cold will live three days on silver and six days on bronze. Gold, of course, is less antiseptic, and the Eberth bacillus will live five days and that of diphtheria six days on a gold coin in a temperature of 20° C. At a damp temperature of 36° C. the destruction of the microbes is very rapid, and that is the temperature which often prevails in the pockets of clothes.

Ogdensburg (N. Y.) Medical Society.—At a regular meeting of the Ogdensburg Medical Society, held at the residence of Dr. G. Madill, the following resolutions were unanimously adopted:

Whereas, We, the members of the Ogdensburg Medical Society, have learned with deep regret that Drs. J. M. Mosher and Robert Cook, active members of this society and of the Medical Staff of the St. Lawrence State Hospital, are to sever their connection with our society to enter private practice in their special lines; we realize we are to lose the genial companionship, the able and active co-operation of two of our most estimable and efficient members; be it

Resolved, That we tender them a dinner, as an expression of our good-will and fellowship and as a tribute of our high appreciation of their scientific and professional attainments. And be it further resolved, that we believe that any community in which they may locate can place every confidence and reliance in their professional skill, honor, and integrity.

Resolved, That a copy of these Resolutions be spread on the minutes of this Society, and a copy be sent to each of the gentlemen. Also, that copies be sent to the medical press for publication.

B. F. SHERMAN, M.D.,
President.

A Visit to Professor Kitasato's Institute for Infectious Diseases.—Dr. J. M. Atkinson, colonial surgeon, Hong Kong, sends the following account of a visit to Kitasato's laboratory to *The Lancet:* On July 28th I visited this institution and was shown around by Professor Kitasato, Dr. Nakagawa, a Japanese gentleman who is a graduate in medicine of New York University, acting as interpreter. Professor Kitasato, although having an intimate knowledge of German, does not speak English. We first proceeded to the laboratory, and I was shown the following specimens: 1, Tubercle bacilli; 2, plasmodium malariæ; 3, pneumococcus (Fränkel's); 4, Löffler's bacillus; 5, tetanus bacillus; 6, bacillus anthracis; 7, plague bacillus; 8, lepra bacillus; 9, typhus fever (enteric fever) bacillus; 10, cholera bacillus; and 11, gonococcus. Professor Kitasato's method of obtaining the plasmodium malariæ is first to fix the specimen with a one per cent. solution of corrosive sublimate, afterward staining with a saturated solution of eosin in absolute alcohol, and then with Löffler's solution of methylene blue. With reference to diphtheria I had a long conversation with Professor Kitasato. He has succeeded in obtaining an antitoxin much stronger than any yet used. To show this, 9 c.c. of his serum are all that he injects to cure a case of diphtheria; with Roux's serum, on the other hand, it is necessary to use as much as 100 c.c. He can obtain this from the blood of a horse, but prefers that of a sheep. I was shown large pieces of diphtheritic mem-

brane which had been coughed up by patients who had been injected with this antitoxin. The "tetanus bacillus" was a beautiful specimen, and is shaped somewhat like a clove, the head being the spore, and is stained red with carbolized fuchsin, the body of the bacillus being stained blue. The sixth specimen showed the spore formation very well, the spores being, as in the previous case, stained with fuchsin and the bacilli with methylene blue. The plague bacilli are very distinctive, and are exactly similar to those which were obtained this year from the few plague cases which have occurred in Hong Kong. They are of an oval shape, presenting two deeply-stained poles with a clear non-stained interval between them. The simplest way to obtain the plague bacilli is to take some of the juice from one of the affected lymphatic glands, smear it on a cover-glass, and, after fixing, stain with eosin or methylene blue. Bacilli are found to be present in great numbers; they are almost identical in appearance with those of chicken cholera. The bacillus of enteric fever, which was quite new to me, presents a deeply stained body with a number of fine filamentous processes passing off from it; none of these are branched. The specimen was from a culture obtained from the fæces in a typhoid fever case. After this I was taken round the menagerie, where there was a large number of animals—guinea-pigs, dogs, rabbits, mice, monkeys, etc., for the purposes of inoculation, investigation, etc.; and finally I visited the wards. In one room there were two patients convalescent from diphtheria, who had been injected with Professor Kitasato's antitoxin; in another ward he showed me a case of leprosy in which the tubercles were disappearing under the influence of an antitoxin which he is now investigating. In another ward there was a child with traumatic tetanus; this case was also on a fair road to recovery, the seizures being much less since the injection of a tetanus antitoxin, and the temperature having fallen after each injection. There were also some twelve cases of phthisis. Just off the wards there was a Lyons steam disinfector. The laboratory was furnished with every requisite, and one could not but be convinced that here, in the middle of Tokio, some excellent scientific research is being carried on by Professor Kitasato and his assistants.

Easy Exposure of Occultism.—There is an organization in Boston known as the Society of Psychical Research. The other evening, at one of the meetings, a certain person, said to possess remarkable occult powers, volunteered to give an exhibition, which offer was gladly accepted by the society. The "professor" was a woman, slightly built, with pallid cheeks and dark raven hair. One of the members, while not particularly sceptical, thought he would try a little experiment on his own account, so before going to the meeting he provided himself with some pieces of phosphorescent paper, that in the dark lit up like a glow-worm. This he tore into small pieces, and, just before the lights were extinguished, contrived to place three or four bits of the paper on the "professor's" head. Then he sat down and waited. When the room was dark the "professor's" cranium emitted a pale light, visible to everyone in the room but the "professor" herself. In a few minutes the phenomena began, but, strange to relate, when a tambourine in one corner of the room began to sound, the illuminated was there also, and the moving about of the operator could be easily traced. The suppressed mirth told the "professor" something was wrong, and when the light was turned on and the paper discovered, the remarks made were far from spiritual. There were no more manifestations that night.

The Number of Epileptics in the State of New York Available for Craig Colony.—Quite recently the State Board of Charities, through their representative, Dr. Charles S. Hoyt, canvassed the State to determine the number of epileptics in county and city asylums and almshouses available for transfer to the newly organized Craig Colony for epileptics in Livingston County. Dr. Hoyt reported four hundred and twenty-seven patients in these institutions. Feeling that this number by no means represented the actual number of epileptics available for admission to the colony, Dr. Frederick Peterson, the president of the board of managers of Craig Colony, has instituted a special separate inquiry among all sorts of public and charitable institutions, such as almshouses, hospitals, homes, protectories, orphan asylums, and the like, and the figures presented by him in this more extended canvass are as follows:

Epileptics in County Poorhouses	194
" " City Almshouses	13
" " New York County Almshouse, Hospitals, Homes, etc.	246
" " Kings County Almshouse, etc.	39
" " various other public and charitable institutions in the State (exclusive of almshouses)	70
Total	562

In addition to these 562 epileptics a careful inquiry elicited the fact that there are nearly one thousand epileptics in insane asylums throughout the State, of whom, at the very lowest estimate, fifteen per cent. are available for residence under the moderate restrictions of Craig Colony, making an additional 150 patients. Moreover, nearly one hundred letters have been received by officers of the colony from epileptics not in almshouses, asylums, or other institutions, but nevertheless poverty-stricken and eking out some sort of miserable existence on the charity of friends. The number of those then immediately available for the beneficent advantages of Craig Colony may be recapitulated thus:

Number of epileptics available for Craig Colony in poorhouses, hospitals, and other public institutions in the State	562
Number available from insane asylums (a moderate estimate)	150
Number of dependent epileptics not in institutions, already applicants	100
Total	812

It need hardly be said that these figures really fall short of the actual number of epileptics in the State of New York who should ultimately receive the benefits of the State's newest and greatest charity, for physicians familiar with the services in out-door departments of hospitals and in the poor dispensaries of our cities, know that very large numbers of epileptics come under their observation every year, epileptics without occupation, dependent upon charity and occasional temporary employment, or supported in idleness and misery by hard-working but equally poor relatives; and it is safe to say that the number of these deserving unfortunates in New York City alone must aggregate between three and four hundred.

Suicide in Its Medical and Its Moral Aspects.—It has been noted that a tendency to suicide has recently been somewhat unusually prevalent. The regular, though happily never frequent, connection between solar heat and this form of crime has been repeatedly observed, and may, without undue straining of logical conditions, be accepted, at all events as far as it goes, as a working hypothesis founded on accurate observation. When we go further and seek to explain the hypothesis itself, however, we are still conscious of the insufficiency of our data. The theory by which Dr. Haig would associate mental depression with blood vascular tension due to uric acid is indeed helpful in its measure, as it is certainly ingenious. The measure of assistance toward a sufficient explanation is, nevertheless, in both cases, very meagre. It is evident that in the case of most persons a wide desert of despondency intervenes between the state of mind which corresponds to a hard pulse and overladen tissues and the last fatal folly of despair. Save in the case of insane or weak-minded persons, it is hardly possible to conceive that men can

be impelled to suicide by purely physical conditions, which are, after all, so common as hardly to be regarded as abnormal except by the scientifically educated mind. We would by no means overlook the necessity of treating these cases by appropriate means, but we are none the less assured that the reckless will which induces men to convert a weariness of life into a purpose of self-destruction does not depend upon mere atmosphere or mal-excretion. Where they are free to operate, the reserves of moral sense, thought, and resolution have either been previously exhausted or have not been drawn upon. A feeling of personal loss or a morbid fear of such has obliterated the sense of human relationship. The interest of dependent or associated neighbors and of relatives is forgotten. Self-love, not social duty, is the impelling force. We have not much hope that persons in this mood will be greatly influenced by changes of weather or by purely physical treatment. We would rely more upon the full and frank assertion of the duty and utility of all human beings to each other, and to the Providence essentially friendly to men which called them into being. Suicide is, after all, a moral failure, an evidence of the mastery of mistrust, an act of rebellion against the authority of patience. Obviously no drug, no social reform even, can effectually cure it, unless they be aided in the first place by a frank and full recognition of man's moral relation and responsibility.—*The Lancet.*

Prolonged Hiccough.—Dr. Ferguson reports a severe and prolonged case of hiccough in a man, aged thirty-three, which lasted for seventy-two hours without cessation, except during short periods while under chloroform anæsthesia (*The Lancet*). The case was treated unavailingly by chloral, camphor, ether, aromatic spirit of ammonia, tincture of opium, morphine hypodermically (gr. ½), tincture of belladonna, ice, and galvanism to the phrenics, and ice to the spine. The patient was in a critical condition, no nourishment had been taken for many hours, cyanosis was intense, while the hiccough was continuous and violent. As a last resource a hypodermic injection was administered containing morphine, gr. ½, and atropine, gr. $\frac{1}{150}$. The same quantity of morphine had been already injected without producing any further effect than a little drowsiness. In five minutes the patient was fast asleep and the hiccough had entirely ceased. In two hours symptoms of poisoning developed, the face and lips being cyanosed and the breathing stertorous, slow, and labored. Tickling the soles of the feet restored consciousness, so that he answered questions and swallowed some coffee. After another hour's sleep his breathing became so obstructed that he was again awakened, this time with far less difficulty than before. Next morning he complained of nothing except some stiffness of the neck and difficulty in swallowing, and in a few days he regained his normal condition. There was no return of the hiccough.

Grief from a Medical Stand-point.—The nervous system requires complete rest after blows caused by sorrow. Recent medical observations show that the physical results of depressing emotions are similar to those caused by bodily accidents, fatigue, chill, partial starvation, and loss of blood. Birds, moles, and dogs, which apparently died in consequence of capture, and from conditions that correspond in human beings to acute nostalgia and "broken heart," were examined after death as to the condition of their internal organs, and it was found that the nutrition of the tissues had been interfered with, and the substance proper of various vital organs had undergone the same kind of degeneration as that brought about by phosphorus or the germs of infectious disease. The poison of grief is more than a man. To urge work, study, travel, the vain search for amusements, is both useless and dangerous. For a time the whole organism is overthrown, and temporary seclusion is imperative for proper readjustment. Grief cannot be ignored, neither can it be cheered up. It must be accepted and allowed to wear itself away. Readjustment comes slowly. Sorrow, grief, and all great misfortunes should be regarded as conditions similar to acute infectious diseases, which they resemble in result; and, later, as convalescence from such diseases. Seclusion, rest, sleep, appropriate food, fresh air, sunshine, interests that tax neither mind nor body, these are requirements in this class of illness.—*Charlotte Medical Journal.*

Death in a Hospital Bath.—A strange death formed the subject of an inquest at Portsmouth recently. A man, aged thirty-two, was sent as an applicant for admission to the Royal Hospital at Landport. He was suffering from bronchitis in both lungs, and, having been examined by the house surgeon, was sent to get a bath and go to bed. The water was from 90° to 100° F. in temperature, and one of the nurses asked him before he was left if he was subject to fainting fits, to which he replied in the negative. He had been in the bath-room about ten minutes when a nurse, requiring something from the compartment, sent a lad to get it. The latter found the deceased under the water and at once ran for assistance. The man was, however, quite dead, and he had not the appearance of asphyxia from drowning. A necropsy revealed a ruptured aneurism. —*The Lancet.*

Fake Hospitals in Chicago.—The *British Medical Journal* is informed by its Chicago correspondent that a crusade has been started against the so-called "fake" hospitals which have come into existence of late years. To the end of effectually getting at the evil, the Council has had presented an ordinance, a draft of which is here submitted. Whether or not the restrictions are drawn close enough to affect the illegitimate massage establishment or not must be left to the thought of the reader:

Section 1. That it shall be unlawful for any person, firm, association, or corporation other than the regularly constituted authorities of the State of Illinois, or the county of Cook, or the city of Chicago, to open, conduct, manage, or maintain any hospital as hereinafter defined within the corporate limits of the city of Chicago without first obtaining a permit therefor, to be issued by the Commissioner of Health of the city of Chicago, upon the written application of such person, firm, association, or corporation, which application shall state the location, or proposed location, of such hospital, the purposes for which it is to be opened, conducted, or maintained, the accommodations or proposed accommodations for the inmates thereof, the nature and kind of treatment given or proposed to be given therein, and the name and address of the chief surgeon, physician, or intended chief physician or surgeon attendant thereat.

Section 2. It shall be the duty of the said Commissioner of Health, upon the presentation of such application, to make or cause to be made strict inquiry into the facts set out in such application, and if upon such inquiry he shall find that such hospital is or is intended to be constructed so as to afford proper accommodation for the care of the persons received or proposed to be received therein, and that the chief physician or surgeon, or intended chief physician or surgeon attendant thereat, gives or is under agreement to thereafter give such attendance thereat as does or will render him responsible professionally for the medical or surgical treatment given or to be given to any and all persons thereat, and that such chief physician or surgeon is regularly authorized to act as such under the laws of the State of Illinois, and upon the payment to said Commissioner of Health of a license, permit, inspection, or examination fee of . . . dollars, he shall issue a permit in the name of the City of Chicago to such applicant to open, conduct, manage, or maintain a hospital at the place and in the manner and for

the purpose in such application mentioned, which said permit shall cease and be operative the 31st day of December next following the issue thereof.

Section 3. It shall be the duty of such person, firm, association, or corporation permitted as aforesaid to open, conduct, or maintain a hospital within the corporate limits of the city of Chicago to make a report to the said Commissioner of Health on or before the 5th day of each calendar month, showing a complete record of such hospital during the preceding month, including the number of inmates received, discharged, and died during the month, causes of death, and such other information as may be necessary to an intelligent sanitary supervision of the establishment; such record to be furnished on blanks prepared and supplied by the Commissioner of Health, verified by the affidavits or affirmation of the chief physician or surgeon or superintendent attendant thereat.

Section 4. Every hospital permitted as aforesaid shall at all times be open to the inspection of the said Commissioner of Health, or his duly appointed assistants or inspectors.

Section 5. The Commissioner of Health of the city of Chicago is hereby authorized and empowered to inspect, or cause inspection to be made, whenever and as often as he may deem proper, of any hospital permitted as aforesaid within the corporate limits of the city of Chicago, and if, upon any such inspection, he shall find the same to be conducted, managed, or maintained in violation of the terms of the application for the permit under which the same was opened, conducted, managed, or maintained, or in violation of any of the health or sanitary ordinances, rules, or regulations of said city of Chicago, then and in that event he is hereby authorized and empowered to revoke any such license issued for the opening, conduct, management, or maintenance of the same.

Section 6. Any person or persons, or corporation other than the regularly constituted authorities of the State of Illinois, county of Cook, or city of Chicago, opening, conducting, managing, or maintaining a hospital as hereinafter defined within the corporate limits of the city of Chicago without first having obtained a permit therefor as provided in Section 2 of this ordinance, or after a revocation of such permit under the authority conferred in Section 5 of this ordinance, or in violation of any of the provisions of this ordinance, shall be and is hereby declared to be guilty of maintaining a nuisance, and upon conviction thereof shall be fined in a sum not less than . . . dollars nor more than . . . dollars.

Section 7. For the purposes of this ordinance a hospital is hereby defined to mean any place or establishment used for the reception or care of the sick, injured, or dependent, including women awaiting confinement, or used for the medical or surgical treatment of mental or physical disease or injury.

Section 8. This ordinance shall take effect and be in force from and after its passage and due publication.

International Institute of Sero-therapy.—The treatment of diphtheria and other diseases by antitoxic serums has taken hold in France to such extent that it has been proposed to create an International Institute of Sero-therapeutics for the purpose of guaranteeing to the profession the purity and strength of the serums required. It is said that some of the serums sent out from certain laboratories are greatly wanting in these qualities. The proposal is to place the Institute in Switzerland, in order that international jealousy may be avoided.—*Medical Press.*

The Plague in China.—The plague, during its recent outbreak in China, was the immediate cause of two thousand five hundred and fifty deaths, and of the emigration of one hundred thousand Chinese. The percentage of Europeans who recovered was eighty-two, while that of Orientals was as low as twelve.

Treatment of Acute Bronchitis of Infancy.—Dr. Perrier directs that in the very acute forms of bronchitis in children the chest should be rubbed with oil; warm drinks should be given, particularly hot milk. Sometimes, if there is much oppression, it is well to apply a thin and light but mild mustard plaster. If the stomach is loaded with partially digested food an emetic of powdered ipecac, 1 to 2 grains, and syrup of ipecac, 1 ounce, may be given, in the dose of a teaspoonful every ten minutes till the desired effect is produced, and if the fever is high 1 or 2 grains of the hydrochlorate of quinine may be given in a little coffee. The air of the room should be moderately warm and moist, but it is most important that the ventilation be good. As the disease progresses, if bronchial secretion becomes very profuse, the following prescription may be used:

℞. Oxide of antimony..... gr. ss.
Syrup of senega..... ʒ j.
Syrup of acacia..... ʒ ij.
M. Sig.: A teaspoonful every two hours.

Or this may be replaced by

℞. Terpine hydrate..... gr. ij.–iv.
Brandy..... ʒ ij.
Syrup of cinchona..... ʒ ss.
Syrup of orange..... ʒ ij.
M. Sig.: A teaspoonful every two hours.

Often an emetic will aid in relieving the lungs of mucus. During the day a little additional brandy or red wine may be given as a stimulant. In those cases in which frequent attacks of bronchitis follow one another it is useful to give the child warm baths, followed by cold sponging, and this, in turn, by active friction of the skin in drying the body. Malt extract should be given with each meal, and a teaspoonful of the following prescription ordered three times a day:

℞. Arsenate of sodium..... gr. j.
Distilled water..... ʒ vi.
M. Sig.: A teaspoonful after meals.

If, notwithstanding these measures, the child fails to improve, it must be taken to a dry climate.—*Therapeutic Gazette.*

Race and Disease—Investigations in reference to this interesting subject, by Dr. John S. Billings, include a special study of ten thousand Jewish families, in all fifty thousand persons, and near views of Germans, Irish, and the colored race, with the following results, that are probable conclusions for the United States. The colored race is shorter-lived than the white, with a very high infantile death-rate. It is especially liable to tuberculosis and pneumonia; less liable than the white race to malaria, yellow fever, and cancer. The Irish have rather a low death-rate among young children, but a very high one among adults, due in part to tuberculosis, pneumonia, and alcoholism. Germans appear to be particularly liable to disorders of the digestive organs and to cancer. Jews have a low death-rate and more than average longevity. They are less affected than other races by consumption, pneumonia, and alcoholism, but are especially liable to diabetes, locomotor ataxia, and certain other diseases of the nervous system.

The Pennsylvania Colony Farm for Epileptics—The project of establishing a colony for epileptics, where country living and farm work, judiciously apportioned, would constitute the principal therapeutic treatment, which has been under consideration for some time, has at length assumed a definite shape. The court has granted a charter for the "Pennsylvania Colony Farm for Epileptics," and the corporators have organized, November 13th, by the election of Dr. Wharton Sinkler, President. Among the directors are Drs. Charles K. Mills, James C. Wilson, and Wharton Sinkler. A charitable gentleman of Philadelphia has offered to give $50,000 for the erection of suitable buildings, provided that the farm be secured before January 1, 1896.—*Boston Medical and Surgical Journal.*

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Original Articles.

THE "DIAPHRAGM PHENOMENON" AND ITS IMPORTANCE IN CLINICAL MEDICINE.

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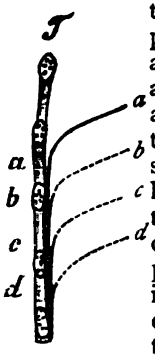
THE object of this communication is to call the notice of my colleagues to a new motor phenomenon exhibited by the diaphragm, which has hitherto escaped attention. It being a physiological utterance of the normal organism, we are able plainly to observe its course during each individual respiration, neither previous measures nor artificial light being required. I first published a short description of this "diaphragm phenomenon" in 1892, and now, after three more years of work, I again bring forward the subject on account of its great practical and scientific importance, which has not so far met with sufficient recognition. All who once have had occasion, in my lectures, to witness this phenomenon, both students and practitioners, have fully realized the value of this new aid to diagnosis, and have since made use of it in all cases. Add to this the great convenience offered for examining a large number of individuals, for military and polyclinic purposes, for instance, or in life insurance.

By the term "diaphragm phenomenon" I understand the visible expression of the gradual detachment, during its inspiratory descent, of the diaphragm from the walls of the thorax, and its gradual apposition to the thoracic walls while it rises during expiration.

Remark: This line, visibly progressing downward during inspiration, and upward during expiration, may be graphically illustrated by this schematic drawing: *T*, to signify the thoracic wall, and *a*, *b*, *c*, *d*, positions successively occupied by the diaphragm during an inspiration. The diaphragm should be imagined consisting of a perpendicular portion closely adjoining the walls of the thorax—from which it is separated by a capillary space—and of a horizontal part intervening between the thoracic and abdominal cavities. At the outset of an inspiration the diaphragm's position is at *a*, *a*; now, in the course of inspiration the upper part of its perpendicular portion becomes detached from the wall, while the lower parts (at *b*, *c*, *d*) still cling to it. At the same time the horizontal portion presses downward. The position of the diaphragm at this juncture is represented by the dotted line *b*, *b*. During the following phase of the same inspiration the perpendicular portion at *b* is detached, *c* and *d* yet remaining adherent to the wall; the position *c*, *c* is thus assumed. Finally *c* becomes detached, leaving the diaphragm in the position of extreme inspiration, *d*, *d*. It is the progressive detachment at *a*, *b*, *c*, *d* of the diaphragm from the thoracic walls that finds visible expression in the so-called diaphragm phenomenon. Precisely the reverse takes place in the course of an expiration.



This physiological process, which is repeated during each respiration, is plainly marked on the thoracic wall, by the regular rising and falling of a peculiar shadowy line, caused by the motion of the diaphragm and denoting its momentary position. As a regular and physiological accompaniment to the act of respiration, this line may be observed on the chest of every individual, healthy or diseased, unless morbid processes be present that interfere with the mobility of the diaphragm. It passes down along the thorax at an acute angle with the ribs, in the shape of a straight horizontal shadow or a wavy undulation, starting on either side at about the sixth intercostal space, and descending several interspaces, sometimes as far as the costal margin, during a deep inspiration. During expiration it again rises to its original position. During forced respiration the excursions of the diaphragm comprise two or three intercostal spaces, 2⅝ to 2¾ inches being the medium; in superficial breathing, on the other hand, no more than one interspace or one and a half are covered. The visible motion of the diaphragm may comprise the entire breadth of the sides of the thorax, being evident from the axillar line to the margin of the sternum when the patient is recumbent on his back, or from the hinder axillar line to the vertebral column when he is resting on his chest, or better still on knees and elbows. Sometimes this phenomenon is more plainly marked on the right side than on the left, but I have also observed the reverse.

Although a practised eye will be able to make it out, whatever the position of the body, yet it is most plainly visible when the patient is so placed that the part of the body concerned, *i.e.*, the costal region below the seventh rib, receives the most light (if possible in a tangential direction). For this purpose the patient is made to lie on his back, his head but slightly supported, opposite the window to which his face is turned, while at a distance of three or four feet the observer, with his back toward the window, scans his chest at an angle of forty-five degrees. Now, when the patient fetches a deep breath a broad shadow is seen to travel down and up, coincident with each inspiration and expiration; no one, after having one time plainly seen this, can fail to easily recognize it in future. I wish to emphatically state here, in the face of prejudice, that this is not a matter of fine clinical distinctions, but that I am speaking of a phenomenon which whoever cares to see cannot help seeing. The only conditions to be observed are: horizontal position of the patient, good light, and deep breathing.

From a scientific point of view it is highly interesting to be able, accurately and without any trouble, to watch the alternate movements of the diaphragm. But the subject has a practical bearing, too, in regard to medical instruction, both physiological—the concealed action of the diaphragm, hitherto visible only in vivisected animals, being now rendered apparent to the student in the live human being—and clinical; the beginner being enabled to himself verify the correctness of his percussing, instead of blindly acquiescing in the corrections of his teacher on the strength of the latter's authority.

The appreciation of another important clinical fact, the respiratory shifting of the abdominal organs, is greatly advanced by our phenomenon. Among these organs those situated immediately beneath the diaphragm partake of its motions and may in their turn rhythmically displace others. These movements can be seen and felt. They are owing, needless to say, to the muscular

action of the midriff. Where its mobility is diminished or absent, there the motion of these organs is correspondingly arrested. This knowledge has been turned to a diagnostic account long ago in regard to liver and spleen, and recently in regard to the kidneys. It is interesting to observe both movements, of the diaphragm and of the organs, simultaneously, the former by sight, the latter by sight or touch. Thus the stomach, or a coil of the intestine, or the liver, may be seen to move in time with the diaphragm; the same observation is made in bimanual palpation of the kidneys. If, with a pencil, you mark on the skin the limits of the visible excursion of the diaphragm, the upper line (about over the seventh rib) denotes the expiratory position; the lower line (ninth rib, about) the inspiratory. Both correspond to the inferior margin of the lungs, or in other words to the superior surface of the liver. The normal excursion of the diaphragm amounting to 2⅞ to 2¾ inches on an average, you can tell at a glance whether the lungs expand in the normal way, and whether their margins occupy the right position.

A great saving of time is thus effected by this method of examination; the volume of the lungs is easily ascertained, and the vital capacity gauged more rapidly and better than by measuring the chest circumference and the amount of air aspirated. A smaller excursion than the average two and a half inches bears a pathognomonic significance, provided the patient drew as deep a breath as he could. Mostly in these cases emphysema is present, whereby the diaphragm's position is one or two intercostal spaces further down (in the mamillary line), or even as low as the costal margin, where it is never found under normal conditions. An impeded excursion of the diaphragm may be further, owing to general debility—it is not found depressed in that case, but at its normal altitude—or to circumstances allowing of costal respiration only. Thus it will be greatly diminished in the last months of pregnancy. In very fleshy individuals it is mostly not visible at all.

It is in unilateral trouble that my method achieves its greatest triumphs, the difference between the diaphragm's movements on either side striking the eye. If the phenomenon is totally absent on one side, whereas on the other it is normal in extent and situation, then there is either a considerable effusion of liquid or of air present in one pleural cavity (empyema, pleuritis exudativa, hydro-, hæmato-, pneumo-thorax), or else we have a case of pneumonia of the inferior lobe. In the latter affection, as well as in empyema and in pyo-pneumo-thorax, the action of the diaphragm, owing to the infiltration of its muscular substance, is entirely suspended on the diseased side; in the case of serous effusion, slight motions of the diaphragm are often visible abnormally far downward.

At any rate, one glance at the chest is enough to tell whether, and to what extent, the muscle is confined in its movements. In the case of extensive attachment of the diaphragm to the lungs, or to the spleen and the liver, and especially in cicatricial retraction of the thorax, the motion will be still visible on one side, though much retracted. Where there is an area of dulness in the lower part of the thorax not owing to the liver or the spleen, and where the phenomenon is visible notwithstanding, though to a lesser degree, above the dulness, there can be no doubt as to the subphrenic position of the trouble—a subphrenic abscess thus being revealed. Further evidence as to the nature of the dulness is obtained by a probatory puncture. If pus is then produced the diagnosis is assured.

In the presence of tumors within the thorax, the diaphragm, if visible at all, will be seen very low down. In several cases of mediastinal and pulmonary tumor we were able to distinctly perceive it, though its motion was much hampered; this was the case especially where the disease was situated in the inferior lobe. In the presence of large tumors of the spleen and of the liver we have in many cases seen the phenomenon most plainly; once only was it totally lacking, in a case of enormous melanotic degeneration of the liver. (The organ weighed 36 pounds.) It was never to be perceived in extensive ascites, diffuse peritonitis, or in ileus with considerable meteorisms of the intestine. In one case of acquired diaphragmatic hernia there was clear tympanitic percussion sound above the visible phenomenon, whereas in pneumo-thorax it is invisible, owing to the inspiratory in-drawing of the intercostal spaces being rendered impossible. In the same way, there will be no trace of the phenomenon in unilateral paralysis of the phrenic nerve.

My method is of great service in judging of the action of the lungs after pleuritic effusions and after injuries. The more pleuritic adhesions have formed and the firmer they are, the less clearly is it visible; by comparing it with the other side we get a pretty definite idea of the degree to which the lung's action is interfered with. On the other hand, in many doubtful cases of the after-effects of accidents, it has been possible in this way to ascertain with positive certainty that there was no impediment to respiration, *i.e.*, to the inflation and mobility of the lungs. I have thus repeatedly in forensic cases where the injured party claimed to be unable to breathe properly (for instance in consolidated fractures of the ribs), found occasion to expose a fraud on the ground of our phenomenon showing no alteration. It serves as a reliable guide, too, in forming an unbiassed judgment in regard to therapeutic effects, especially in pneumo-therapeutics, improvement in the action of the lungs being infallibly discerned. In many instances of emphysema and pleuritic effusion treated by means of a Steinhoff apparatus, we were thus enabled to gauge the measure of success achieved. The superior and inferior limits of the "phenomenon" should be marked with lunar caustic at the beginning of a treatment, then in emphysema you may, if successful, see the phenomenon extend beyond these lines in a couple of weeks.

Since I made the discovery, in 1891, that this phenomenon was a regular physiological occurrence common to all human beings, all the patients of my polyclinic (to the number of 5,000 to 6,000 a year) have been examined with a view to this, and it has been found in every case unless counteracted by some morbid process or other. I am sorry to see that my efforts to promulgate this knowledge[1] have not so far attracted that amount of attention which the matter undoubtedly deserves. I trust that all medical men who will take the small pains to really see this phenomenon, will appreciate it and give it a place alongside of the other methods of physical diagnosis.

Exercising the Chicago Police.—Dr. Hawley, of Chicago, has obtained the consent of Mayor Swift and the Chief of Police to the introduction of a system of athletic drill into the Police Department, for the purpose of developing agility, skill, and endurance among the policemen of the city, and increasing their strength. It is hoped, also, that the general health of the force will be increased, so that there will be a smaller aggregate loss from sick-leave.

To Suppress Press Notices of Suicide.—It is stated in the *Hospital* that the Medical Society of Berne has inaugurated a scheme, which it would be as well if other places would also adopt; this is the suppression of press notices of cases of suicide. It has been observed that suicides have so frequently been "suggested" by these notices that the measure seems a salutary one from this point of view.

[1] Deutsche medic. Wochenschrift, 1892, No. 13, and 1893 (W. Becher).

A STUDY OF THE INFECTIOUSNESS OF THE DUST IN THE ADIRONDACK COTTAGE SANITARIUM.

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NEW YORK.

ASSOCIATED with our increasing knowledge of germ life and the practical application of bacteriology toward solving the causes of disease and tracing back to its fountain-head the source of any infection, there exists among the laity and also some physicians an intense fear, sometimes amounting to mania, that they are continually exposing themselves to an invisible danger which is lurking about them in the food they eat, the water they drink, and the air they breathe. The most dreaded nightmare of them all is the fear of becoming infected with the germs of tuberculosis. No one can deny the presence of this danger in a great many places; but oftentimes in the places where popular opinion considers it greatest it is actually less to be dreaded than in other localities where with the external appearances of refinement and cleanliness there exist the most favorable conditions for the permanent lodgement of infectious material in the dust.

This fear of infection from tubercular germs has become so general and reached such a climax that the poor tubercular patient whose mental and physical suffering is already extreme must carry around with him an added burden of anxiety and care, since people look upon him as a dangerous character in the home or community. It is within the writer's experience that parents have refused to have their children return home lest some other member of the family might be infected; and men have found it difficult to hire flats in New York City or Brooklyn when they wished to make a home for a dying wife or child. In one instance a physician wrote to have his former patient kept in Saranac Lake until she died, as he thought that was the only way of avoiding possible infection for the other members of her family; in the end she was taken home to die in a hospital.

Such heartless actions are due to a great extent to the ignorance of people concerning the real dangers of infection, and their lack of knowledge as to how they can be avoided. In their blind ignorance they think to avoid an apparent danger, little dreaming how much more frequent and dangerous are the daily exposures to the same diseases in their social intercourse, travels and amusements.

For these reasons it has seemed a fitting time to make some experiments on this subject to determine how great the danger of infection is in a large community of consumptives where all sanitary measures are enforced as regards the care and disinfection of sputa.

Two facts have been positively affirmed by previous experiments: 1. Buildings for consumptives, prisons, private dwellings, and public conveyances do become infected with tubercular germs. 2. A tuberculous patient is absolutely free from the danger of infecting others by contact; it is the product of their excretions which is the dangerous factor. Destroy these and the house or home of the consumptive is no longer dangerous.

All investigators have established the first of these two statements, none more thoroughly than Cornet,[1] reference to whose work will be made later in this paper.

The second statement has also been repeatedly proven; but among the laity and also some physicians it is so dimly comprehended that time will not be lost in quoting some of the investigators and their experiments.

Two Italian investigators, Celli and Guarnieri, found the expired air of tubercular patients free from tubercle bacilli; and also that air blown by a bellows over and through sputum very rich in bacilli remained free from bacilli.

Fr. Müller,[1] Sormain and Brugnatelli,[2] Charrin and Karth,[3] Cadeac and Malet,[4] all found the expired air non-infectious.

For two months Tappeiner[5] had a woman with advanced phthisis cough through an opening into a wooden box in which were two guinea-pigs; at the end of that time they were killed and found sound.

Cornet[6] states that the expired air "never and under no conditions contains tubercle bacilli or their spores."

Since, then, personal contact with a tuberculer patient is free from danger, whence is the source of the infectious material? For all practical purposes it is contained in the sputum, which becomes dangerous and capable of infecting when dried and pulverized. In its moist state it is harmless; therefore, if tubercular patients are careless and dirty about their sputum they are dangerous, not alone to themselves, but to all who come in contact with them.

Knowing these facts, and taking pains to make them clear to the patients in the sanitarium, it may well be said, after five years of personal observation, that the rules concerning the care and disinfection of sputum have been since its inception and are to-day most carefully carried out there. Occasionally a very sick or careless patient does transgress the rules, but this occurs very seldom for such a large institution.

In order to test the efficacy of the system, a complete examination of the group of buildings was made, some of which have been occupied eleven years by consumptives. In every instance dust from the darkest and most likely to be infected spots was taken; for if infected, the management was most desirous of knowing it.

The experiments were done at Dr. Trudeau's request and under his supervision at the Saranac Laboratory for the Study of Tuberculosis. They were arranged in two groups, the details of which were as follows: First group of four buildings consisted of the main building (parlor, sitting-room, and public library); the infirmary, where all the acutely sick are sent; the "Red Cottage," which was the oldest on the grounds, and the "Penfold," the most recently built cottage. One square yard of dust from each of these buildings was collected and inoculated into ten guinea pigs. Second group consisted of thirteen cottages, from each of which half a square yard of dust was taken and inoculated into three guinea pigs; thus the second batch of pigs received proportionately a larger quantity of dust than the first.

The technique was as follows: Sterilized cotton swabs moistened with sterilized water were used to collect the dust from the walls, backs of pictures, and darkest corners of the rooms; 1 to 2 c.c. more of sterilized water was added to cleanse the cotton of the dust. The swabs were then squeezed in a piece of coarse sterilized gauze, and an equal share of the whole dust, suspended in water, inoculated into each guinea pig; all inoculations were made into the abdominal walls, extraperitoneal. Save for any infections in the dust, all other sources of contamination were excluded by thorough antiseptic precautions.

The animals were kept from one to three months and then killed. Any enlarged glands or suspicious areas were carefully examined for tubercle bacilli, and the diagnosis of tuberculosis only made when these

[1] Cornet: Die Verbreitung der Tuberkelbacillen ausserhalb des Körpers. Zeitschrift f. Hygiene, B. 5. 1888.

[1] Fr. Müller: Ueber die diagnostische Bedeutung der Tuberkelbacillen. Würzburg, 1883. Verhandlungen der med. phys. Gesellschaft zu Würzburg, N. F. Bd. viii.

[2] Sormain and Brugnatelli: Studi sperimentali sub bacillo della tuberculosi, 1883.

[3] Charrin and Karth: Virulence de la tuberculose suivant les humeurs et les tissues des tuberculeaux. Revue de Méd., 1885, No. 8.

[4] Cadeac and Malet: Étude experimentale de la transmission de la tuberculose par l'air expiré et l'atmosphére. Revue de Méd, 1887, No. 7.

[5] Tappeiner: Meran zur Frage der Contagiosität der Tuberkeln. Archiv. für Medicin, Bd xxix., S. 59.

[6] Cornet: Loco citato.

were found. In the painstaking details of these prolonged experiments, the writer wishes to express the appreciation of the assistance given him by Dr. S. W. Hewetson, who aided him materially in the work.

The results are shown in the following table, which is arranged under the same heading as in Cornet's work in order to compare the results:

Places.	Number of Animals.	Of which Died of		Died of Infectious Diseases.		Remained Sound.	Amount of Dust Used.
		Tuberculosis.	Other Infectious Diseases.	All Told.	In per centage to Inoculated Animals.		
Main Building: Parlor, Sitting Room and Library	10	0	1	1	10	9	Sq. Yard. 1
Infirmary	10	0	3	3	30	7	1
Red Cottage	10	5	0	5	50	5	1
Penfold	10	0	0	0	0	10	1
Loomis	3	0	0	0	0	3	¼
McAlpin	3	0	0	0	0	3	¼
First Stokes	3	0	0	0	0	3	¼
Second Stokes	3	0	0	0	0	3	¼
Green	4	0	0	0	0	4	¼
Lea	3	0	0	0	0	3	¼
Spruce	3	0	0	0	0	3	¼
Trudeau	3	0	0	0	0	3	¼
Pine	3	0	0	0	0	3	¼
Sunshine	3	0	0	0	0	3	¼
Schiff	3	0	0	0	0	3	¼
Dodge	3	0	0	0	0	3	¼
Strauss	3	0	0	0	0	3	¼
Out-building	1	0	0	0	0	1	¼
Thus of...	81	5	4	9	11.11	72	

In all 81 pigs were inoculated with from 2 to 3 c.c. of sterilized water with the dust in suspension; of these only 4 or 4.9 per cent. died of other infectious diseases on the third to sixth day and 5 of tuberculosis. These five constituted just one-half of the number of pigs inoculated with dust from the "Red Cottage," a small cottage holding two patients, always occupied by the sickest men, one of whom had been complained of by his room-mate for spitting around the cottage. The five pigs lived sixty days, were then killed, and although tuberculosis was present in the omentum, spleen, liver, and lungs, they were well nourished and strong, apparently showing a diminished virulency of the infecting germs.

The infection of this cottage demonstrates two things: first, how easily a patient by carelessness and disobedience of rules (probably due to his very weak, sickly condition) may render a cottage dangerous to himself as well as to others; second, that the technique of the experiment was faultless.

It brings out, however, in stronger contrast the successful results of the experiment as a whole, since sixteen buildings out of seventeen, inhabited by consumptives for so long a period as ten years, were absolutely free from infectious material. This is the more striking when we consider the great vitality and virulence of the tubercle bacilli, Stone [1] having proven by inoculation of rabbits that dried sputum after the lapse of three years was capable of inducing tuberculosis.

With this array of negative results a most conclusive proof is given that a body of consumptives need not infect the houses they occupy when their excretions are destroyed. To attain this end it requires that each new patient should be carefully instructed concerning the disposal of his sputum, and close supervision of them all be maintained.

Then each patient feels that he endangers himself as well as the others by not obeying the rules; if anyone becomes careless in the matter it is quickly reported to the medical authority by one or more members of the sanitarium, everyone appreciating fully the grave consequences of possibly infecting the cottages or public rooms.

The methods used are to burn all cuspidors daily, and the Japanese napkins as soon after using as possible; never to expectorate except into the large sanitary cuspidors when about the main buildings, or the small individual hand cuspidors. Paper napkins are used in the infirmary in hemorrhage cases or where patients are too feeble to get up on their elbows so as to spit into the cuspidor; these are used but once, then placed in a pasteboard receptacle and the whole thing burned several times a day. During the greater portion of the year fires are burning in every cottage, and the patients burn everything in the stove or fireplace.

In summer a barrel with some moist sawdust in the bottom is placed in an out-building, and the cuspidors and napkins are carried to this barrel, which is saturated with kerosene and burned three times a week. One-fourth of a square yard of dust from this building was inoculated into one guinea-pig, which remained healthy. A properly constructed crematory is much needed, but too costly at present to build. The cuspidors used are made by Seabury & Johnson, and of two sizes: one, the hand cuspidor, for individual use, and the other, a much larger size, for the piazzas and public rooms. The latter are placed in covered wooden boxes about four feet from the floor; these are easily taken down and cleansed. By this arrangement patients cannot spit at a cuspidor from a distance, and the mass of sputum is not blown over the edges of the cuspidor by the wind, as happened at first when uncovered cuspidors were placed upon the floors.

It is perhaps too much to suppose that all particles of infectious materials are thus destroyed; where seventy to eighty small hand cuspidors are in daily use there may be some slight soiling of a stand or the linen covers on which the cuspidors are placed; also in coughing some small masses of sputum may be violently expelled. These sources of contamination must be small, and are fraught with less danger by frequently washing the tin frames for the cuspidors, and the cottage plan of housing patients, thereby avoiding the evils of overcrowding.

Besides the destruction of the sputum, other factors equally important have served as auxiliary means of keeping the cottages free from infection, not alone with tubercle bacilli, but also other germs: these are the construction of the cottages, which are built so as to insure thorough ventilation; the immense volume of air space allotted to each patient—this is secured by large openings from the various bedrooms into the sitting-room, which communicates with the outside air by transoms opening above the piazza roofs; the smooth, hard-wood wainscoating, 7 to 8 feet high, around the whole cottage, permitting of thorough cleansing with soap and water; the absence of wall-papers, the upper walls and ceilings being heavily sized and then painted, rendering these also easily cleansed; the plain, simple furnishings—iron hospital beds, rugs, and hard-wood floors, and as few tapestries as possible; lastly, the large area of window surface, allowing the sun's rays and strong light free access to all parts of the cottage. Added clinical proof of the non-infectious character of the dust may be deduced from the fact, that not one of the twenty to twenty-five attendants has ever developed tuberculosis; and also that no patient who was admitted suffering from pulmonary disease without the bacilli being present ever subsequently developed them.

How do these results compare with those of other experimenters?

Heron [1] inoculated one hundred guinea-pigs with dust taken from various sources in the City of London Hospital for Diseases of the Chest. In the greater number of experiments "a piece of dust was introduced into the sub-peritoneal tissue;" in some a solution of dust in sterilized water was injected into the pigs. Twenty-six pigs, twenty-six per cent., died of "either intense inflammation spreading from site of inoculation

[1] A. K. Stone: American Journal of the Medical Sciences, March, 1891.

[1] G. A. Heron: The Relation of Dust in Hospitals to Tuberculous Infection. Lancet, No. 3,671, January 6, 1894.

or septicæmia." Of the remaining seventy-four, two pigs (both inoculated with dust in solution), or 2.7 per cent., died of tuberculosis. The dust in each case came from "the tower of the hospital which acts as up-cast shaft," and was dark and unventilated. It would seem as though the implantation of a piece of dust was too small to place too great reliance on negative results.

Cornet,[1] seven years ago, gave us the following table:

Places.	Number of Animals Inoculated.	Of These Died of		Died of Infectious Diseases.		Remained Sound.
		Tuberculosis.	Other Infectious Diseases.	All Told.	In Percentage to Inoculated Animals.	
In seven hospitals	94	20	52	72	76.6	22
In three insane asylums	33	3	16	19	57.5	14
In two prisons	14	0	6	6	42	8
Inhalation rooms	4	2	0	2	50	2
Dwellings of private tubercular patients	170	34	91	125	73.5	25
Polyclinic, orphan asylum, etc.	28	0	14	14	50	14
Surgical wards	8	0	1	1	12.5	7
Streets and hygienic institute	41	0	16	16	39	25
Streets alone					55	
Thus of	392	59	196	255	65.5	137

In the hospitals 47.6 per cent. of the pigs not dying of acute infection developed tuberculosis; in private dwellings, 43.6 per cent.; in insane asylums, 17.6 per cent.

M. Kirchner,[2] in examining the garrison lazaret of one of the army stations, experimented on forty-two pigs by inoculation with dust suspended in bouillon or implantation of dust-infected sponge in abdomen. Twenty-six, or 61.9 per cent., died from the operation and infection of wound. Sixteen, or 38.1 per cent., remained alive. One of the sixteen developed tuberculosis.

The writer secured the dust from a large city hospital out of the wards occupied by male and female tubercular patients. From male ward were inoculated three pigs with one-half square yard of dust. From female ward were inoculated three pigs with one-half square yard of dust. From female ward were again inoculated three pigs with little less than one-half square yard of dust. Of male ward pigs, one died; of female (first lot) all three died; of second lot one died of an intense cellular inflammation much resembling a malignant œdema. All these died on the first to third day after inoculation. The four living pigs were killed in sixty days, and one of those inoculated with dust from female ward had well advanced tuberculosis; thus, twenty-five per cent. of the pigs remaining alive developed tuberculosis, while 55.5 per cent. died of acute infection, some of which might have developed tuberculosis. In these wards the beds were carbolized once a week; the floors washed daily and scrubbed twice a week; the walls rekalsomined every six weeks, and Seabury & Johnson's cuspidors used, which were changed twice a day. In the female wards, however, long pieces of cheese-cloth were given to the sickest and weakest patients, which were used as a roll to spit into, and would last a patient from four to eight hours. This, in all probability, was the source of infection.

A close perusal of these results shows that the careful disinfection of the sputum has been productive of good results, but not yet fully satisfactory, since in each experiment the dust has been infected with tubercle bacilli. Of far more importance, however, is the fact that the dust was infected to such a virulent degree with other germs; to-day we know how much more serious are the cases of tuberculosis with mixed infection than are those of simple tuberculosis; that the latter may quickly be changed into the former when patients must live in an atmosphere laden with infectious germs is scarcely to be wondered at, inasmuch as, according to the above experimenters, three hundred and sixteen out of five hundred and forty-three inoculated pigs (or 58.1 per cent.) were killed by some form of infectious disease, the germs of which were contained in the dust.

Mixed infection is a most important factor in relation to a tubercular patient's condition, whether this arise from without by inhaling the germs of a heavily infected atmosphere, or is the result of an inflammatory process in the lungs. To it may be attributed the sudden and rapid changes for the worse in patients, who were doing well under proper climatic surroundings, after a sojourn of two to four weeks in a large city.

May not the condition of "hospitalism" met with among the internes of the large hospital, and so frequently the precursor of tuberculosis, also be due to the same cause?

A few words concerning the best means of disinfecting sputum. Fire is unquestionably the very best disinfectant, but patented cuspidors are expensive; in place of these any cheap material, old pieces of linen, Japanese napkins, or even pieces of newspaper can be used. If such are made use of *they never should be used but once*, then, after being placed in some suitable receptacle, they, with the receptacle, should all be burned together. In a word, nothing into which a patient has expectorated should ever be handled again, and should not be allowed to dry. M. Kirchner[1] has shown, by inoculation-experiments, that sterilization for one-half hour is a thoroughly efficacious disinfectant.

Dry heat (100° C.), however, must be applied for several hours (Schill and Fisher).[2] The same experimenters give their conclusions concerning the disinfecting powers of various antiseptics as follows: Sublimate solutions cannot be considered suitable for disinfection of masses of tubercular sputum. Absolute alcohol gives indifferent results. Equal parts of a five per cent. carbolic acid solution and the amount of daily sputum will destroy with certainty the tubercle bacilli and spores in the sputum.

Delepine and Ransome[3] have shown, by inoculation-experiments, that solutions of chlorinated lime, 1 to 10 and 1 to 100 will satisfactorily disinfect the walls of infected rooms, or bed-linen and clothing that has been infected.

It is to be hoped that formaline will prove an efficient disinfectant owing to its easy applicability and its non-corrosive action upon metals. The most powerful and at the same time freely obtainable agents are the sun's rays and diffused day-light. They can be used by everybody, and have been proven to be the most efficient disinfectant known.

It has been the writer's aim to enlighten the public mind concerning the freedom from danger of contact with tubercular patients, where the necessary sanitary precautions are taken to destroy all sputum. This is shown by the positive proof that, with the exception of one cottage where cause for infection was discovered, all the cottages, the infirmary and public sitting-rooms of a community of eighty tubercular patients were found free from tubercular infected dust.

Since Koch's discovery of the tubercle bacillus and the subsequent proof that it alone is the cause of the wide-spread contagion of tuberculosis, the enforced improved hygienic laws and the dissemination of the knowledge of successful preventive measures have been

[1] Cornet: loco citato.

[2] M. Kirchner: Einige Untersuchungen von Staub auf Tuberkelbacillen. Zeitschrift f. Hyg. u. Inf. Krank, B. 19, S. 153, 1895.

[1] M. Kirchner: Ueber die Nothwendigkeit ŭ die beste Art des sputums-desinfection bei Lungentuberculose. Zeitschrift f. Hyg. u. Inf. Krank. Leipzic, 1892, xii., 249.

[2] Schill and Fisher: Ueber die Desinfection des Auswurfes der Phthisiker. Mittheilungen aus dem Kaiserlichen Gensundheitsamte, Bd. ii., S. 133, 1884.

[3] Delepine and Ransome: A Report on the Disinfection of Tubercle-infected Houses. British Medical Journal, No. 1781, p. 349, February 16, 1895.

productive of good results as shown by the mortality tables of various countries, viz.: In New York State the mortality in 1889 was 120 per 1,000, whereas in 1894 it was only 108 46 per 1,000.

Much more can and will be accomplished within the next few years by education of the public and preventive legal measures; along with our efforts, however, to prevent those who are tuberculous from infecting their fellow-men let us at the same time look out for their well-being and try to save the lives of many of them. How better can we accomplish this than by patterning after the sanitarium where sun-light, fresh air, good food, and out-of-door life, with separate cottages for each group of four or five patients, allow them the best chance of recovery.

On the question of comfort, on the question of pure air, free from all germs of disease, on the question of economy, on the question of hygiene, and finally on the whole question of humanitarian principles, how much better off is the lingering consumptive in the open country or in the mountains than he who is cooped up within four walls of a city hospital with a measured cubic foot of air-space, spending his days and nights in an atmosphere artificially ventilated with air that is already contaminated.

130 West Seventy-third Street.

A CASE OF GENERAL ANALGESIA, WITH SYMPTOMS OF SCLEROSIS OF THE PYRAMIDAL TRACTS AND OF THE COLUMNS OF GOLL.

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The following case, on account of the unusual association of its symptoms, and the absolute and general loss of all sensibility to pain, merits description, although there is no accompanying pathological report, and although any explanation of the symptom complex must be more or less conjectural.

The patient is a man sixty years of age, a carpenter by trade. There is no hereditary taint discoverable, with the exception of a facial tic in a parent. A venereal sore was contracted in early youth, not followed by secondaries. Alcohol and tobacco have been used to excess. The patient was always robust until twenty years ago, when symptoms referable to the nervous system first made themselves felt. These earliest symptoms, which were consequent upon a severe shock caused by falling from a boat into the river, consisted in slight headache, dizziness, impairment of memory, and nausea. The first serious symptom, however, came on twelve years ago, when his left leg became numb and paralyzed for two weeks. This condition soon improved, only to return again a little later. The subsequent improvement in his leg has been incomplete. Six years ago, the right leg became similarly affected, until now one leg is as bad as the other. He was able to continue light carpentering work until one or two years ago, when he noticed that his hands had become too uncertain in their movements to allow him to use the hammer. He would hit his fingers as often as the nail, but these misdirected blows caused him no pain. Thus, one or two years ago, his hands had become ataxic and had lost their sensibility to pain. At the same time he was obliged to use a cane for walking, owing to ataxia and rigidity of his legs.

There has been gradual loss of sexual power; bladder and rectal control unimpaired. Such is the history which the man furnishes. A slowly progressive involvement of muscular power, of muscular co-ordination and of sensibility to pain. No active pains, no trophic disturbances, no loss of bladder or rectum control. A more definite statement of the order of occurrence of the individual symptoms is not obtainable.

The examination of the patient shows us a man of medium frame, fairly well nourished. There is an extensive cicatrix on the back of the neck, the result of a carbuncle six years ago. There is a double inguinal hernia. The thoracic and abdominal organs appear normal, with the possible exception of a slight roughening of the first sound of the heart at the apex. The mental condition of the patient is unimpaired: he is not at all of an emotional or neurasthenic type. His intelligence is such as might be expected in an ordinary carpenter. He can read and keeps interested and informed on the affairs of the times. He has never given any evidences of mental disease.

The ocular muscles act normally, except slight drooping of the left eyelid. The pupils react to light and during accommodation. The left pupil undergoes a relative change in size from time to time. At times it is smaller, and again larger, than the right. The optic disks are somewhat pale, but no atrophy is present. There is no limitation of the visual fields. There is no impairment of smell. The sense of taste is accurate, although at the very tip of the tongue it may not be as acute as in a normal individual. The patient himself has never noticed any gustatory abnormalities. Occasionally there may be observed a slight twitching of the muscles supplied by the right seventh nerve. The motor abnormalities are those ordinarily met with in ataxic paraplegia, where there is a degeneration of the motor tract together with the posterior median columns, and perhaps the cerebellar tract.

The most serious interference with volitional movement is ataxia. It is marked in the hands, and so much so in the feet, that the patient requires two canes in order to walk. This inco-ordination in the legs exists to such a degree that, in executing intended movements, it assumes to a certain extent the character of an intention tremor. There is also a loss of the sense of position in the lower extremities. With closed eyes the patient can with difficulty indicate the position of his limbs.

Associated with these disturbances of motion, there is comparative weakness of all four extremities; while there is no true paralysis, the muscles quickly become fatigued. Under such circumstances, may now and then be observed fibrillary twitchings. None of the muscles are atrophied, and all react normally to faradism. The joints of the lower extremities are somewhat stiff, owing to slight contractures of the surrounding muscles. The gait has the combined characteristics of ataxia with slight spastic paraplegia. Romberg's symptom is well marked. Trophic disturbances are entirely absent, and there are neither secretory abnormalities nor changes in capillary circulation. The wrist, elbow, and knee jerks are active. No clonus. The abdominal and plantar reflexes do not respond to stimulation; the cremasteric react fairly well for a man of his age.

The chief claim to attention which is advanced by the patient consists in the changes in sensation. Tactile sensibility is slightly impaired. Very light touches with a camel's-hair brush are not felt, and the markings of the æsthesiometer are perhaps a little higher than normal. This change, however, is extremely slight; such as it is, it is universal.

Heat and cold are readily differentiated. There is no delay in the conduction of the sensation of touch. The patient can readily differentiate objects of different weights, and also can distinguish between different degrees of pressure. Localization of touch everywhere good. But there is complete loss of the sense of pain in the whole cutaneous surface, in the mucous membranes and conjunctivæ, in the nerve-trunks, muscles, and joints. In no part of the body, from the soles of the feet to the top of the head, can pricking, cutting, or burning elicit any evidences of pain.

Forcible crushing of the muscles and rough hyperextension of the joints produce no sensations other than those of contact and movement. While the patient's attention was attracted in another direction, a needle was thrust into the ulnar nerve at the elbow. Inquiry elicited that the patient felt a "pushing," but no pain. The mucous membranes share in this analgesia. Pricks on the tongue, lips, and inner surface of the cheeks cause no pain. Water, hot enough to be painful to the hands of an ordinary individual, is swallowed by the patient with composure.

Irritation of the posterior pharyngeal wall causes a feeling of nausea and slight reflex. Pressure on the conjunctivæ causes no pain, and there is a slight reflex on the right side only. Strong faradic currents are unable to produce any evidences of discomfort. The sleep phenomenon of Strümpell cannot be produced.

Thus, to briefly resume, the case exhibits symptoms of a slowly progressive spastic paralysis, combined with ataxia, of all four extremities, and an absolute and general analgesia.

The diagnostic possibilities embrace a wholly functional disease, an organic disease to which are superimposed functional sensory symptoms, or a wholly organic disease. Everything speaks against the symptom complex being of an entirely functional nature. Besides the close adherence, as far as the motor symptoms are concerned, to a recognized clinical type of spinal degeneration, the man has been for five years in the Almshouse and is slowly but steadily growing worse. There have occurred neither sudden improvements nor sudden accessions of new symptoms, and I think it can be safely asserted that the motor symptoms at least have an organic basis. Such was the opinion of most of the gentlemen who saw the case at the New York Neurological Society. The hypothesis that the analgesia is a functional addition to an organic disease is unsatisfactory. Hysterical analgesia of the entire cutaneous and mucous surfaces is rarely seen outside of coma; when it occurs as a permanent condition, as in cases reported by Strümpell,[1] Raymond,[2] and others, it is usually associated with changes in other forms of sensation, to which are invariably added other hysterical stigmata, such as anosmia, ageusia, limitation of the fields of vision, etc. General anæsthesiæ have also been reported during the course of psychoses. Krukenburg[3] had such a case (autopsy negative) with nearly complete sensory, cutaneous, and psychic anæsthesia. Berkeley[4] reports a similar condition in which hysteria could be excluded. Berkeley had another case of complete anæsthesia which he attributed to a specific neuritis with central changes in the medulla and cord.

Heyne[5] saw gradually develop, after typhoid fever, a cutaneous anæsthesia which began in the hands and feet, and which became general with the exception of the conjunctivæ, associated with loss of taste and smell, and without limitation of the visual field. This case, resulting in recovery, is rather suggestive of a multiple neuritis.

These cases mentioned, together with articles by Klaatsch,[6] Meynert,[7] Von Ziemssen,[8] and Prescot,[9] comprise the chief references which I have been able to find relative to the subject. The sensory changes in our case are totally dissimilar to those of the cases cited; consequently this analgesia cannot be classed with any recognized form of functional sensory change. The analgesia which has been observed in criminals, degenerates, and the insane, cannot explain the case under discussion, and all the symptoms speak against the presence of a neuritis.

[1] Deutsch. Arch. für kl. Med., 1878.
[2] Revue de Méd., 1891; also Bul. méd., 1893.
[3] Deutsch. Arch. für kl. Med., 1890.
[4] Brain, 1891.
[5] Deutsch. Arch. für kl. Med., Bd. 47.
[6] Allg. Zeit. für Psych., 1879.
[7] Lyon méd., 1878.
[8] Deutsch. Arch. für kl. med., Bd. 47.
[9] Journal of Nervous and Mental Diseases, 1895.

The third possible hypothesis is that both sensory and motor symptoms depend on an organic cause. The motor symptoms unquestionably point to an interference of the conducting power of the motor tracts, of the columns of Goll, and perhaps of the direct cerebellar tract. They constitute a very complete and typical picture of the so-called "mixed sclerosis" or "ataxic paraplegia." If sensation in the head were not involved, the association of symptoms might possibly be explained by the assumption that Gower's tract, which is now generally believed to transmit painful sensations, was destroyed as well. But degenerations of sensory tracts do not result in complete and permanent anæsthesia; and, moreover, the path for sensations from the anterior part of the cranial surface is by the fifth nerve, which is in the pons varolii; although the descending root of the trigeminus reaches as low as the second cervical segment, its complete degeneration was found by Oppenheim,[1] in a case where there was no mention of sensory symptoms.

A case reported by Spaeth[2] resembles the present one more than any in literature. The autopsy revealed a syringo-myelia extending from the first cervical segment to the lumbar enlargement of the cord. There was anæsthesia of all four extremities and the trunk, combined with loss of the sense of position and ataxia. The patient could walk fairly well, and there was but slight loss of muscular power. But in that case sensation in the head and neck was normal. Since in my case sensibility to pain is involved in these parts also, central changes, if they exist, would necessarily be situated in the pons in such a way as to implicate the fifth nerve without seriously infringing upon the oculomotorius.

It would be unwarrantable to assert that a lesion could occur in the pons in such a way as to cause the symptoms of the case which has been described; while such a lesion might cause all, it probably would cause more.

Still another possible explanation would be a primary degeneration of those tracts of the spinal cord, which have to do with muscular co-ordination and movement, to which has been added a lesion of the pons, completely destroying the pain-sense conducting fibres.

Of the three hypotheses, no one is satisfactory. The diagnosis of cases, which have neither clinical counterparts nor pathological proof, must be at best, as stated in the opening line of this paper, conjectural.

All the motor symptoms point to structural changes in the cerebro-spinal axis; and to the assumption that the loss of sensibility to pain is in some way dependent on an organic cause, should be given serious consideration.

60 West Fiftieth Street.

Insufficient Hospital Accommodation in Paris.—It is reported that the strain on hospital accommodations in Paris is so great that of 69,899 applications for admission made at the Bureau Central in 1893, there were 38,689 refusals due to want of beds.

Weigh the Baby.—A valuable means of ascertaining the progress of a child, which is too often neglected, is regular weighing. A child, from birth to six months of age, should be weighed weekly, as by this means, almost to the exclusion of all others, we can tell how the child is developing. During the first week there is generally loss in weight, but by the end of the second week the child should have regained its birth weight, and if there is a gain of less than four ounces weekly, or a stationary weight, we know there is some fault with its nutrition, either in the quantity or quality of the milk which it receives, or its power of assimilation. —Towley.

[1] Beit. zur Lehre der Tabes Dorsalis. Tübingen, 1864.
[2] Neurolog. Centralblatt., 1888.

SOME OBSERVATIONS ON HYDROPHOBIA AND HYSTERO-HYDROPHOBIA. ILLUSTRATED BY TWO CASES.

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HYDROPHOBIA, or rabies, sometimes called lyssa on the Continent, constitutes a disease which is rapidly fading from the medical horizon, due, in a measure, to the recent advances made in prophylactic bacteriology, and in some respects to certain improved regulations in our sanitary code governing the supervision of stray and vagrant animals.

Although the true nature of the exciting factor of this terrible nervous disease remains still a matter *sub judice*, the universal opinion leans toward the fact that it is a germ, whose isolation offers unusual difficulties, possibly belonging to the anaërobiotic variety, whose cultivation and germination can only be effectual after a more or less complete exclusion of oxygen. Essentially it reacts as a bacterium, varying like the anthrax bacillus in resistance to certain chemical reagents while under the influence of attenuation. The character of the poison seems to be of a distinctly proteid nature, inducing, when transmitted into the organism, a characteristic form of acute toxæmia recognized as ptomaine poisoning.

Owing to the infrequent occurrence of rabies in private practice, some members of the profession deny the existence of such a disease, merely classifying it among the symptomatic neurotic disturbances; the researches of the late Mr. Pasteur, however, prove beyond a doubt that it is an acute infectious and contagious disease, with a distinct period of incubation, directly traceable to an infection from subjects dying with the disease, running a definite course, and presenting symptoms of such grave psychical disturbance as occur in no other nervous affection. Of course, cases may turn up where the infection was incomplete and the resistance of the individual very high; it is only natural under these conditions that the general course of the disease is altered, but the etiological factors remain the same.

A good proportion of the so-called cases of hydrophobia result from the bites of dogs, not mad, but simply excited or epileptic; the prognosis in such individuals is generally favorable. But this does not constitute true rabies; here we have to deal with a pathophobia, an hysterical manifestation, whose symptoms at times so closely coincide with those of the ordinary type that the errors in diagnosis must of necessity be numerous; the cognizance of this statement renders the statistics of the Pasteur immunization treatment almost valueless.

The rabic ptomaine chemically bears a striking relation to the snake-poison in certain respects; they differ, however, in important particulars physiologically. The former enters the organism from without as the result of an infection, the latter is produced in the animal carrying it and stored away in the dental canals of the fangs. The striking similarity in action of these two powerful organic poisons will be illustrated in the near future by some interesting experiments as soon as they are completed.

Studying the following two cases side by side, but little difficulty will be encountered in establishing a diagnosis; taken individually, however, considerable doubt might be expressed as to the true nature of the disease.

CASE I.—C. A——, twenty-eight years of age, a tinsmith by occupation, entered Bellevue Hospital October 31, 1893, with an every-day history of miasmatic poisoning of rather a mild type. He appeared to be in excellent physique and regular in his habits. The family history was negative. He enjoyed very good health up to three or four days before admission, when he noticed a slight chill followed by a dull, boring headache, considerable pain in the back and limbs, and an uncomfortable feeling of oppression over the precordial region. At night he was restless and uneasy, and considerably depressed. Several grains of quinine only added to his distress, till he was forced to apply for treatment.

On admission to the hospital patient was able to give a clear account of himself, but did so in an absent-minded manner. His countenance was pale, and expressed anxiety and apprehension. The pupils were widely dilated, responding both to light and accommodation. Tongue was coated and tremulous, pulse rapid, full and regular, temperature 99° F. per mouth. Increased patellar reflex and ankle clonus, fine tremor of hands. He was of irritable disposition and seemed quite agitated. Physical examination proved negative beyond a moderately enlarged spleen. The case was looked upon as an irregular type of malaria, and promptly treated with ten-grain doses of the bimuriate of quinine every three hours, with five grains of calomel in the form of tablet triturate at bedtime. A thorough microscopical examination of the blood failed to reveal the plasmodia or malarial pigment, and, as the symptoms augmented in severity, the further administration of quinine was suspended and the symptomatic plan of treatment adopted. During the night he was very restless, dozing off now and then only to wake up with violent starts and jerks. He passed seven ounces of pale clear urine containing a trace of albumin. The pulse toward morning had lost in tension, but gained in rapidity; respiration seemed normal, a trifle heavy. At noon slight cyanosis was noticed on ears, but its presence could not be accounted for after a thorough physical examination. Sensorium began to suffer, and toward evening mental obfuscation became quite marked. During a sponge bath a small red scar was detected on ulnar side of right hand, tender to the touch and surrounded by a small area of inflamed tissues. He complained of sharp, lancinating pains originating at this spot and shooting up the right arm toward the axilla.

The affected area was painted with iodine and the whole arm bandaged up with a wet carbolic dressing, to prevent further extension of the yet circumscribed lymphangitis. A little whiskey with water he swallowed with considerable difficulty, followed immediately by an explosive fit of coughing expelling the fluid through mouth and nose. To allay the increasing restlessness a hypodermic injection of morphine, gr. $\frac{1}{4}$, and atropine, gr. $\frac{1}{150}$, was administered, which produced little or no sedative effect. He never slept during the night, but only tossed about in an uneasy manner, mumbling incoherently. At times he would point toward the walls and then cover his eyes as if frightened; he thought he saw black figures moving about the room, which threatened to kill him. In order to check this growing mental excitation the hypodermic injection was repeated after the lapse of three and a half hours. At no time had the temperature risen above 99.8° F.; the pulse, however, indicated considerable nervous tension. During the night he vomited several times, which caused so much distress that patient refused all nourishment, which was then administered per rectum. Toward morning the nurse served a little milk in a cup, which he attempted to drink. But no sooner had the fluid touched his lips, when he shook from head to foot, his muscles contracted, respiration ceased abruptly, eyes fixed, widely opened and staring, face cyanotic deepening into purple, larynx elevated as during the act of deglutition, pulled up tightly against the lower jaw in a tetanic spasm. The expression of his countenance at this time appeared so ferocious and hideous that it baffles all description, resembling more a wild beast than a reasonable human being. After thirty-five seconds the muscles suddenly relaxed, the

head fell back on the pillow, and respiration was resumed with a violent puffing out of the retained air, while the perspiration just rolled off his body, completely wetting his bedclothes. Some coffee was then offered to him, but it had hardly touched his lips, when the frightful scene repeated itself in all its details. The distorted features with the bloodshot eyes, the severe laryngeal spasms, and the intense agony depicted on his countenance, together with the inflamed scar, suddenly suggested a diagnosis which had not even been suspected. His friend was instantly sent for, and he stated that about seven months ago patient had been attacked and bitten by a mad dog, which was killed and removed by the Health Department. He readily identified the scar on the hand. Here may be mentioned that the mere sight of fluid did not induce those laryngeal spasms; on the contrary the patient made frantic exertions to drink, the thirst being necessarily severe with such profuse perspiration; after the third attempt he began to realize his position and quietly objected. Later on he was painfully conscious of the effect foods, solid or liquid, produced; the mere thought of trying to swallow would then precipitate an attack.

In the intervals between the paroxysms the anxious, apprehensive look and the mute appeal for help constituted such a spectacle that it will never be forgotten. The spasms now resulted from the slightest irritation, and were always ushered in by a general tremor followed by a stiffening of the muscles without any tendency toward opisthotonos. During a sudden inspiratory effort the larynx jumped up in an instant, and remained fixed in this position from thirty to sixty-five seconds. Sometimes the upper part of the body was jerked upward and forward, the patient seemingly making violent efforts to breathe. Blood-stained foam gathered on his lips, his face almost purplish-black, when suddenly the patient collapsed, utterly exhausted, the foam rolling out of his mouth and the perspiration streaming off his body. The absorptive processes of his organism must have come to a standstill, for within the last twenty-four hours he had received subcutaneously five grains of morphine and one-half grain of hyoscine. Notwithstanding these powerful sedatives the attacks grew more frequent, but gradually lessened in duration and intensity. Chloroform, at first of some use, soon had to be discontinued, owing to the exhausted condition of the heart and the prolongation of the succeeding spasms. His efforts at resistance gradually grew weaker. At times he opened and shut his mouth and gnashed his teeth. Toward evening of the third day he had three slight convulsions, with loss of consciousness during from three to five minutes. The thermometer now registered 102.4° per rectum; pulse ranging from 140 to 210 per minute, very weak, almost imperceptible during a spasm. At no time did he try to bite the attendants, but continually ground his teeth, with foam covering his mouth. During the last six hours his countenance had changed terribly, so that his most intimate friend hardly recognized him. His face was very pale, eyes sunken, and his features completely relaxed. He had another convulsion, and died from respiratory paralysis three days after admission.

The second case presents phenomena which simulate closely the true type of rabies, but differ from this in essential particulars, which, when considered together, at once throws it into the class of hysterias conveniently called hystero-hydrophobia.

Case II.—F. L——, hostler, aged twenty-eight, was transferred to Bellevue Hospital with the diagnosis of hydrophobia. On examination, the patient, a powerful fellow, was found to be struggling severely with four attendants, who experienced great difficulty in controlling his violence. He was shouting and yelling incessantly, while the foam just rolled out his mouth, snapping and biting most viciously at the nearest persons. He jerked and jumped about on the stretcher with almost uncontrollable strength, exposing a deeply flushed face, which with its wild, rolling eyes, dilated pupils, and distorted features, certainly presented a terrifying spectacle. The surface temperature seemed to indicate a considerable expenditure of animal heat, the thermometer registering, however, only 101.5° per rectum. The pulse was full and bounding, of rather high tension and very rapid; respirations appeared correspondingly increased. The highest pitch of maniacal excitement was induced by the mere suggestion of water, which when dashed into his face would instantly precipitate a paroxysm of laryngismus ushered in by a loud scream, followed by a spasm of the glottis, during which the patient threw himself about violently, uttering loud shrieks. These spasms only seemed to last a few seconds, but frequently repeated themselves without the slightest irritation, broken at times by short ejaculations of: "I see them come, help me! They are biting me, hear them not!" etc.

A little milk offered to him in a cup he drank ravenously, with not the slightest difficulty; water, however, almost threw him into convulsions. At times he emitted a hoarse bark and made fierce attempts to bite the attendants. How long this stage of excitement would have continued is impossible to tell; according to reliable information, it had already lasted two hours prior to his admission. A hypodermic of one-third grain of morphine and one-fiftieth grain of hyoscyamine was administered, resulting within forty minutes in a deep sleep, from which he awoke after several hours greatly exhausted.

Friends stated that he had been addicted to the regular use of alcohol for the past three months, and that about a week ago patient had been bitten by a dog, which, he supposed, suffered from hydrophobia. Since that time he had lived in constant fear and anxiety, walking about greatly depressed and melancholy, drinking considerably all along. About seven days after the bite, just recovering from a debauch, he suddenly lost all control over himself, said that he was going mad, that he had hydrophobia, etc., till his removal to the hospital became an absolute necessity. On examining the hand, a small lacerated wound was discovered, which had undergone repair in several places. The whole area with surrounding healthy tissue was excised and thoroughly sterilized with the thermocautery, the wound was then allowed to heal up by granulation.

The patient still expressed some anxiety, but calmed down completely by the use of bromides with capsicum and strychnine; he was discharged after an uneventful recovery six days after admission; when examined a year later he was in excellent health and no longer troubled by any fears.

The most important differential points to be considered may briefly be summarized as follows:

1. Direct infection by an animal suffering from or dying with hydrophobia. The rabic poison, contained primarily only in the buccal or nasal secretions, may lie dormant for three days, the animal being apparently well; a bite at this stage will call forth rabies of undiminished virulence. The disease is spread by fomites only by direct inoculation into wound.

2. Distinct period of incubation varying from three to six months.

3. Characteristic clinical history: 1st stage: Prodromal period, two to three days. 2d stage: Melancholia, one to two days. 3d stage: Mania, one to two days. 4th stage: Paralysis, asthenia, one to three days.

4. Termination almost invariably fatal on the fourth to fifth day.

5. Reproduction of the disease by implanting a fragment of the medulla from an animal perishing with rabies into the cerebral cavity of a sound animal, when the characteristic phenomena will show themselves with unerring certainty on the fourteenth day from the inoculation.

6. Violent laryngeo-pharyngeal crisis; spasms of the respiratory muscles, particularly the diaphragm; occurrence of convulsions and delirium; intense nervous prostration; inflammation of the cicatrix with a tendency toward lymphatic involvement; unusual tolerance toward powerful sedatives.

The rabic poison appears to possess a great affinity for the medulla oblongata, and to a less extent for the motor centres in the brain. The violence of the symptoms, the profound nervous disturbance centring on the respiratory nucleus, with the obscure pathologic lesions, so closely suggest tetanus that, were it not for the history of specific infection, the early delirium, and the predominating laryngeal spasms, an absolute diagnosis could not easily be maintained.

SYPHILIS *VS.* TUBERCULOSIS. REPORT OF A CASE.

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THE association of two infectious or contagious diseases in one individual at one and the same time, is a fact familiar to every practising physician. Instances of such combinations are plentiful, namely: diphtheria and scarlatina, measles and scarlet fever, measles and whooping-cough, typhoid and pneumonia, etc. On the other hand, a conflict or antagonism between certain infectious or contagious diseases, in the sense that in the soil wherein the roots of one infectious disease are spreading the seed of another infection cannot be planted, or if planted, cannot flourish with perfect impunity to the first, either condition, as yet, belongs to the realm of theory.

In the following case an antagonism between syphilis and tuberculosis seemed to be established:

John K——, a Pole, aged thirty-five, with no knowledge of a family history, but with a distinct recollection of repeated attacks of gonorrhœa, came to this country about five years ago. At that time he enjoyed excellent health. He was engaged as a miner somewhere in the Pennsylvania coal mines, but scarcely worked a year underground when he began to suffer from an annoying dry cough. Thinking that the trouble was caused by the coal dust he went to work on a farm. In a comparatively short time the cough ceased, and he returned to the mines. The cough soon reappeared, and finally he suffered a very profuse pulmonary hemorrhage. The blood frightened him, and he came to New York. When I saw him he was pale, emaciated; the skin was dry; hands and feet cold; appetite very capricious; bowels very irregular—diarrhœa alternating with constipation; intense cough with bloody mucous expectoration; breathing accelerated; some dyspnœa; pulse weak; there were exhausting night-sweats with mild rise of temperature in the evening. The sputa contained abundant bacilli. Physical examination disclosed flatness above and below the right clavicle; subcrepitant and mucous râles and bronchial breathing. Mucous râles were heard all over the chest. The patient was put on creosote. The mode of administering the drug was one I have found to work well, namely, starting with two drops, t.i.d., and increasing the daily dose by one drop, the increased dose to be taken before dinner. The best vehicle is milk, and the best time for taking the medicine, in my experience, is before meals. This patient ran up his dose to one drachm, t.i.d. The good effects of this excellent drug were quite appreciable, the night-sweats stopped, the appetite improved, the cough was less distressing, and the expectoration was less profuse, although the lesion in the lung apparently remained unaltered.

I lost sight of the patient now for about ten weeks, and when he returned he was found to have contracted syphilis. The initial lesion was situated on the glans penis, extending a short distance to the prepuce. The lymphatic glands in the inguinal region were indurated and enlarged, the lymphatic vessels along the dorsum of the penis felt like thin cords. The patient complained of nocturnal headache and rheumatic or lancinating pains in the bones. The general appearance of the patient at the time was not particularly bad, although he claimed that he was rapidly losing health and strength. The chancre, with its associate pains in the bones and headache, yielded nicely to mercurial plaster and iodide of sodium. Eight weeks subsequent to the appearance of the primary lesion I was called in a hurry to see the man at a lodging-house. He looked wretched. I was informed that about 4 P.M. he was seized with a violent chill, which lasted nearly an hour. His temperature at 9 P.M. was 104.5° F.; there was a dry and coated tongue; respirations, 30 to the minute; pulse about 120, and weak. The cough was not unusually severe. I prescribed quinine and digitalis. The next morning the temperature was 101° F., the pulse and respiration much better.

In the afternoon the chill was repeated, the temperature rose again, the pulse and respiration followed the same type as that of the preceding evening. The following morning there was the same improvement in the patient's condition as in the preceding morning. On looking carefully over his body, I noticed for the first time a faint roseola on the chest and abdomen. The appearance of the eruption explained to my mind the chill and fever. This systemic disturbance continued for five days; every day the eruption became more and more pronounced and more and more diffused. At the end of this period, the temperature fell to the normal; the eruption then extended almost over the entire body.

The roseola was of the mixed variety, that which is commonly called maculo-papular syphilide. The papules were well defined, sharply outlined, firm, some large and some small. There was an extremely characteristic angina.

Up to this day the treatment consisted in stimulating and nourishing food; from this time on it was rigidly antisyphilitic.

The patient received fifty mercurial inunctions. Very often iodide of sodium was added to the mercury. The only other remedy he took was cod-liver oil. It is needless to state that all the secondary symptoms and the traces left of the primary lesion vanished under this treatment. But what was more wonderful was that, from the very start of the evolution of the secondary period, and all along through this energetic specific treatment, all the signs of consumption, one by one, disappeared. Night-sweats stopped; the evening fever abated; the cough and expectoration became insignificant; the appetite returned; the patient gained flesh and strength; and what is more, at the end of the fifty days' treatment, a physical examination revealed no trace, absolutely none, of existing phthisis; the percussion-note was normal instead of flat; the breathing was normal in place of bronchial; all râles were gone, the sputa failed to show bacilli, so that as far as I could see, the man was cured of his tuberculosis. I kept him for a couple of months under observation. Occasionally he required a dose of iodide, but I could not see any need for treating anything but syphilis. The patient to-day is in Poland.

Occasionally I hear from him that he enjoys the best of health.

The case has seemed to me of surpassing interest, and for that reason I have entered into the history with more minuteness than is usual with reports of such cases.

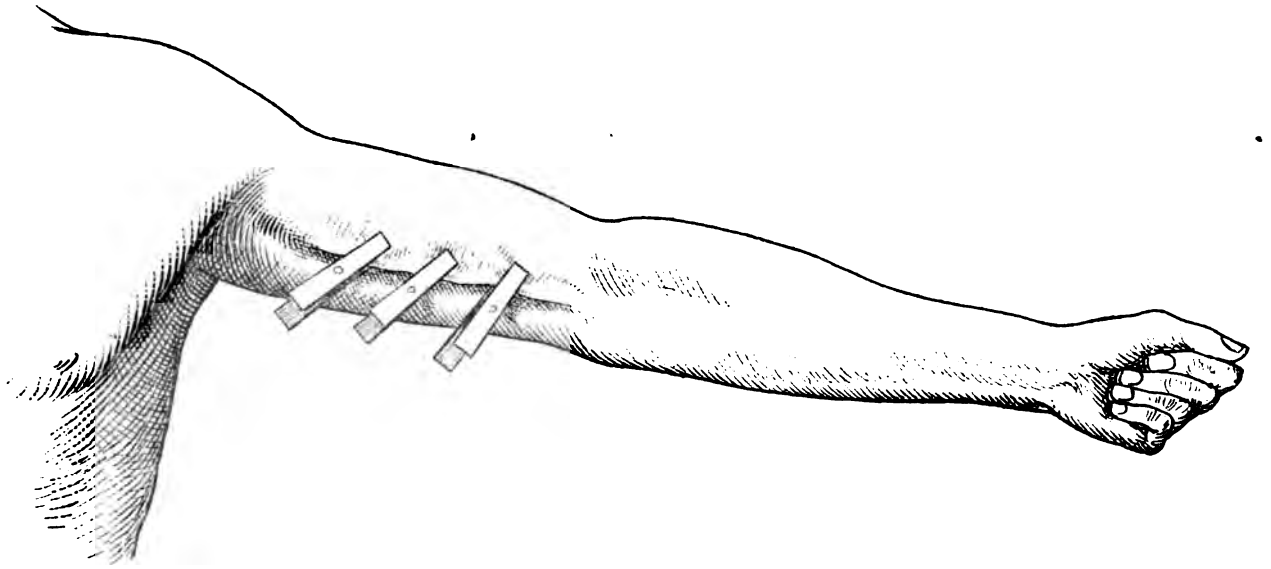
156 CLINTON STREET.

A RARE ANOMALY OF THE BRACHIAL ARTERY.

By EUGENE R. CORSON, B.S., M.D.,

SAVANNAH, GA.

A NEGRO, about fifty-five years of age, presented himself at my office for some slight ailment. His appearance of great age led me to examine him carefully. His hair was perfectly white, his face much wrinkled, the arcus senilis well marked, and the artery at the wrist evidently atheromatous. The temporal artery was sinuous and hard, and the pulsation very noticeable. The heart-beat was forcible, and the heart-sounds pronounced, but without any murmur. He complained of a strong pulsation in the left arm, which directed my attention to the brachial artery. To my surprise, I found it to be subcutaneous and outside the deep fascia. From its origin at the lower border of the teres major to the bend of the elbow, it could be picked up between the fingers and compressed, stopping all circulation in the forearm and hand. It was markedly atheromatous. I happened to have some spring-catch clothes-pins on my table, and with them I easily caught up the vessel and controlled the circulation. I made the accompanying rough sketch. The brachial on the



right side was normal. The arteries in the lower extremities seemed to be in their places, though atheromatous.

The man was intelligent and was more certain of his age than most of his race, and he assured me he was not over fifty-five years of age. He certainly looked as old as his arteries, and was evidently a marked case of premature senility. As I have shown in my paper on "The Vital Equation of the Colored Race," arteriosclerosis and atheroma are common with them; nowhere have I seen such striking pictures of senility in the comparatively young.

This anomaly of the brachial artery must be a very rare one, as I have not succeeded in finding any mention of it in the literature on the subject. As is well-known, the bifurcation of the brachial high up into the radial and ulnar is not uncommon, nor its swerving from the inner border of the biceps toward the inner condyle of the humerus to curve around a prominence of bone, and then finally to pass outward, through or beneath the pronator radii teres to the bend of the elbow.

In the large work of Bourgery, Paris, 1834, there is figured a radial and ulnar artery outside the deep fascia, with the brachial in its normal position. This does not seem so remarkable, however, as where the larger vessel has jumped the track. It has therefore seemed to me worthy of mention.

115 JONES STREET.

Surgical Suggestions.

Fractures.—In the case of a fracture near a joint there is generally a double injury. The joint is damaged more or less by the same force that fractures the bone. We have then not a simple fracture, but a fracture plus a sprain, and therefore in the ordinary methods of treating these cases the fracture is treated well enough, but the sprain is neglected. Rest alone does not cause ankylosis, but if the sprained joint be put up in plaster for some weeks, it will take as many weeks of massage to make it useful. The two injuries should be treated simultaneously.—MILLER.

A separation of the epiphysis of the femur can occur without giving rise to many definite signs or symptoms, and, on the other hand, may be serious enough to necessitate active surgical interference. It appears to be good surgery to remove a piece of the bone if the parts cannot be approximated, and there is no danger of arrest of development incurred thereby. There does not seem to be any callus of consequence thrown out when the fracture has been reduced and it is probable that immediate union takes place.—ELSNER.

The factors entering into the limitations of motion after intra- and extra-articular fractures are: First, bad positions of the bony fragments, within or without the joint, the direct result of injury; second, bony outgrowth, exostosis, the result of inflammatory processes following the injury, whether arising in the reparative callus or not; third, other inflammatory changes, mostly the formation of firm bands, both within or without the joint, including the filling up of fossa with fibrous deposits; fourth, the obliteration of the tendon surface of muscles moving the joints.—CARMALT.

Goitre.—Kocher has now nine hundred cases which have been operated upon in one hospital, and in none of them has cachexia strumipriva ever occurred, except in a single case where after extirpation of half of the goitre, the other half proved to be atrophied.

Burns.—1. Fresh, superficial burns, as well as deep ones, can heal under antiseptic treatment without the production of pus. 2. If pus is produced, the wound is disinfected, and the course remains the same as if non-infected. But if the pus is of long standing and the wound begins to granulate, then disinfection is not possible. 3. To disinfect widespread burns an anæsthetic will often be necessary, and to this end chloroform is best suited. 4. If the wound is non-purulent, the unnecessary use of an antiseptic hinders the healing process. 5. Antisepsis is the best analgesic. 6. Burns heal rapidly under the antiseptic treatment.

Burns of the second degree require eight days; of the third degree, from two to three weeks. 7. Burns of the second and third degree heal without trace remaining; of the fourth degree, cause a scar, which does not retract, while this will be smoother the less the amount of pus.

Cleaning Rusty Instruments.—Broder gives the following as an effective method of cleaning rusty instruments. Fill a suitable vessel with a saturated solution of chloride of tin in distilled water, immerse the rusty instruments and let them remain over night. Rub dry with chamois after rinsing in running water, and they will be of a bright silvery whiteness.—*Journal of the British Dental Association.*

Abortive Treatment of Gonorrhœa is not too late if the slight secretion is hardly colored and more mucoid than purulent; if the margin of the meatus is not swollen and but slightly tinted with an erythematous redness.—DIDAY.

Indications for Operative Interference in Gall-bladder.—1. In cases of repeated attacks of biliary colic, apparently due to gall-stones, which, not yielding to medical treatment, are wearing out the patient's strength. 2. In perforation from ulceration. 3. When there is suppuration in the neighborhood of the gall-bladder set up by gall-stones. 4. In empyema of the gall-bladder, which is usually accompanied by peritonitis. 5. In dropsy of the gall-bladder. 6. In obstructive jaundice, when there is reason to think that the common duct is occluded by gall-stones.—ROBSON.

Deaths Under Chloroform.—Two deaths from chloroform anæsthesia have recently occurred in Berlin, in both of which there were heart lesion, which might have been recognized during life.

Changes in the Blood in Syphilis.—In 1889 Semmola advanced the following propositions: 1. Constitutional progressive syphilis not treated with mercury causes a diminution of hæmoglobin and of red corpuscles. 2. If a syphilitic person in whom this diminution is observed is treated with mercury from the first day of treatment, there is an increase of hæmoglobin and of red corpuscles. 3. If, however, the mercurial treatment is continued longer than necessary, so that the mercury loses its specific power, its toxic action will produce a diminution of hæmoglobin and red corpuscles. 4. If mercury is given a healthy subject, there appears to be a rapid diminution of hæmoglobin and red corpuscles. Justus comes to the following conclusions: 1. In untreated syphilis the hæmoglobin is more or less diminished, and this diminution varies with the severity of the disease and its tendency to spontaneous recovery. 2. A sudden diminution of hæmoglobin follows inunction or injection of a large dose of mercury. (This is directly contradictory to Semmola's statement.) 3. The diminution caused by mercury varies according to the severity of the disease and to the condition of the nutrition; with injections of mercury the fall of hæmoglobin can be repeated after several injections. 4. The cure of the syphilitic lesion begins when the fall of hæmoglobin ceases, and is followed by a rise. 5. The sudden fall of hæmoglobin due to mercurial treatment is a specific peculiarity of the blood of syphilitic persons only, and does not take place in healthy individuals, or in other diseases. 6. This specific reaction of the blood is established at the time when swelling of the gland occurs; it disappears at the time when the existing syphilitic lesions attain the height of their development. Justus concludes that a specific change occurs in the blood of syphilitic persons, and this points to a specific means of treatment applicable only to the blood of syphilitic individuals. This specific condition of the blood, established by the action of mercury, precedes the affection of other organs, and the disappearance of this specific reaction, or the involution of the specific blood change, occurs before retrograde changes appear in other organs. If syphilis is not treated the evolution of the fall of hæmoglobin, and also the slow increase of the same afterward, are seen; if the disease is treated the fall of hæmoglobin is greater and more sudden, and the rise is also quicker. The cure by mercury is in all cases not absolute, but only varies according to the duration of time. The application of the above statements to the diagnosis is as follows: In doubtful cases, and in cases of late syphilis with a fresh train of symptoms, a diminution of hæmoglobin, after inunction or injection of mercury, is characteristic of syphilis.—*British Medical Journal.*

Aortic Aneurism.—After a thorough *résumé* of this subject the author concludes that aneurisms of the thoracic aorta may be most safely attacked, after medical treatment has failed, by the introduction of a small quantity of inelastic wire. Abdominal aneurisms may first be explored through a celiotomy wound, so as to determine their exact nature and relations, after which the question of treatment will depend on their situation. It may be impossible to use other means than that pointed out for the thoracic variety, or the other methods of temporary or permanent ligation may be resorted to, according to the conditions revealed by the exploration.—BRISTOW.

Anæsthetics.—Gurlt continues his statistics upon the use of anæsthetics in the German clinics, and reports on a collection of five years, with 1 death to 2,909 cases for chloroform, and 1 death to 6,004 cases for ether. But there is also to be charged to the ether a certain number of deaths from pneumonia, which is especially likely to be fatal after laparotomy.

Appendicitis.—Relapsing or recurrent appendicitis is marked by periods of inflammation similar to the primary attack, and recurring at longer or shorter intervals. It exposes the individual who suffers from it to peritonitis by perforation or without it, and in the intervals he is never free from danger. The etiology of the disease is not clear. The recurrent attacks seem at times to be favored by mechanical causes—foreign bodies, adhesions—but the immediate cause of the inflammatory process is unknown. The only curative treatment is excision of the appendix.—CHALLIOL.

Cancer.—In a case where the bone has become involved, secondary to cancer of the breast, Aikmann obtained decided relief of pain by the administration of salicylate of sodium, in doses of ten grains, three times a day. Large doses of opium had been given in vain.

Erysipelas.—

℞. Potass. iodidi,
Tinct. ferri chloridi,
Syr. aurantii ..... āā ʒj.
Aq. puræ ..... ʒiij.
M. Sig.: One teaspoonful in water four times a day.

To Prevent Rust.—One per cent. of common baking soda put into the water in which instruments are boiled, in order to sterilize them, will, to a great extent, if not totally, prevent rusting.

Cause of Varicocele.—There are three principal causes: First.—Anything that impairs the general vigor of the part, as: 1, Lack of proper support from relaxed scrotum; 2, masturbation; 3, abuse of venery, ungratified desires, etc.; 4, chronic orchitis, or repeated attacks of acute orchitis. Second.—Anything that produces pressure, as: 1, Abdominal tumors; 2, enlarged inguinal glands; 3, hernia; 4, trusses, or belts worn around the waist; 5, accumulation of fat in the omentum and mesentery. Third.—Anything that produces prolonged muscular effort, as: 1, Prolonged riding on horseback; 2, prolonged rowing; 3, prolonged exercise in running or waltzing; 4, excessive and violent muscular effort; whooping-cough, sometimes.—RAND.

Varicocele.—Varicocele occurs on the left side in a proportion or ratio of 20 to 1. There are four good reasons for its frequency: 1. The left testicle hangs lower in the scrotum, and thus the veins support a heavier column of blood. 2. The spermatic veins of the left side are pressed by the sigmoid flexure of the colon when distended. 3. The spermatic veins of the left side join the renal vein at a right angle to the current of blood, thus impeding the rapid return of blood from the left testicle and veins. 4. The left spermatic vein is by some authorities stated to be poorly supplied with valves.—RAND.

Multiple Warts of Face.—

Sulphuris sublim	ʒ v.
Glycerini	ʒ jss.
Ac. acet	ʒ ijss.

S.: Apply locally to each wart. The warts dry up and then drop off. The treatment may be continued for several days.

—KAPOSI.

Slipping of Obstetric Forceps.—If the forceps slips when properly applied it means that the case is not adapted for delivery with forceps; *i.e.*, the forceps is contraindicated, and its further use will result only in doing harm. Fenestrated forceps blades slip just as badly as do solid blades, if the head is too large; any forceps will slip if it does not fit the head. If the forceps slips while strong traction is being made, the child's skull will surely be fractured. If the child must be born head first, because version is impossible, and if forceps cannot deliver, the cephalotribe is the best instrument for obtaining a hold on the head firm enough to accomplish delivery. Oscillation will cause advance when straight traction fails.—TUCKER.

Anal Fissure.—Several cases of anal fissure were treated with pure ichthyol applied with a brush twice daily, and also after each defecation. The cure was rapid in every instance. The same treatment is recommended in the case of fissures of the vulva and vagina.—WILLIGEN.

Abortion.—Threatened abortion should be treated by absolute rest, with opium or *viburnum prunifolium*. Where hemorrhage occurs without dilatation of the os and cervix the antiseptic tampon is indicated. When hemorrhage is present and a finger can be inserted the uterus should be emptied by the finger; accompanied by antiseptic irrigation. If the hemorrhage is considerable and only partial dilatation is present, the finger is the safest instrument to complete dilatation. In many cases, if the patient be kept clean, the membranes and placenta will be expelled without interference and without injury. In all cases ergot should be used in daily doses during the first week. The use of the sharp curette is not encouraged. Vaginal douches after abortion should be given for positive indications only.

—JACUB.

Chloroform Collapse.—Stretch the sphincter ani with thumbs or speculum. (Suggested by Dr. Daily, *New York Medical Times*, February, 1893, for morphine narcosis.)—DUKE.

Anal Fissure.—Palliative:

℞.	Ext. bellad.	gr. ⅛ to ¼.
	Cocaine hydrochl	gr. ¼ to ½.
	Ol. theob	gr. x.

For a suppository to be used half an hour before an enema is given.

—ADLER.

℞.	Ext. conii	ʒ ij.
	Ol. ricini	ʒ iij.
	Ung. lanolin	ad ʒ ij.

Apply to parts before and after passage.

—CRIPPS.

Rectal Hemorrhage in Women.—Elevate extremities and pelvis for twelve to twenty-four hours. Remove hemorrhoids with the wire écraseur after paralyzing the sphincter.—BROWN (of Stoneham, Mass.).

Hemorrhoids.—Sitz-bath and washing with water at 120° to 130° F. Insert into anus cotton tampon wet with two per cent. cocaine before and after stool. Dilate with Trélat's two-bladed speculum. Extirpate only as a last resort.—RECLUS.

Rectal Abscess.—Early free incision under anæsthesia, irrigate with 1–5,000 mercuric solution, introduce finger and break down bridges, loculi, etc., inject peroxide of hydrogen, divulse sphincter with dilator.—MATHEWS (*Mathews's Medical Quarterly*).

Strychnine nitrate, gr. $\frac{1}{10}$, as a muscular tonic in labor.—RUSSELL.

Ether Administration.—Use a Clover inhaler, but get a larger air-bag than is usually supplied. It is easiest to get good anæsthesia by rotating the reservoir until the indicator reaches the figure 2 until patient is under, afterward keeping it midway between 1 and 0. The quantity of ether is less, but the resulting anæsthesia is complete.—FREEMAN (*Bristol Medico-Chirurgical Journal*, September, 1895).

The Porte-Caustique should be kept most scrupulously clean—the nitrate of silver stick washed each time after using.

Electro-magnet applied over the arm detects, by a sticking pain, the situation of a needle embedded nearly a centimetre in the subcutaneous fatty tissue.—ULRICH (*Hospitals-Tidende*, ii., 35).

Nose-bleed.—Apply on the end of a sound wrapped with cotton a three per cent. solution of trichloracetic acid. A twenty per cent. cocaine solution can be added to prevent pain.—COZZALINO (*Journal de Méd. de Paris*).

Migraine.—Each night for a long time fifteen grains of salicylate of soda in coffee.—MÖBIUS (*Ther. Monats.*, ii., 1895).

Suppurative Adenitis of the Groin.—1. The operative field is shaved and rendered surgically clean in the usual manner. 2. A few drops of a four per cent. solution of cocaine are injected beneath the skin where the puncture is to be made. 3. A straight sharp-pointed bistoury is then thrust well into the most prominent part of the tumor until pus flows. 4. All of the pus is forced out through this opening by firm but gentle pressure, as this procedure is, as a rule, very painful. 5. The abscess cavity is irrigated with pure peroxide of hydrogen until it returns particularly clear. 6. It is then irrigated with 1 to 5,000 bichloride of mercury solution, all of which is carefully squeezed out. 7. The now thoroughly cleansed abscess cavity is completely filled, but not painfully distended, with ten per cent. iodoform ointment by means of an ordinary conical glass syringe, previously warmed in hot water. 8. A cold wet bichloride dressing is applied with a fairly firm spica bandage, the cold congealing the ointment at the wound, and thus preventing its escape into the dressing.—FONTAU.

Mixture for Local Anæsthesia.—The following mixture is given for local anæsthesia, applied as a spray:

℞.	Chloroform	10 parts.
	Ether	15 parts.
	Menthol	1 part.

The anæsthesia resulting from the application lasts about five minutes.—LE GERANT.

In Good Old Days.—Dr. Lauder Brunton used to relate that when he was the secretary of the ——— Medical Society he discovered by the old records that one evening had been given in that society to the discussion of the subject: "Did Adam Have a Navel or Not?" and another to the question of "Eve's Physiology while in Paradise." Our medical societies today are less speculative and more practical.

MEDICAL RECORD:

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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THE PAST AND THE FUTURE OF THE MEDICAL RECORD.

IN closing another of the many volumes of the MEDICAL RECORD we take the usual opportunities for noting the part which the journal has taken in chronicling the history of medicine throughout the world during the period terminated by the present issue. Although this comprises but half the year, the occasion may warrant a general reference to the work of 1895 with the completion of the two volumes published during that time.

Notwithstanding no great discoveries have been made there has been substantial progress along the new lines of thought and study made possible by previous original investigations. In every department there has been a healthful and conservative effort to conscientiously verify preconceived opinions, on the one hand, or to modify them, on the other. Without desiring to disparage the great advances constantly being made in surgery, we are more than pleased to acknowledge that medicine proper is rapidly gaining in the race for those more distinctive and more substantial triumphs so long monopolized by her twin sister. The study of bacteriology in connection with the hitherto unknown causes of many medical diseases and the promising future of sero-therapy will tend to keep alive anticipations that can scarcely be too extravagant for any possible realization.

In attempting to review in detail the reasons for such general statements we feel that we would be going over ground already covered by all such as have attentively and studiously read the MEDICAL RECORD. To refer, even in a casual way, to the number of articles published, the variety of subjects treated, the multitudinous and widespread sources from which they have emanated, and their practical and timely characters, would occupy unnecessary space, and be a useless reiteration of well demonstrated facts. The credit side of the account in such matters is given in our Index. Therein is shown not only what has been published in these columns during the past six months, but what has been done by all the notable workers in this country and elsewhere. We may safely venture to say that there is hardly a topic of any practical character in any of the departments of medicine or surgery which has not been noticed either in full as special contributed material or in abstract from similar articles in other journals, domestic and foreign.

In keeping with this desire to chronicle the broad and impartial history of progressive medicine in every line, we have aimed to give each branch its due attention in the hope that no man, whatever his special work may be, can fail to find in the MEDICAL RECORD something that may interest and instruct him, and make it worth his while to read and profit by a professedly cosmopolitan journal.

The success of the MEDICAL RECORD as shown by a subscription list far larger than any in this country, and equal to that of the leading foreign journals; its influence as an exponent of advanced medical opinion; its careful verification of facts before presentation; its impartial judgment on all matters affecting the true and honorable relations of physicians as a body; its disposition to give the humblest and most obscure contributor an audience in the interests of truth and fair play, and its freedom from any commercial benefits other than those that centre upon the business prosperity of a thoroughly independent journal, have abundantly proved that such a periodical managed for the profession and by the profession has abundantly vindicated its right to exist and to continue.

We trust also that it may not appear unbecoming in us to refer to the readers of the MEDICAL RECORD, scattered as they are over every country throughout the civilized world, and to say that we are proud of our friends and of their practical appreciation of our efforts. They compose an audience worthy of our highest endeavor, not only workers themselves, but keenly alive to the work of others. It is the common experience of writers for its columns that more earnest correspondence is invited concerning articles written and ideas advanced than is possible through any other legitimate medium. The writer from Oregon thus reaches the reader in Arabia, and the questioner from New York may receive answers simultaneously from Patagonia, Japan, or Siberia.

It will also interest the many friends of the MEDICAL RECORD to know that its circulation has increased so greatly that it is no longer possible to print it from type. To maintain its high standard as a medical newspaper its forms have to be kept open each week until the last moment and then printed in the most expeditious manner.

To meet the requirements thus made necessary we shall, beginning with the new year, set the type for the MEDICAL RECORD by machine and electrotype the pages as fast as they are made up. These electrotype plates will then be transferred to modern perfecting presses and the whole large edition run off between six o'clock on Thursday evening and daybreak of Friday. As soon as the last form begins to come off the press it is rapidly tranferred to the bindery in lots of one thousand for folding and wiring.

It should be known and appreciated that while the issue of a weekly medical journal of anywhere from 5,000 to 10,000 copies is comparatively a simple matter, only a printer and binder can thoroughly understand the difficulties which have to be overcome in getting out practically in about twenty hours an edition so large as that of the MEDICAL RECORD. With the great changes we have referred to, however, the MEDICAL RECORD will be able still to maintain its position

ahead of all competitors in the promptness of its issue; furthermore, they insure the printing of the paper every week from absolutely new and perfect type plates.

The MEDICAL RECORD will thus be, we believe, the only medical journal in the world printed from electrotype plates and on modern newspaper perfecting presses. It marks an epoch in the literature of medicine of which the profession in American may well be proud, for to their liberal support and appreciation of the efforts of the editor and publishers it is due. Nor can we omit our grateful acknowledgments to the local medical journals, many of them most ably edited and worthy of the generous support of their constituency, for the uniformly kind and hearty endorsement they have accorded the MEDICAL RECORD.

With an editorial staff comprising a number of learned and able men, with large experience and long training, and medically educated reporters of exceptional merit, with special correspondents established in most of the leading centres of medicine in the world, with an unstinting expenditure in every direction when possible results may seem to justify, it is hoped still further to merit the approval of the profession.

HOW EXPERT TESTIMONY COULD BE MADE VALUABLE.

THE recent case of Hannigan, who was adjudged insane on a trial for murder, committed to an asylum, and subsequently declared perfectly sane by the asylum superintendent, emphasizes the absurdity of the present system of expert testimony. We do not pretend to offer any opinion as to the real guilt of the slayer, whether the act of shooting in cold blood was, under the strong provocation of the case, justifiable or not, but simply to refer to the apparently inappropriate character of the plea for the defence. We simply note the fact that the plea, based on the opinion of experts, evidently had no foundation in fact. It is beyond question that such was due entirely to the confusion created in the minds of the jury by the degree and character of the swearing of those scientific gentlemen who were engaged to do the best for their respective sides. It is easy to see how questions concerning strictly scientific probabilities can be so ingeniously framed as to bring out telling facts in support of any medical or legal theory, and yet not in the slightest degree affect the real honesty of the answers, nor ostensibly impugn the proper motives of the witnesses. It thus frequently happens that trials based mainly on the theories of experts become a travesty of justice, and by technically overruling conservatively qualifying circumstances defeat, the real end in view, obtaining "the truth, the *whole* truth, and nothing *but* the truth." Hence there appears more ground than we are first willing to admit, for the oft-repeated assertions that experts can be made to swear to anything to contradict each other, and to prove opposite probabilities. Even the so-called intelligent jury, hemmed within the boundaries of legally admitted testimony and barred by the rulings of what is judicially considered "irrelevant, incompetent, and unnatural;" are as likely to go wrong as right in arriving at a just verdict.

Under such circumstances there is no need of argument to prove that it is absolutely impossible to obtain strictly impartial testimony. On former occasions we have frequently suggested a remedy for such acknowledged defects in our medico-legal systems in the creation of a commission of experts that should be strictly impartial, should take testimony for both sides, should properly reconcile apparently conflicting opinions, and should directly advise with the court on all the essential points involved in a given case. We take this occasion to reiterate our views on this subject, needing no better text for their earnest advocacy than the one which has just presented itself.

EARLY RISING AND INSANITY.

THE great poets of the world have always sung in praise of sleep:

> "—— sore labor's bath,
> Balm of hurt minds."

They have always consistently opposed the habit of early rising, except in so far as they have depicted (writing by the light of the lamp) the glories of the morning and the suggestive promises of a beautiful sunrise. The Scriptures are also on the side of prolonging slumber:

"Yet a little sleep, a little slumber, a little folding of the hands to sleep," says Solomon.

But the habits of modern civilization and the traditions of family life have been steadily set against these poetical and scriptural ideals. In whatever else men differ, or in whatever other way they err, it is agreed that the habit of early rising is seemly, advantageous, and necessary.

The statement, therefore, by a prominent alienist and superintendent of a large insane asylum, that early rising promotes insanity, comes with a terrible shock upon the serenity of established beliefs and long-cherished customs. Dr. Selden H. Talcott, of Middletown, N. Y., however, supplements this statement of his by arguments of no mean weight. He calls attention to the relative frequency with which farmers, their wives, daughters, and sons become insane. The cause of this has heretofore been thought to be their isolated lives, their hard work, and perhaps the excessive use of pie and potatoes; yet these have never seemed quite adequate explanations, when one considers the fact that the farmer has constantly fresh air, abundant exercise, no undue excitement or mental strain, and relatively little alcoholism and syphilis. So that Dr. Talcott's view is, at least, a helpful one, in the way of explaining the psychopathic tendencies of the ordinary agriculturist. He states that the excessively early hours of rising, which are customary among the farmers, and which hours are imposed upon their sons and daughters and wives, prevent a sufficient amount of rest. Growing children, he thinks, in particular, suffer from "the artificial cut-off" which is applied so rigidly to their lives.

The suggestion of Dr. Talcott is valuable from another point of view, because the particular cause of in-

sanity to which he refers is one that can be so easily and comfortably combated. It is not like the enforced abstinence from alcohol, and tea and tobacco, high thinking, and all the other ordinary comforts or luxuries of civilization. The diminution of insanity by staying in bed later mornings is a task to which all will address themselves with pleasure, and we believe that every farmer's boy will have a sense of particular kindness toward the physician who has discovered this new method for preventing possible mental disorders. We might readjust the well-known lines of Sir William Jones, for the benefit of the farmer, somewhat as follows :

> " Eight hours to sleep, to soothing pleasures seven,
> Nine to the farm allot, and all to heaven."

THE TREATMENT OF CHRONIC PROGRESSIVE RHEUMATISM.

This condition, commonly known as rheumatic gout, arthritis deformans, and rheumatoid arthritis, is far more distressing to the patient than it is interesting to the physician. As a potent cause of many kinds of suffering, however, it is raised of necessity to a position of dignity, and one worthy of careful study. A little paper by Cantagrel, in *Médecine Moderne*, October 16, 1895, emphasizes the importance of certain well-known facts and brings into view others less generally recognized. Rheumatic gout or chronic progressive rheumatism is a disease of general nutrition and thus differs widely from acute articular rheumatism, now believed to be an infectious process. It occurs at all ages, in all climates, though its most marked influence appears between forty and sixty. Women suffer more often than men. Heredity, direct or indirect, is a powerful factor in its production. It is found in families where there has been gout, phthisis, or Bright's disease, and is called into activity by damp and cold, by exposure and hardships, by overwork and strain. The first necessity is perfect hygiene : warm clothing, flannel next the skin, woollen sheets, and possibly a change of residence and also of climate. Diet must be arranged to suit special requirements. Above all, the patient must not be forgotten in the study of the disease. Massage and rubbings with alcohol are of service.

Of remedies, cod-liver oil is the best, together with iron, arsenic, and the iodo-tannic wine of Nourry. For pain, antipyrin, salol, salophen, and colchicum are of chief reliance. Charcot gave large doses of alkalies combined with quinine—thirty or forty grammes daily of bicarbonate of soda for weeks at a time. Between the intervals of acute painful attacks general nutrition should be improved by means of iodides and arsenic. This is the only real treatment, this improvement and modification of nutrition, and it should be begun early and continued late for a very long time, indefinitely. The iodo-tannic wine of Nourry possesses special advantages. Tannin acts as a powerful tonic and enables the stomach to assimilate readily the dose of iodine. Arsenic does not always give such good results, for it sometimes increases the pain. To obviate this difficulty M. G. de Mussy has devised a plan of arsenical baths, to be used upon the subsidence of acute symptoms. One to eight grammes of arseniate of soda and one hundred or one hundred and fifty grammes of bicarbonate of soda are dissolved for each bath. At the same time tonics are administered—quinine, iodide of potassium, or vin de Nourry. Baths seem to be of benefit because of their heat; hot mud baths are equally serviceable. The writer Cantagrel considers that this very hopeless disease is not without hope : iodide inwardly, arsenical baths outwardly. Pain may be made to disappear at the end of two or three weeks. Deformity and stiffness, under the influence of the internal iodide and the external arsenic, together with the prudent use of massage and rhythmical movements, cannot be expected to show much improvement earlier than three or four months. It must be remembered that rheumatic gout (chronic progressive rheumatism) is a condition that is partly degenerative and partly inflammatory. It is possible to arrest it and prevent acute attacks.

News of the Week.

No Medical Commissioner of Charity.—Mayor Strong has declined to appoint a medical commissioner of charity, a political laymen having been given the position. His Honor very significantly says : " I am *still* a reformer."

A Change of Heart.—Our esteemed contemporary, the *Medical News*, for some time of Philadelphia, is to remove its editorial offices to this city on the first of the year, thereby showing its appreciation of the great fact that there is but one medical centre in this country, and that the metropolis. Under date of July 27, 1895, à propos of the temporary removal of another Philadelphia journal to this town, the *Medical News* remarked : " We learn with regret that our most esteemed contemporary, the *Medical and Surgical Reporter*, in order to be nearer the printing-office of its new publisher, has moved its editorial offices to New York. We are sorry that business reasons should *force it to exchange the Medical atmosphere of its life-long home for one of such uncongenial surroundings.* It is indeed true that the footings of our clearing-house transactions do not equal those of our self-complaisant *sister city*." We are surprised that our esteemed contemporary's views have so changed in five short months that it will even come away from the printing-office of its publishers in order to breathe the congenial atmosphere of this centre of medical thought and activity.

The Harlem Medical Association Dinner was held at the Harlem Casino, December 21st. Dr. Samuel E. Gibbs presided in " Quaint Club " style and deftly joined to the speeches the following members : Drs. Malcolm McLean, Charles A. Clinton, Thomas H. Manley, Edward Fridenberg, M. C. O'Brien, E. Clark Tracey, Emil Mayer, A. H. Leary, John Shrady, F. M. Nye, Richard Van Santvoord, W. M. Leszynsky, and Ferdinand C. Valentine.

Prevention and Cure.—An ounce of soap is worth a pound of pus.

A Case of Quadruplets.—Dr. Frank A. Stahl reports in the *Journal of the American Medical Association* of December 14th, the history of a case of quadruplets. He gives with it a very striking picture of the babies, side by side, James, Patrick, Bridget, and Catherine. They are all nice-looking babies, but, unfortunately, they were born dead. The children were all born between three and six o'clock, and the labor was natural. The mother is thirty-three years of age, had had six children, all born alive but one; she had had no previous multiple births. Dr. Stahl says that a case of quadruplets occurs but once in three hundred and fifty thousand to four hundred thousand births.

Airol is a drug which is said to be an improvement upon dermatol, bismuth, iodoform, etc. It is a compound of bismuth, gallic acid, and iodine; a green powder, tasteless, odorless, and insoluble.

United States Marine Hospital Examinations.—There will be held at Washington, D. C., on February 10, 1896, a competitive examination of candidates for appointment to the position of Assistant Surgeon in the United States Marine Hospital Service. Candidates are required to be not less than twenty-one years of age, and no appointment is made of any candidate over thirty years of age. They must be graduates of a reputable medical college, and furnish testimonials as to character. Successful candidates, having made the required grade, are appointed in order of merit as vacancies arise during the succeeding year. There is at present one vacancy. The salary of an Assistant Surgeon is $1,600 per annum, together with furnished quarters, light, and fuel.

Fuller information may be obtained by addressing the Surgeon-General of the Marine Hospital Service, Washington, D. C.

A Diplomatic Doctor to Increase the Ranks.—The Nicaraguan Legation in Washington, D.C., has been closed. The Nicaraguan Government revoked the credentials of Dr. Horatio Guzeman as its diplomatic representative to the United States, and he at once closed the legation.

The Wilhelm Meyer Memorial.—The death of Professor Hans Wilhelm Meyer, of Copenhagen, has been followed by a movement of a somewhat unusual character. It has become a matter of history that Dr. Meyer was the first to actually recognize the condition known as adenoid hypertrophy at the vault of the pharynx, to warn against its dangers, and to propose the means for its prompt and effective cure. The result of Dr. Meyer's teaching has been to bring urgently needed relief to many thousands of children in every civilized country in the world, and it is safe to say that there is no man of our time to whom the present generation owes a deeper debt of gratitude. It is proposed to erect a memorial statue to Dr. Meyer in Copenhagen, from small nominal subscriptions to be collected from the patients and physicians who have been benefited by Dr. Meyer's work. An international committee, consisting of one representative from each of the principal countries of Europe and from the United States, has been organized abroad, the representative in each case being the president of the national laryngological or otological association of his respective country, an he is authorized to effect such local organization as may seem expedient. The representative of the United States is the president of the American Laryngological Association, under whose direction the establishment of a national committee is being rapidly perfected.

The College and Clinical Record will be hereafter known under the name of *Dunglison's College and Clinical Record;* a Monthly Journal of Practical Medicine.

Nitrites in Infective Diseases.—Dr. Petrone, an Italian physician, finds that rabbits live twice as long after having been inoculated with rabies, if they receive hypodermic injections of nitrite of sodium. He has used the same substance in syphilis and other infectious diseases, and thinks that it has a power against infections.

Obituary.

SAMUEL FLEET SPEIR, M.D.,

BROOKLYN, N. Y.

DR. SAMUEL FLEET SPEIR, of Brooklyn, died at his sanitarium, 162 Montague Street, in his fifty-seventh year. His illness had lasted nearly a year, beginning with cancer and ending with blood-poisoning, inflammation, and hemorrhage of the stomach. He had been confined to his bed only two weeks. Dr. Speir was the son of Robert Speir, a leading merchant in this city fifty years ago. His mother was Hannah Fleet Speir, a lineal descendant of Captain Thomas Fleet, of Northport, L. I., who was a son of Sir Thomas Fleetwood, of the British navy, and dropped the second syllable from his name when he came to America and settled at Northport, in 1650. Dr. Speir was born in the old Fleet mansion, at Fulton and Gold Streets, on April 9, 1838. In 1857 he entered the medical department of the University of New York, and was graduated three years later with high honors, carrying off the Mott gold medal and the Van Buren prize, and also the Wood prize from Bellevue Hospital. After his graduation he passed eighteen months in professional travel in Europe, and on his return, under the direction of the Sanitary Commission, he went to the front with three assistants and rendered valuable service in the Army of the Potomac.

Among the best known works from his pen are "Use of the Microscope in Differential Diagnosis of Morbid Growth," and "New Method of Arresting Hemorrhage by the Use of Artery Constrictor." His essay on the last-named subject won him a prize from the Medical Society of the State of New York. He was a member of the American Medical Association, the New York State Medical Society, the New York Pathological Society, the Kings County Medical Society, a fellow of the New York Academy of Medicine, and a member of the New York Journal Association. He served by invitation as a member of the International Medical Congress in Philadelphia in 1876. He was the surgeon of the Brooklyn Eye and Ear Infirmary as far back as 1864, and had been identified with the work of the Brooklyn Hospital for the last twenty-five years. He was Demonstrator of Anatomy at the Long Island College Hospital, and was the founder of the Dispensary of the Helping Hand. Dr. Speir was an enthusiastic sportsman and a great lover of dogs and horses. He was the founder of the Robins Island Gun Club, which was organized in 1881. He was married to Frances S., a daughter of Peter A. Hegeman of this city, in 1869. She and one daughter survive him.

Progress of Medical Science.

Surgical Scarlet Fever.—Dr. McGraw reminds us that surgical operations render children exceedingly susceptible to scarlet fever. In a résumé of the subject in Warren's recent work on "Surgical Pathology and Therapeutics," numerous high authorities are cited to substantiate this assertion. Sir James Paget, Horsley, Thomas Smith, and others describe cases of this character. Smith, indeed, in forty-three cases of lithotomy in children, had the operation followed in no less than ten by an outbreak of scarlet fever. Warren concludes that "a certain number, and probably a majority of cases of so-called surgical scarlet fever are cases of genuine scarlatina." In Guy's Hospital, in 1879, four cases were observed in succession under the care of different surgeons, and in consequence thereof operations on children were temporarily postponed. In that hospital, during a series of years, nearly thirty cases of scarlatina were observed in children after operations, and Goodheart, after careful investigation, has no doubt of the correctness of the diagnosis. Hillier remarks that in the hospital for sick children, of the children who contract scarlatina, a very large proportion have been the subjects of a surgical operation within a week before the rash appears. Although the evidence in support of these views is overwhelming, there have nevertheless been many doubters as to the specific character of the disease in these cases. Hoffa, a German authority, quoted by Warren, has attempted an analysis of the cases reported, and divides them into four types :

1. Cases followed by a vaso-motor disturbance and characterized by a transient erythema of urticaria. 2. Toxic erythema, due to absorption from recent wounds. These are transient in character and vanish within twenty-four hours. The absorption of antiseptics, such as corrosive sublimate, may cause some of these eruptions. 3. Eruptions due to profound septic intoxications. These are various in kind and irregular in character. They may last for several days. 4. Cases of genuine scarlatina.

Dr. McGraw reports a case which might readily be considered one of surgical scarlet fever. A boy, fifteen years of age, was seized on February 15th with symptoms of appendicitis and was operated upon on the 19th. The operation was successful, and no septic symptoms appeared throughout. On the 23d scarlatina made its appearance, from which he died on March 1st. The autopsy showed that death did not occur from septic poisoning or from any abdominal complication. The value of this history is in the demonstrated fact that this case of surgical scarlet fever, in the person of a lad who was said to have had scarlatina before, did not originate in septicæmia or pyæmia. There was not one of the three physicians who were present at the autopsy who was not surprised at the entire freedom of inflammatory material exhibited by the abdominal cavity. Putting aside those cases of septic eruptions in which the evanescent and partial character of the rash and the absence of other symptoms make the diagnosis easy, the author doubts whether the so-called surgical scarlet fevers ever differ in nature from those termed idiopathic. He is fully in accord with Sir James Paget, who insists upon the specific contagion in these cases, notwithstanding the fact that the somewhat disorderly appearance of the symptoms in surgical cases has led to the belief that they are not genuine scarlatina. A grave responsibility rests upon the surgeon in these cases. A mistake in diagnosis, or a belief in the non-contagious character of the disease, will tend to spread it broadcast in the family and in the community.—*Archives of Pediatrics.*

Diet in the Etiology and Treatment of Diseases of the Skin.—An interesting discussion on this subject took place at a recent meeting in England (*The British Medical Journal*). Dr. Allan Jamieson directed attention, first, to the articles of food known to influence skin diseases; secondly, to the maladies of the skin which could be produced or modified by diet; and thirdly, to dietetics as a means of treatment in dermatology. Some articles of food produced their effect at once, as in the example of shell-fish, and these acted probably by toxic conditions of the blood, though there was the remarkable and unexplained factor of idiosyncrasy which came into play. But far more frequently the action of foods was slow and prolonged, and their precise mode of action was even more difficult of explanation. Referring to certain articles of diet, Dr. Jamieson thought that alcohol seemed to produce a too ready penetrability of the skin, as witnessed by the liability to sweating and the clammy fingers of topers. Alcohol was not liable to produce skin diseases, but it certainly aggravated some disorders. Second in importance only to alcohol comes tea, and it has been shown that tea when taken too hot, too strong, and in excess causes cold hands and feet and a shrinkage of the integument, in addition to gastro-intestinal disturbance. Dr. White, of Boston, has shown that strawberries and other fruits containing acid in abundance are liable to produce eczema. Persistent omission of green vegetables from the dietary causes relaxation of the cutaneous vessels, and in extreme cases scurvy. It had long been known that persons presenting a pallor of the surface and other evidences of mal-nutrition and deficient food are predisposed to eczema. As regards the diseases of the skin influenced by diet, certain of them could be at once eliminated, such as parasitic diseases, scleroderma and most hereditary disorders, herpes zoster, and some others. But there remained a large number which are undoubtedly so influenced. Eczema could be produced and modified by unsuitable diet, drinking large quantities of cold water, and other articles. Dr. Jamieson mentioned hurrying over breakfast as a predisposing cause of the disease in school children. Psoriasis was aggravated by alcohol, and he had seen this disease invade the surface more rapidly under the administration of this article. The influence of diet on lichen planus had not been fully investigated, but this disease often arose in overfed, obese women. Boils were undoubtedly sometimes due indirectly to diet, although the disease was essentially a local one. A sudden change from a poor to a luxurious diet, or *vice versâ*, was capable of producing the malady. Acne is very often associated with a spare diet, such as that which school-girls were encouraged to take. Lupus is often associated with a distaste for fat. The cause of the increase of cancer during the last half century, as shown by Heath's statistics, was ascribed by Yeo to the increased consumption of butcher's meat, but he thought it ought rather to be ascribed to the undoubted increase in the consumption of tea. He thought that the abuse of this article during the period of growth was the cause of the increase of cancer. The subject of diet in treatment was a very large one. Very different diets were called for in the various diseases, always allowing for idiosyncrasy. Alcohol and the regulation of animal food-stuffs were the most important. The latter, which contained iron, were very important for the treatment of the anæmia which often accompanied acne and other skin affections.

Dr. Walter G. Smith said that we have no certain knowledge of the real action of diet on conditions of the skin. It is difficult enough to trace the action of drugs, and still more difficult in the case of foods. The influence of diet in skin diseases was, he believed, much less important than is generally thought, and after all it might be best to adopt the rule that what most people eat agrees with them most, and what a healthy person finds appetizing agrees with him best. There are, however, three ways in which food may per-

haps influence skin conditions: 1. By lowering the general nutrition—*e.g.*, in scorbutic and purpuric conditions, and those due to a parasite which finds in lowered vitality a more suitable condition for growth and multiplication. 2. Reflex condition—*e.g.*, from stomach to skin, as in over-eating or taking unsuitable food. These conditions were brought about either by a vasomotor or a purely nervous mechanism. Urticaria and nearly all such skin conditions are known by their transitory character. They may be dealt with by a visit to Carlsbad, but may equally well be treated at home by purgatives, a good cook, and regulating the quantity and kind of the diet. 3. Toxic conditions of the blood—*e.g.*, the effects of tinned or unwholesome foods, and the hyperæmia of the skin produced by full doses of alcohol. It must not be forgotten that the skin is the avenue for the elimination of certain substances—*e.g.*, copaiba and other oleo-resins, and highly seasoned foods, which are liable to produce erythematous rashes. Turning next to the different diseases of the skin, Dr. W. G. Smith thought they might be grouped into three classes: 1. Cutaneous diseases acknowledged to be influenced by diet, such as the erythemata, acne rosacea, and perhaps acne vulgaris. 2. Diseases which might possibly be influenced by diet, such as psoriasis and some cases of eczema, though he had never been able to satisfy himself that eczema was ever affected by diet. 3. Cutaneous diseases, which are certainly not produced or modified by food—*e.g.*, herpes and lichen ruber. The effect of diet on leprosy had never been satisfactorily proved, nor, in his experience, had boils ever arisen or been modified by dietetic conditions. The fact that people now consumed one hundred and thirty-six pounds of butcher's meat per head per annum, as compared with forty-six pounds formerly, had been advanced as a cause for the increase of certain diseases; but he would point out that men probably consumed three-fourths more meat (and alcohol too) than women, and he would like to ask whether these diseases were three-fourths more common in the former. As regards salt meat, which was held to be so bad for skin diseases, he had given it to his skin patients without harm. Alcohol, undoubtedly, might sometimes increase the itching and congestion of the skin; but in reference to its supposed effect in producing skin diseases he would point out that the Parsees in India were not exempt from such maladies. If the skin disorder were secondary to diabetes, gastric or other derangements, these, of course, must be treated; but as long as practitioners differed so widely and so oppositely it was impossible to believe that diet had any important effect on the skin condition itself. By way of summary Dr. W. G. Smith stated his belief —(1) that very few skin diseases were directly produced by food (though diet may aggravate some already in existence); (2) that the diseases so arising are always erythematous and transitory; (3) that diet has no influence on the cure of skin diseases, even of acne; and (4) that the only practical rules necessary are to exercise moderation and temperance in all things, and especially in alcohol, to regulate the bowels, and to cure the anæmia if present.

Dr. Radcliffe Crocker agreed with Dr. W. G. Smith in thinking that the influence of diet had been exaggerated. He thought that salt meat and some other unwholesome articles acted chiefly by producing gastro-intestinal catarrh. The cooking and mode of preparation were even more important than the article. As regards the effect of alcohol, it differed widely in the different forms of alcohol; thus beer and port wine might do harm when well-diluted spirit would do good. Boils sometimes occurred in states of lowered vitality, sometimes in very healthy persons.

Treatment of Advanced Cases of Phthisis.—Dr. Otis summarizes the therapeutic agents which are best calculated to alleviate the lingering sufferings of the last stage of phthisis. He calls attention to the frequent presence of sepsis, and holds that all treatment in these cases must be symptomatic. The diminished lung capacity necessitates an airy room, in which sunlight is required as a tonic antiseptic. Feeding is a difficult question; in bad cases there must be frequent administration of easily or partially digested food. Pepsin, charcoal and bismuth tablets may be of much service. Malt and creosote, with cod-liver oil in the absence of fever, should be given, and alcohol is to be used freely. Fever should not be treated unless causing unpleasant symptoms; inunction of guaiacol reduces the temperature very effectually, but is severely depressant. Rest in bed, with light nourishment and a glass of cognac half an hour or so before the expected rise, has a favorable effect on the temperature. Antipyretics (of which phenacetin and sodium salicylate appear the best) should be employed if at all to prevent the rise of temperature rather than to lower it after it has risen. Sweating is best controlled by agaracin in doses of $\frac{1}{12}$ grain and upward; it is free from the after-effects of atropine. The distressing cough is due partly to the presence of material in cavities, partly to the irritability of the mucous membranes of the upper air-passages. That from the latter cause can be much alleviated, as Dettweiler has pointed out, by establishing a habit of self-restraint in the patient. Medicinally, codeia in one per cent. solution is the best agent. The morning paroxysm of coughing is necessary for expectoration of the products accumulated during the night; it can be shortened and at the same time made easy and effectual by administering a glass of some warm alkaline drink with a little brandy or rum in it. Cough from catarrh of the upper air-passages is often relieved by local applications. Vomiting may result from digestive disturbances or laryngeal irritation, and will require different treatment in each case. The various pains from which the patients suffer are best relieved by painting equal parts of glycerine and guaiacol over the affected area. Pleuritic pain at the base of the chest should be treated by strapping, as suggested by Roberts. Diarrhœa, when septic, indicates salicylic acid or naphthol; when due to tuberculous ulceration, opium and bismuth, with an astringent; this form requires careful dieting with peptonoids or peptonized milk. Hæmoptysis calls for the same treatment as in early cases; Darenberg recommends the application of ice to the testicles or vulva for five minutes twice a day. Insomnia may be relieved by light nourishment or a little stimulant at bedtime; if these fail, trional or chloralamid are the most satisfactory hypnotics. Œdema of the lower extremities can only be alleviated by position, gentle friction with alcohol and water, and wrapping the limbs in cotton wool. The mouth and lips should be cleaned with an alkaline wash. The anæmia calls for iron whenever it can be borne. For the cardiac debility strychnine is invaluable.—*The British Medical Journal.*

Recent Observations on Carcinoma of the Stomach.—Dr. Klemm summarizes his opinion on the subject as follows: 1. The treatment of these tumors differs in no respect from that of cancer elsewhere. It is purely surgical. 2. Operation is to be recommended when possible, before the tumor is palpable. 3. Examination should only be made under deep narcosis, and an exploratory incision made if required. 4. Those cases only should be recommended for resection of the pylorus where the tumor is freely movable, and there is no metastatic involvement. 5. If these conditions are not present, the formation of a fistula between the stomach and jejunum is indicated. 6. This operation should not be delayed until the patient is nearly dead of hunger, and the knife then used as a last resource, for the mortality is then much greater. Langenbuch has subjected three patients to total extirpation of the stomach for extensive carcinoma. Of these one only,

a woman of fifty-eight, survived. In this case the portion removed represented seven-eighths of the stomach. The pylorus was stitched to the remains of the cardiac orifice, making a cavity about the size of a hen's egg. Fearing lest the sutures might give way, the new stomach was fixed in the abdominal wound by passing behind it a piece of iodoform gauze; the rest of the abdominal wound was closed. The operation lasted one hour and a half. Milk was given in the evening, and meat on the third day. Convalescence was rapid, and cure was accomplished in three weeks. Levy describes an operation which he has devised for removing the œsophageal extremity of the stomach in cases of malignant disease. So far, the operation has been performed on cadavers and dogs only. The brief outlines of the operation are: 1. Incision through the abdominal wall, beginning in the middle line at the ensiform cartilage and extending to a finger's breadth below the navel, which is passed on its left side, and from this extremity of the wound a second incision is carried at a right angle through the right rectus muscle. 2. Isolation of the cardia by cutting through the adjacent portion of the lesser omentum and applying double ligatures to the arteria and vena coronaria ventriculi sinistra. 3. Isolation of the lower part of the œsophagus after dividing the serous covering around the cardia with scissors. 4. Excision of the cardia and union of the cut surfaces. The œsophagus is divided, a portion at a time, and united to the stomach wound as it is cut. Without this precaution the divided end of the œsophagus disappears in the foramen œsophageum, and suture is then scarcely possible. Rosenheim confirms the conclusions as to the presence of lactic acid not being a pathognomonic sign of cancer. He found it only in fifty-five per cent. of all cases. Lactic acid, therefore, is an inconstant phenomenon, this acid existing for a time, after which it subsides, to reappear later on. Lactic-acid fermentation disappears more particularly as soon as the motor functions of the stomach are markedly improved, which is the case especially after performing gastro enterostomy.—*The Hospital.*

The Dangers of Murphy's Button.—A compilation recently published, of several cases where the intestine was united by the Murphy button, gives interesting data as to the practical effect of this appliance. In one case, where death occurred with symptoms of obstruction, the opening of the button was plugged with hardened fæces. In another, the button was removed by a second operation from the *proximal* side of the anastomosis. Again, death occurred from intestinal gangrene at the site of the button, possibly from the manner in which it was applied (too close approximation of the edges) or its extreme size and weight. In another case the button was found on the proximal side of the end-to-end resection at the autopsy. In two cases of gastro-enterostomy the button was found after death in the stomach—one patient living ten days, the other two to three months. It is evident from the above that the danger of retention of the button is a real one, notwithstanding the successful cases reported. Its principal claim is that it can be applied rapidly, which is true. This will restrict its use to those cases where the most rapid operation possible is indicated, where speed is required at all hazard, and other risks must be ignored on account of the limited time at the disposal of the operator on account of the condition of the patient. The button itself is an appliance which should be properly made, and the technique of its application thoroughly understood. There can be little question that the use of the larger Murphy button is, in the hands of most operators, safer than anastomoses by suture in cases where the condition of the patient renders haste necessary. But, on the other hand, it is for just this class of cases that the anastomoses by absorbable plates—the bone plates of Senn, or the vegetable plates advocated by Dawbarn—have been devised. Anastomosis by these plates takes very little more time than by the Murphy button, and has the advantages of providing a free opening, and of being free from the danger of remaining on the proximal side of the anastomosis as a foreign body in the stomach or intestine. Again, the danger of producing pressure gangrene of the opposed edges is greater in a mechanical appliance of the size and weight of the button, and its unyielding metallic catch will allow no relaxation of its grip, if once too firmly made. Over the lateral or end-to-end anastomosis by suture alone, the plates have the advantage of greater ease and rapidity of application, a fact which renders their use the method chosen in the majority of cases which fall into the hands of the average surgeon. To recapitulate, then, although we must admit that when the patient is capable of sustaining a long operation and the surgeon possesses exceptional skill in dealing with these cases, anastomosis by suture is the ideal method; for the majority of cases, in the hands of the average surgeon, Senn's plates are to be preferred. The use of the Murphy button has been shown to possess inherent disadvantages which should restrict its use to those cases in which it is necessary to hasten in order that the patient may survive the shock of the operation.—*The Boston Medical and Surgical Journal.*

Analgesic Action of Bicarbonate of Soda in Digestive Disorders—Dr. Linossier claims that a diagnosis of hyper-acid dyspepsia, made by the fact that bicarbonate of soda relieves the distress after eating, is entirely erroneous. He asserts that this agent may afford relief in other conditions than hyper-acidity, and gives the following as his opinions: 1. If a gastric crisis following a few hours after meal is relieved by large doses of bicarbonate of soda, it does not follow that the distress is due to hyper-acidity. 2. The analgesic action of this drug may be used in most cases of gastric crisis occurring regularly some hours after meals, even when the train of symptoms or gastric analysis eliminates the possibility of excess of hydrochloric acid.

The drug is best given just before the usual meal time, in doses of from 0.50 to 2 grains, and may be repeated if the sedative action is only short-lived. The same rules are to be followed in the treatment of cases due to hyper-acidity, save that the dose is less, though there need be no hesitancy in increasing it if the calmative effect is not produced. It will be found advantageous in most cases to dissolve the salt in very warm water, the excitomotor action of the water accentuating the effects of the salt. The author insists on the fact that the cases amenable to soda are those recurring periodically toward the end of digestion. The latest cases are, in general, the ones most easily cured. Those occurring immediately after meals, or that are continuous, are not relieved, as a rule. Among the digestive disorders produced some time after meals may be mentioned the insomnia of dyspeptics. In many cases radical relief is obtained by the ingestion of 4 to 8 grains of the bicarbonate four or five hours after the last meal, as Glenard has already remarked. In some patients, unfortunately, the salt rapidly loses its effect and, though the doses are quickly increased, it is only efficacious for a few days. In others, again, it can be used indefinitely with good results.—*Medical Review.*

Genito-urinary Complications Due to Influenza.—Dr. Lamarque has recently studied this class of complications. According to him, the poison acts very often on the kidneys. (*The New York Medical Journal.*) In the simplest cases there is a somewhat intense inflammation of the glomeruli, with slight albuminuria, which lasts for several days and then disappears without leaving any traces, and without modifying the progress of the disease. In other cases, fortunately much rarer, it produces serious nephritis, which from the start exposes the patients to symptoms of renal insufficiency, and death from uræmia may be very rapid.

However, the nephritis of influenza is recovered from in the majority of cases; but it may also pass into the subacute or chronic state. M. Lamarque says that there may be two forms of nephritis in influenza, the hemorrhagic and the albuminous. In the first form hæmaturia is the first symptom; in the second form acute Bright's disease, with albuminuria and a more or less extensive œdema, is observed. Fiessinger, says the writer, was the first to describe grippal nephritis, and in his work on grippal infection he admits the existence of transitory inflammation of the glomeruli with albuminuria, of acute hemorrhagic nephritis without œdema, and of acute Bright's disease. The renal complications of influenza have been studied also by Leyden, Diard, Turoche, and others. Comby and Le Gendre have published observations showing that grippal hæmaturia may be due to simple fluxion. The bladder may be the seat of congestive symptoms, according to Fiessinger, which manifest themselves by a frequent desire to urinate and by trouble during micturition. There is sometimes hæmaturia, and it may supervene independently of any application of blisters. According to Comby, cystitis may be persistent, but usually it disappears at the same time with the influenza. Fenwick has observed atony of the bladder rather frequently, especially in subjects whose bladders have been very much distended during the height of the disease. This author also insists on the relative frequency of catarrh of the prostatic portion of the urethra, with neuralgic radiations. These symptoms are also observed among women.

Gottschalk has seen uterine hemorrhage supervene on the first or on the second day in influenza, accompanied by lumbar and sacral pains and by dysuria. The uterus was tumefied, softened, and very sensitive. This author also admits the existence of an infectious metritis. The hemorrhages last for five to eight days. Influenza predisposes the patients to puerperal infection, and suppurative symptoms may also set in during pregnancy. Abortion and premature delivery have also been observed during the later epidemics of influenza, and this is attributed to the cough and to hyperthermia. These two factors, says the writer, may have an influence in certain cases, but it is certain that the congestive troubles directly produced by the influenza play a very important part. As, on the other hand, congestion cannot explain the symptoms of suppuration and of septicæmia, we must attribute them to infection. The hemorrhages depend on acute endometritis, and they may occur in women who have undergone ablation of the Fallopian tubes and of the ovaries. With regard to puerperal infection, it depends on the streptococcus. Lesions of the testicle are not very rare, and they may or may not be coincident with urethritis.

The Meaning of Casts in the Urine Without Albumin.—According to Dr. Bremer, of St. Louis, a person who constantly or periodically passes urine containing casts, even without albumin, or perhaps with albumin in chemically demonstrable quantity, is not in good health. Such a person has a damaged constitution; his kidneys are, to say the least, vulnerable, and he is prone to contract and to succumb to other diseases. The irritative process which gives rise to the formation of casts may not amount to an actual state of inflammation, and there may not be the recognized signs of fully developed kidney-disease, and yet the subjective symptoms may be very pronounced. These symptoms are often unaccountable to the attending physician because sufficient importance is not attached to the presence of casts in the urine of such persons. In a number of cases periodic, intermittent albuminuria is the feature, and the albumin is in evidence only when a nerve-storm of unusual severity has set in. Such patients may be considered to have vulnerable kidneys. For a long time such patients may not present any albuminuria, the casts only being demonstrable; or even these may disappear, and the urine be absolutely normal; yet there is a dormant pathological condition which may be aggravated into activity. The diagnosis of vulnerable kidney may be doubted by other physicians. Aside from examinations which are based on chemical analysis exclusively, there are several reasons why the search for casts may be negative: First, microscopical incompetency; second, the kidney trouble may have become latent and the casts may be really absent; third, insufficient instrumental equipment—the centrifuge should always be used; fourth, the examiner, even if he find casts, may not attach any importance to them if unaccompanied by albuminuria. Among other reasons why the presence of casts in the urine is alleged to be compatible with perfect health is the finding of them in the urine of athletes after great muscular exertion. The athletes presenting this condition were certainly damaged men. The symptoms produced by this vulnerable kidney range over the neuroses, particularly neurasthenia, inexplicable gastro-intestinal manifestations and grip symptoms, megrim, and other forms of periodic headache.—*Medical Review.*

Experiments on the Gall-ducts and the Liver.—Dr. Nasse, of Berlin, has studied the effect of extirpation of the gall-bladder. Guinea-pigs and rabbits were unaffected. He was unable to corroborate Oddi's results, namely, that dogs after removal of the gall-bladder suffered great hunger, diarrhœa, and emaciation; that later there also developed a dilatation of the gall-ducts. None of Nasse's dogs showed these symptoms or condition. He also ligated single branches of the hepatic duct. This caused an hypertrophy of those hepatic areas where the biliary currents were unobstructed. In the ligated portions small areas of necrosis were found, also proliferation of the gall-ducts and an increase of connective tissue. Rapid atrophy of hepatic cells and shrinking of the affected lobe occurred. This change was complete in four months. The lobe then consisted of fibrous connective tissue and gall-ducts. In cases where the obstruction of the ducts was temporary, the development of ducts and connective tissue was checked, when the ducts became again patent. Even liver-cells regenerated after extreme degeneration.—*Boston Medical and Surgical Journal.*

Diagnosis and Treatment of Perforation of Gastric Ulcer.—Barling remarks that the incidence of perforation of gastric ulcers does not in the least degree correspond to their locality. A large majority of the ulcers occupy the posterior surface and lesser curvature, a few the region of the pylorus, and a still fewer number involve the anterior surface of the stomach; whereas, ulcers on the anterior surface perforate with great frequency, those on the posterior surface rarely in proportion to their actual number, while those on the lesser curvature perforate comparatively often (*University Medical Magazine*). The explanation of this varying tendency is found, first, in the fact that ulcers on the posterior surface and, to a lesser extent, those on the lesser curvature, as they advance tend to become adherent to adjacent parts, while those on the anterior surface, because of greater mobility, rarely form adhesions; and, secondly, because the symptoms of ulcers on the anterior wall of the stomach being less marked than those of ulcers situated elsewhere, the subjects of these are less often aware of their presence, and are more apt to be careless regarding the quality and quantity of diet, whereby the ulcer is subject to undue stretching and traumatism which may result in perforation. In considering the diagnosis, the previous history usually points to the stomach as the seat of lesion. Perforation usually takes place when the stomach is full or partly so, when the patient is in a more or less vertical position, and frequently after some particular act or exertion—stooping, sneezing, or lifting of some heavy weight. The moment of perforation is

usually marked by sudden acute abdominal pain, producing at times faintness, or even collapse or death. Occasionally there may be slight vomiting. The abdominal walls retract and the muscles become rigid; respiration is usually thoracic, quick, and shallow; the temperature subnormal; the pulse quick and feeble. The symptoms now ensuing depend upon the position of the ulcer, the degree of distention of the stomach, and the position the patient occupies. The extravasating material may spread widely into the peritoneal cavity, causing intense and rapidly spreading peritonitis, and death usually in from twelve to seventy-two hours; or it may remain for a time localized between the stomach and liver, eventually escaping from there into the generally peritoneal cavity, causing at first shock, which passes off; and when septic peritonitis ensues from further leakage death occurs, usually in four or five days from the time of the seizure; or, finally, the extravasating material may remain localized under the diaphragm, and produce a subphrenic abscess. In such a case, after the shock passes away, there ensues a period during which the symptoms are so slight as to almost make one doubt the accuracy of the diagnosis. Then follow the general symptoms of pus-formation and the local signs indicating a gas-containing cavity below the diaphragm. Following these may come symptoms of septic invasion of the thorax—pleurisy, empyema, pneumonia, or lung abscesses. As fully ninety-five per cent. of all cases left to medical care die, the only treatment that offers any hope of recovery is operation. Of thirty-seven cases operated upon, thirteen recovered, but he does not suppose that one-third of all the cases have been saved, as many unsuccessful ones have probably not been reported. Meet collapse by maintaining horizontal position, external warmth, enemata of warm fluids and stimulants, and morphine hypodermically; nothing by the mouth. If operation be declined, must depend upon recumbency, absolute rectal feeding, and morphine. If operation be determined upon, there must be a sufficient delay to allow of recovery from shock. The wound in the stomach is to be closed by Lembert sutures without excision of the ulcer, and is to be followed by irrigation of the abdominal cavity. If a subphrenic abscess forms, it is to be evacuated by an incision into it as directly as possible.

Diagnosis of the Pneumonic Form of Acute Pulmonary Tuberculosis.—Drs. A. Fränkel and G. Troje state this to be a rare form of the disease. It may begin with a chill, as croupous pneumonia, or be more insidious, or with a series of lesser chills. The fever soon becomes atypical, more or less remittent or intermittent, which latter sign is a certain diagnostic point to distinguish it from croupous pneumonia. Some patients present labial herpes. The pulse is always moderate, and respiration less disturbed than one would expect from the lesions. Instead of dyspnœa and cyanosis, there is an increasing paleness of the skin and mucous membranes. On auscultation, signs of considerable infiltration of even a whole lobe, thus simulating a croupous pneumonia. Besides pronounced bronchial respiration, extensive crepitation is observed. The most posterior portions of the lung, and generally the lowest lobe, are the favorite sites of predilection. During the course of the disease the dulness may clear up without signifying an actual resolution, for râles are still present. A complete or partial resolution may at times occur. The expectoration is characteristic of pneumonia, in the majority of cases; tenacious, clear, and translucent; in a few cases it is rust-colored, while in others it presented a grass-green coloration which Traube states to be characteristic; hæmoptysis may also be present. Tubercle bacilli are found in the majority. Albuminuria is very rare. Ehrlich's diazoreaction is both of diagnostic and prognostic importance; it was very pronounced in all the fatal cases, but was absent in those that recovered. Delirium was observed now and then, even in non-alcoholics. Where the affections begin acutely and the expectoration is lacking, or pneumonic and no bacilli can be demonstrated, diagnosis is impossible. If it last for some time, then the following points will be of value: Lack of a typical or final crisis, frequent absence of dyspnœa and cyanosis, together with the early pallidity, the green color of the expectoration, and the presence of tubercle bacilli. The diazoreaction in the urine from the commencement; rapid loss of strength and emaciation. The prognosis is very unfavorable.—*New York Medical Times.*

The Blood Alterations of Ether Anæsthesia.—According to Dr. J. Chalmers Da Costa: 1. Etherization produces a marked diminution in the hæmoglobin of the blood. 2. The red corpuscles and the hæmoglobin are especially affected in blood previously diseased, in such conditions, for instance, as anæmia. 3. Irregular reports are due to faulty observation, to the presence of altered hæmoglobin in the blood, to the faulty aberration as to color of a Fleischl instrument, or to taking the blood before anæsthesia is completed. 4. The white corpuscles show irregular changes which are not characteristic, and exhibit variations not more pronounced than would be found in the same number of samples of normal blood on different examinations. 5. Age does not apparently influence the results. 6. Ether pneumonia may be possibly due, in some instances at least, to the action of intense cold on the lungs, produced by the action of ether vapor. 7. Œdema of the lungs may arise from contraction of the pulmonary capillaries, thus producing a loss of *vis a tergo* and damming up of blood in the veins. Furthermore, the same condition may produce sudden paralysis of the heart. 8. The often-quoted observation as to the effect upon the hæmoglobin of shock and hemorrhage requires enlarged repetition upon human beings before the statements can be accepted that hemorrhage causes a great fall in the amount of hæmoglobin, but that shock does not affect it. 9. The chilling of the bloodstream may be responsible for the nephritis that occasionally follows etherization. 10. Prolonged anæsthesia profoundedly deteriorates the blood and strongly militates against recovery; hence rapidity of operation is most desirable.—*Medical News.*

Treatment of Vaginismus.—Dr. Madden states that he has based his treatment of vaginismus on certain reasons, and has found it most successful in these cases, viz., first, the employment of constitutional nerve sedatives and tonics to allay the general neurotic condition; and, secondly, the application of local nerve-stretching to the affected parts. On the latter point he briefly recapitulates the steps of the local procedure which he has proved the efficacy of, and which he would, therefore, venture to recommend to other practitioners. First, then, the patient, properly prepared for an antiseptic vaginal operation, and the rectum and bladder evacuated, is to be etherized and placed in the ordinary left lateral semi-prone position; secondly, a large-sized bivalve vaginal speculum is to be introduced, and the blades then fully expanded; thirdly, a tampon of antiseptic cotton or wood wool, saturated in boroglyceride, is to be passed in through the speculum, so as to fill its calibre from the vulva to the roof of the vaginal vault; fourthly, the speculum, still widely expanded, is to be forcibly withdrawn, so as to overcome the contractility of the parts, and at the same time thoroughly stretch, or even slightly rupture, the affected nerve-fibres. In so doing, some little abrasion of the vaginal walls may possibly be occasioned; but any hemorrhage therefrom will be sufficiently controlled by the tampon, on which counter-pressure should be made during removal of speculum, so as to retain the included plug in the vagina, where it may be left for at least twenty-four hours, and then, at the same intervals, replaced by

other antiseptic tampons, which should be employed for the next week to maintain the patency of the passage. Immediately after removal of these tampons the vagina should on each occasion be thoroughly flushed out with some antiseptic injection. Finally, if at the end of a week any evidence of vaginismus or spasmodic contraction should still remain, then the same procedure may be again repeated, after which it will probably be found that the passage has regained its normal sensibility and capacity. In some exceptional instances that curative result may not be thus obtainable, and in such cases it may possibly become necessary to resort to the removal of any specially hyperæsthetic tissues in the vulva vaginal area, or else to some of the recent modifications of Sims's or Emmett's operations for vaginismus. These procedures will, however, be comparatively seldom required by gynecologists, who may adopt the simpler and, according to the author's experience, generally effectual plan of treatment he has described.—*Provincial Medical Journal.*

The Operative Treatment of Spinal Caries.—Dr. Calot holds that in the present state of science it is unjustifiable to operate in cases of paralysis due to Pott's disease of the spine, as most of these cases will recover, if treated by prolonged rest. Of twenty cases treated by the author during the last four years by rest and immobilization, nineteen are either quite cured or on their way to complete cure, one only having died in consequence of the rupture of a large psoas abscess into the bladder. Operative treatment is contra-indicated in Pott's disease by the seat and the extent of the lesions, by the nature of the tuberculous process, and by all the risk attending surgical interference. It has been stated that in fifty per cent. of the recorded cases thus treated, death has been due directly to the operation, and there is reason to believe that the mortality really amounts to between sixty and eighty per cent. The author concludes that the operative treatment, which is so fatal or useless in a large majority of cases, does not afford in the few successful cases better results than those obtained by strictly orthopedic treatment.—*University Medical Magazine.*

Tuberculosis in Syphilitics.—According to Dr. Jacquimet, it is quite frequent to see pulmonary troubles complicate those of syphilis. These complications have been long recognized, as Ambroise Paré speaks of them, but their nature has been questioned. Some thought that there was a lesion due really to the syphilis, others regard it purely and simply as phthisis. It has been shown that the pulmonary lesions occurring in syphilitics should be attributed to two different causes: one of a true syphilitic nature, which, therefore, should receive the antisyphilitic treatment, the other enters the body with tuberculous manifestations. Jacquimet has made a study of the evolution of pulmonary tuberculosis in syphilitics. If the syphilis exists in individuals already attacked by pulmonary tuberculosis, it aggravates the latter and increases it. If, on the contrary, tuberculosis develops in a syphilitic, it proceeds in two different ways: it develops very rapidly if the syphilis is in its secondary period, and, on the contrary, it proceeds slowly and torpidly if it arises in the tertiary stage. Syphilis plays a double part in regard to the tuberculous bacillus. In weakening the system it permits the development of the bacillus, and, on the other hand, by the lesions of the pulmonary apparatus, it permits inoculation of the tubercle bacillus. As to the pleurisies of the secondary period of syphilis, which have been recently described, Jacquimet agrees with Landouzy, that they are of a bacillary nature. The diagnosis between pulmonary syphilis and pulmonary tuberculosis in syphilitics can only be made by bacteriological examination of the expectoration. The author agrees with Landouzy, in believing that in the infectious group there is none worse, none so formidable, as the combination of syphilis and tuberculosis.—*Union Médicale.*

Forced Feeding for Nine Years.—Dr. Gadelius records the case of a tailor, aged thirty-two, an assiduous workman, slow, taciturn, but amenable to reason. Insanity of persecution developed; the prominent symptoms being anxiety and insomnia, with neglect of his person and refusal to take food. When spoken to he invariably answered, in an undertone, "Fine weather, to-day," and, later on, "I do not know." Forced feeding was carried on uninterruptedly from April 24, 1883, to February 12, 1892, the body-weight increasing during this period from 101 to 160 pounds. From April, 1883, to May, 1886, he remained in a condition of complete stupor and anæsthesia. The author considers the prodromic delirium as a paranoiac psychosis in a degenerate subject, and regards the case as a psychosis of exhaustion, being practically a condition of syncope from beginning to end. On awakening from the stupor, the patient had lost most of his former knowledge of things and places, but soon recovered it.—*Hygeïa.*

Painful Digestion in the Hysterical.—Among the interesting papers in the July issue of the *Liverpool Medico-Chirurgical Journal*, is one by Dr. T. R. Glynn, on painful digestion in hysterical subjects. The symptoms are somewhat like those of gastric ulcer. Pain, especially after food and relieved by vomiting, and the occasional ejection of blood, are confusing points of resemblance. Nervous dyspepsia is very frequently met with in chloro-anæmia. Chlorotic young women suffer from painful sensations and hyperæsthesia in various parts: headache, tenderness in the head; backache, tenderness along the spine; pain or tenderness in the breasts and ovaries; teeth are extracted for toothache; there is pain after food and other stomach troubles; more or less tenderness on pressure over the epigastrium, and perhaps cutaneous hyperæsthesia, its area following the distribution of the tender spots characteristic of hysteria. The great majority of chlorotic girls are hysterical, presenting the stigmata of hysteria. The hyperæsthesia and neuralgias in chloro-anæmia are not directly due to anæmia, but to the hysterical condition dependent upon it. Nervous dyspepsia occurs in persons who are simply hysterical and not chlorotic, and is met with in subjects who have neither chlorosis nor hysteria. The chlorotic girls who are not also hysterical are free from nervous dyspepsia and from pain. A case, B. H——, was sent to the hospital for gastric ulcer. For a month there had been pain in the epigastrium, back, and beneath each breast. The pain was aching and wearing, intense after eating, coming on immediately after deglutition, and often keeping her awake at night. She vomited three or four times daily, with occasionally a little blood in the ejected matter, and often much bile. M. T——, also sent in as a case of gastric ulcer, complained of vomiting, and hæmatemesis. During convalescence from an acute illness, headaches began, and pains in the back, under the left breast, and in the left ovary. Milk diet improved her somewhat for a time. There was right hemianalgesia, restriction of visual fields, various tender spots, exaggerated knee-jerks, and absence of plantar reflexes. L——, very hysterical, neurotic family history, migraine ever since she could remember; was sent in as a probable case of catarrh of the stomach. She had entirely lost her appetite and vomited continually. No food had any taste. There was hemianalgesia, restricted visual fields, various tender spots, tremor, and loss of the olfactory, and of the gustatory sense. This loss was an exaggeration of a condition common in the hysterical, and often found in a marked degree in hysterical anorexia. The pain in nervous dyspepsia is often very violent. In one case under observation, the amount of shock was sufficient to suggest the possibility of intestinal perforation. Yet the hysterical analgesia was so marked that the inser-

tion of a hypodermic needle to introduce morphia was unnoticed. It is difficult to get patients to localize pain. It is referred to the end of the sternum, to the epigastrium, in the back, under the left breast, or it is said to stab through, or go around the body. Where pain is experienced on swallowing, the referred pain is felt over the ensiform cartilage, *i.e.*, over a small area supplied by the sensory root of the sixth or seventh dorsal nerves. The superficial pains follow the distribution described by Dr. Head, in *Brain*, Part LXI., in a paper on "Disturbances of Sensation with Special Reference to the Pain of Visceral Disease." They are referred to the surface of the body, back, and front, supplied by the sixth, seventh, eighth, and ninth sensory roots, the maximum seats of pain being distributed somewhat differently in different cases, over the epigastrium, and lower dorsal region. The theory that the mucous membrane of the stomach, in this form of painful dyspepsia, is in a hyperæsthetic condition, owing to an abnormal state of central gray matter, explains many of the characters of the affection. The swallowing of simple liquids gives pain. This symptom points to extreme sensibility, that is much more common in nervous dyspepsia than in gastric ulcer. The pain in the gastric neurosis is often severe at night. So also is that of gastric ulcer, reaching its maximum intensity between eleven and one. But the pain of nervous dyspepsia is frequently severe on waking, before breakfast. In gastric ulcer, hyperæsthetic cutaneous areas are more limited than in nervous dyspepsia. Flatulence is more common in nervous dyspepsia than in gastric ulcer. Pain in gastric ulcer depends largely upon the general condition of the patient, and it may be present at one time during the disease, and absent at another. Hysterical persons may also have gastric ulcer, and the chlorotic are predisposed to it. Hysteria, chlorosis, and gastric ulcer are close allies. In nervous dyspepsia, treatment directed to the general condition brings about better results than efforts directed to the local or stomach troubles. Absolute rest in bed is necessary, with cold sponging and massage, and a diet restricted to liquids for a day or two, but quickly made substantial, varied, and generous. Iron may be needed for anæmia and some sedative for pain. No benefit is derived from alkalies, acids, tonics, antispasmodics, antiseptics, etc. Drugging with nitric acid and pepsin, bismuth and carbonate of soda, sulpho carbolates and salol, leaves the patient in much the same condition for months, or years. Then, too, it is wise to remember always that with gastric ulcer there may be also a strong neurotic element that is made worse by an interminable course of milk and lime-water.

Rickets and Convulsions.—Out of 1,600 rickety children observed by J. Comby in a Paris dispensary, only one-tenth had convulsions, while Henoch attributes two-thirds of the cases of goitre spasm to rickets. Although rickets is so common in Paris, goitre spasm is very rare, and the author believes there is a relation of cause and effect between rickets and laryngeal spasm. Still less is this so with dentition (even when delayed and perverted by rickets). Among 70,000 children seen during eleven years, Comby never saw convulsions of purely dental origin, and never had occasion to lance the gums. Craniotabes, sometimes assumed as a cause of gastric spasm, if looked for is found with "extraordinary frequency," and in cases where there has never been any convulsion or glottic spasm. The bond that unites the two morbid states (rickets and convulsions) is dyspepsia (dilatation of the stomach, diarrhœa, constipation, etc.), with auto-intoxication, from which arise all these nervous disorders, and in a great part even rickets itself.—*Gaillard's Medical Journal.*

The Hysterical Breast.—Dr. Gilles de la Tourette considers this condition of much importance, not only because it is a well-defined manifestation of hysteria, but also from the fact that it has given rise to errors of diagnosis and needless removal of the organ. It consists in a temporary enlargement of the breast, with considerable hyperæsthesia of the skin covering the organ. This hyperæsthesia, liable to vary, becomes much more marked during menstruation; there is then also more swelling, and considerable pain is complained of. On palpation at such a time it is possible to perceive one or perhaps two tumor-like masses in the substance of the breast, about the size of a hen's egg, but which are not painful, the hyperæsthesia being cutaneous. The affection is often of long duration, more especially in those cases where there is faulty therapeusis, as often happens. It seems to depend on a hysterogenous band of hyperæsthesia at the level of the breast, which induces an œdema of the connective tissue of the gland. In this way are produced the local swellings, and even patches of white, pink, or violet under the skin.—*Journal de Médecine.*

The Causes of Death in Pneumonia.—Dr. Bollinger maintains that croupous pneumonia is a typical local infectious disease, pursuing in the majority of cases a very regular course. It is not dangerous on account of the duration or the intensity of the fever. The impairment of the function of the lung is likewise insufficient to explain death. The œdema so frequently found in the parts of the lung spared by the disease is not the result of a passively increasing collateral hyperæmia, but of cardiac failure. The collapse symptoms in croupous pneumonia and the fatal weakening of the heart are dependent on oligæmia, which leads to impaired nutrition of the cardiac muscle, already weakened by the fever and the extra demands upon it. Anæmia of the brain may cause disturbances of innervation of the heart, and this may be an additional factor. The exudate into the lung tissue may be likened to a venesection produced by the pneumococcus, which in a few days deprives the blood of a large quantity of important constituents. The reason why death takes place so early, and usually in the same stage of the disease, from the sixth to the eighth day (corresponding to the transition from red to gray hepatization), is probably because the exudate has to attain a certain acme before life is imperilled. If these facts are applied to therapeusis, it follows that, in addition to the usual treatment of pneumonia, every effort should be made to combat the oligæmia. Large quantities of fluids should be supplied to the system through every available channel, even in the form of saline infusions. This should be done at an early period, before collapse symptoms have manifested themselves.—*Münchener medicinishe Wochenschrift.*

Moist or Dry Asepsis?—At a recent discussion Sanger raised this question in a long paper, in which he described 147 cases of cœliotomy, all treated with Tavel's soda solution. His results were perfectly satisfactory, not one succumbing to sepsis out of the six deaths. Three of the sections showed no adhesions. He advocated this as the best antiseptic for keeping the peritoneal epithelium intact. Zweifel acknowledged himself as a devotee of the dry method. With carefully applied dry antisepsis he had not a single death to record from ileitis. It is true that he had two cases that showed symptoms of the chronic form of ileus, which subsequently was relieved by operation. He was convinced that the moist antisepsis had worse results to record. Freund was of opinion that improved surgical treatment or antiseptic treatment would not increase the liability to ileus after laparotomy. Within the last five years he had four cases of ileus, none of which, he was confident, were caused by the operation. Three of them were undoubtedly due to a catarrhal process which produced stenosis of the flexura sigmoidea, subsequently inducing ileus. Schauta said that he could record 1,300 cœliotomies. In the first half of these he had used moist asepsis with four deaths; with the second half, dry antiseptics with no deaths. He was of

opinion that moist or dry antiseptics had no effect *per se* on the production of ileus, but he thought better methods of operation with perfect asepsis had a considerable influence in its reduction. Tauffer recorded 348 laparotomies with dry septic treatment, and 443 with moist treatment. In the former series he had two deaths; in the latter ten deaths to record.—*Medical Press.*

Diet in Bright's Disease.—The question of what diet is the most suitable in the various forms of Bright's disease has been, and is still, a much-debated point. It is particularly a question where theoretical views are likely to influence practice. If Bright's disease is looked upon as a primary inflammatory affection of the kidneys, articles of diet possessing diuretic properties will probably be avoided. If uræmia is considered to be due to failure on the part of the kidneys to excrete nitrogeneous extractives, there will be a tendency to diminish as much as possible the quantity of proteid matter in the food. It is more especially in chronic Bright's disease that the question is important. Dr. Hirschfeld discusses anew the various diets suitable in this disease. He considers that the albuminuria is the first point that calls for attention, and that all articles of diet which cause an unequivocal increase in the daily loss of albumin are to be avoided—for instance, alcohol and smoked meats. Eggs are not harmful in moderation. He points out that although the actual loss of albumin in the urine may not amount to more than a few grammes per diem, yet this loss cannot be made up for by increasing the amount of proteid in the food. Not only is an increase of proteid in the food followed by an increase in the albuminuria, but, in addition, there are increased amounts of nitrogeneous extractives to be excreted, and thus more strain is thrown on the damaged kidneys. Although, of course, the increased loss of albumin is much less than the increase of proteid in the food, yet it is extremely doubtful whether any proteid is retained in the body as such. In health it is known that increased proteid food leads to increased proteid metabolism, and that, if proteid metabolism is to be checked, it is done most efficiently by increasing the fatty and carbo-hydrate foods. For these reasons the albuminuria is not to be combated by increased proteid diet. Many authorities on renal disease lay but little stress on the daily loss of albumin, and think that, if the general condition of the patient is improved by a more liberal diet, this should be persevered in notwithstanding the increased albuminuria. Hirschfeld states that a rich proteid diet is likely to lead to the retention of nitrogeneous extractives, since the increased excretion of these extractives following such a diet occurs later in patients with diseased kidneys than under normal conditions. Hence such a diet might predispose to uræmia. Hale White, however, states definitely ("Med.-Chir. Trans.," vol. lxxvi.) that in his experience an ordinary full diet does not increase the liability to uræmia, and he quotes one striking case in which a patient developed severe uræmia on a farinaceous diet, and when these symptoms became less a full diet was given without any return of uræmic symptoms. Hirschfeld would give about 6 ounces of meat and 13 ounces of bread daily, with a liberal allowance of vegetables and fruit, 1½ ounce of sugar, and 5 ounces of fat, as a typical diet for a patient with chronic Bright's disease. As regards the value of milk in this disease, he points out that it may be used in one of three ways. First (as Karell suggested), in small quantities—*i.e.*, two to three pints daily, and as the sole food. In this way the work of the kidneys is reduced to a minimum. At the same time it is almost a starvation diet, and is mainly useful in acute Bright's and in cases where there is great failure of appetite. Secondly, milk may be given in large quantities, say from four to eight pints daily. This is a form of treatment much advocated by Germain Sée and others. These observers state that albuminuria often disappears under this *régime*, and does not return when a more liberal diet is allowed. Finally, milk may be given in moderate quantities in addition to, rather than in lieu of, the mixed diet recommended above.—*The Practitioner.*

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, December 4, 1895.

JOSEPH D. BRYANT, M.D., PRESIDENT, IN THE CHAIR.

Nominations.—*Vice-President*, Drs. Egbert H. Grandin, Virgil P. Gibney, R. W. Taylor; *Trustee*, Dr. Joseph E. Janvrin; *Committee on Library*, vacancy of four years, Drs. H. L. Collyer, C. G. Coakley, A. Rose, F. W. Wiggin; vacancy of five years, Drs. Dillon Brown, B. F. Curtis; *Committee on Admission*, one to be elected, Drs. R. A. Murray, John Girdner; *Five Delegates to the State Medical Society*, Drs. W. S. Gottheil, Joseph Collins, R. H. Sayre, Ralph L. Parsons, C. H. Richardson.

A Study of the Infectiousness of the Dust in the Adirondack Sanitarium.—DR. IRWIN H. HANCE read the paper (see p. 903).

Discussion.—DR. E. G. JANEWAY thought that while Dr. Hance had taken very little of our time to give us these facts, they were, nevertheless, very important and had involved a great deal of work. At a recent visit to the Sanitarium he had been impressed with its absolute cleanliness, the clear air about the cottages, their excellent ventilation, and the small number of inmates for the amount of air-space. In fact, he would much prefer to live in one of these cottages than at many hotels frequented by invalids. He felt that the chances of a patient sent there would be better than at most hotels. He often advised delicate people not to resort to hotels frequented by invalids, unless the proprietor was known to be extra careful regarding cleanliness, etc. We must not send our pulmonary invalids to places where they are liable to receive worse infection. Dr. Janeway said he knew from personal questioning of phthisical patients that there were many physicians in this city who did not warn their patients of the possibility of infecting others through the sputa and other excreta. If the precautions taken at the Adirondack Sanitarium were applied in this city we would have less tuberculosis. Yesterday, while riding in a street-car in Philadelphia, he observed a sign: "Passengers are positively prohibited from spitting in this car." This was a good warning, although it might not always be heeded.

DR. HERMAN M. BIGGS hoped the paper read would prove of great service to physicians and the Board of Health in combating tuberculosis in New York. It was exceedingly gratifying to learn that such precautions could be taken in a hospital for tuberculosis, which would effectually prevent danger of infection. The experiments narrated would seem to indicate that fact in the clearest way.

A few years ago, when the Board of Health contemplated classifying tuberculosis among the infectious diseases, a great outcry was made by the people and physicians that it would make these invalids a source of horror to their friends and cause them to be shunned as if they were lepers. The fact appeared to have been overlooked that, with proper precautions, they could be rendered absolutely innoxious to their associates. But where these precautions were not taken there was positive evidence of the greatest danger of spreading the infection. In one of our city hospitals as many as eleven nurses and orderlies, previously

healthy, had been dismissed within a little more than two years, because suffering from tuberculosis. It was due to the fact that the hospital was overcrowded, had poor ventilation, and other conditions favorable for the transmission of the disease. Moreover, patients admitted with other diseases and remaining in such hospitals a few months often contracted tuberculosis.

The Health Department had found it the exception for physicians to instruct their patients with tuberculosis as to the danger of their sputa and the necessity for its safe disposal. This was nothing less than criminal negligence or indifference. One of the largest and best hospitals in the city lately handed the clothing and handerchiefs of a man dying in its wards of tuberculosis over to the wife without first disinfecting them, and this woman herself knew that it was wrong and boiled the clothes immediately. The people, it seemed, were being educated in advance of a part of the profession, for they followed precautions which they learned through the newspapers and without having been instructed by the family physician.

Dr. Biggs said it had been a hope of his for years that eventually a home for the treatment of the poor with tuberculosis would be established in the country. The paper showed that such a method of caring for these cases would be safe and practical.

Dr. H. P. Loomis said that ten years ago phthisis was not thought of as an infectious disease, and he believed it was about five years ago that the pathologists of the Board of Health were asked whether tuberculosis should be regarded as a source of infection. To-day the laity understood perfectly that it was. They were talking about the dust in their rooms, and he believed that more of them recognized this source of danger than we supposed. It was a satisfaction to know that there was a place where we could go and get absolutely harmless air, even if it did necessitate a sojourn at a consumptive sanitarium. He had paid many visits to Saranac Lake, and remembered well that in the beginning the project of establishing such a sanitarium met with much opposition, one objection which was suggested being that to bring together so many patients with a lingering disease would have a depressing effect; also that after a time the furniture would become contaminated and prove dangerous. Dr. Trudeaux did not believe this, and the paper read by Dr. Hance showed that under the plan adopted, of separate buildings, cleanliness, and destruction of the sputum, the danger of infection was very slight.

Dr. Loomis thought there was no doubt but what the separate house plan, with cleanliness and proper disposal of the sputum, was best in the management of consumption. With one exception there was no general hospital in the city which would retain within its wards cases of tuberculosis, and he believed the Commissioners of Charities were about to exclude them from Bellevue. The position of the tuberculous patient was sad indeed, as he drifted about between the Scylla of an agonizing family without means and the Charybdis of a charity hospital with closed doors. In view of the safety secured against infection in the Adirondack Sanitarium, Dr. Loomis thought the hospitals in this city could have separate buildings or wards in which tuberculous patients could be treated without danger to other wards. He believed St. Luke's, in its new site, would provide for this want, and the example ought to be copied by other institutions.

Dr. Freudenthal said that at Montefiore Home the sputa was carefully destroyed and the ventilation was better than at Bellevue, yet cases of infection with tuberculosis did occur in nurses and inmates. This might be accounted for in part by the fact that absolute cleanliness of patients and clothing was hardly possible.

Tuberculous Heirlooms in Country Homes. — Dr. Andrew H. Smith hoped this paper and its warning would reach country practitioners and people, for a great many houses in the rural districts, along with their ancient tapestry and furniture, were hot-beds for the culture of tubercle bacilli. Unlike houses in the city, the contents were not subject to change, but were sometimes used by several generations. The result was, that not infrequently one after another in the house died of tuberculosis, and it was wrongly attributed to heredity instead of infection. They should be taught to leave their windows open and to renovate the furniture. Regarding sleeping-cars, Dr. Smith said the sheets were cleansed, but the blankets were used probably year after year without disinfection, and he never felt like permitting a patient going toward Saranac Lake to take a night train.

Infection in Hotels.—Dr. A. Jacobi said he knew from personal observation of the negligence of a number of our hotels with regard to infectious diseases. He knew more particularly of cases where diphtheria had occurred at intervals in the same suite of rooms in hotels, due, no doubt, to want of disinfection, cleanliness, and change of tapestry, etc. Tuberculosis could be spread in the same way. He thought there was more danger in the better class of flats, where the stairs were carpeted but seldom cleaned, than in the lower tenements, where no carpets existed.

Dr. Charles A. Leale said the sleeping-cars going north were not the only ones whose blankets might profitably be cleaner, as he had observed on a trip to Jacksonville. In Florida, too, he saw draperies and carpets in hotels so contaminated as almost to produce emesis in the healthy.

Dr. J. W. Brannan thought that since Dr. Hance had shown that it was possible to conduct a sanitarium on a clean principle, it ought to be exacted of all institutions in this country to show a like clean bill of health.

Dr. A. Rose said that in places in Europe visited by him three things were missing which we had here, namely, carpets, dark bedrooms, and a basement. It would be interesting to know how much less tuberculosis we would have if these three things did not exist.

Advancing.—The President said that five years ago, when he was Health Commissioner, he had a stereotyped letter sent out to twenty-four prominent physicians of the city, asking them whether they thought we were sufficiently advanced to justify the Board of Health in classifying tuberculosis among the infectious or contagious diseases. Five replies were received. Two hesitatingly said yes; one was of doubtful tenor; one was long, earnest, logical, and fully awake to the situation; the fifth said no. The President thought that the discussion to-night showed that steps had been taken which would bring forth fruit.

Dr. Hance, in some closing remarks, said that probably not one patient in fifty coming to the Sanitarium knew what disposition to make of his sputa until instructed. In the village they would not use the sanitarium cuspidor for a time, but they had so greatly changed that about two years ago the local Board of Health had made its use obligatory. That examination of dust under the microscope was a poor test of its infectious character was shown by the fact that out of many specimens examined from one cottage he found only one tubercle bacillus, whereas inoculation of guinea-pigs with this dust had caused tuberculosis in fifty per cent. In reply to an interrogatory by Dr. Brannan he said the Sanitarium was a charity, charging a fixed price of five dollars a week, while the actual expense averaged about seven dollars. Only such cases were received as gave some promise of recovery. Fresh air was an important part of the treatment, the patients being out of doors six or eight hours daily during the winter, and longer during the summer. He also stated that he did not know what was the cause of death in guinea-pigs injected with the dust and in which tuberculosis was excluded. Death usually took place in forty-eight hours, the prominent post-mortem changes being œdema, cellulitis, and peritonitis.

Therapeutic Hints.

Ulcers of the Cornea.—The use of the thermo-cautery combined with the mydriatic-meiotic alternation has, in my hands, produced the most gratifying results in the treatment of corneal ulcers. The following axiom will be found very useful: Use as much eserine as possible, avoiding the causation of an iritis, and as little atropine as possible, sufficient only to maintain a mobile pupil. Lack of space prevents a detailed description. Be the pupil large or small, it must invariably first be artificially dilated. Eserine should never be employed alone in this class of cases, as iritis will be the inevitable result. Atropine, used by itself for any length of time in ulcer, increases tension; nutrition is thereby impaired, reparation retarded, and frequently, in severer forms, the eye in consequence perishes. Judicious alternation keeps the iris in motion, and maintains normal intra-ocular pressure; as a result healing is expedited and facilitated.—H. DAVISON-SCHWARZSCHILD.

Creosote.—From it two very gratifying results are found: 1. It possesses undoubted power to relieve the fetor of the expectoration in foul-smelling cases of bronchiectasis and phthisical cavities. 2. In small doses (1 to 2 minims thrice daily) it promotes the appetite and tends to stimulate the powers of digestion. Beyond this it is not found that it modifies in any appreciable manner the ordinary course of phthisis.—CROOK.

Calomel.—One grain of thoroughly triturated calomel is equivalent to five to ten grains of the untriturated drug. If given for its purgative effect or for its action on the liver, one-tenth of a grain triturated is administered every hour or half-hour until free evacuation occurs; or one grain is taken, then, if necessary, ounce doses of *liquor magnesii citratis* can be given until free action of the bowels is obtained. The drug is not a direct diuretic *per se*, but it may act indirectly to a slight extent simply by its general stimulating action upon the emunctories of the entire body, thus favoring secretion, excretion, and the elimination of intestinal ptomaines and systemic poisons, all of which act unfavorably upon the secretory and excretory organs when present.—STEWART.

Inebriety.—Inebriety is curable in one-third the cases. The basis of treatment is complete compulsory prolonged abstinence; without this method there is no chance of recovery. This abstinence should be supplemented by treatment of the condition of the nervous system, of which inebriety is the symptom. The patient should be placed under discipline and subjected to an efficacious surveillance. The duration of the treatment should be at least one year.—MONTYEL.

Sedative Cough Mixture in Phthisis.—

℞. Codeinæ sulph..... gr. iij.
Liq. atrop. sulph..... ♏. xij.
Liq. strychniæ..... ʒ j.
Syr. tolutani..... ℥ jss.
Infus. rosæ acidi.....ad. ℥ vj.

S.—Tablespoonful in a wineglass of water every four or six hours.

Psoriasis.—Remove the scales by alkaline washes, and then apply glycerole of starch, oil of cade, of each 3½ ounces; soft soap, 75 grains; salicylic acid, 45 grains. The parts are washed with warm water and tar soap every three or four days. In obstinate cases the scales are removed and the following ointment employed: Ichthyol, pyrogallol, and salicylic acid, of each 30 grains; vaselin, lard, and lanolin, of each 1 ounce.—COFFIN.

Pernicious Anæmia.—That pernicious anæmia is not a special disease, but secondary to numerous exhausting conditions. That these induce an initial anæmia which is followed in certain cases by degenerative changes in the blood-vessels. That capillary hemorrhages result and induce an excessive degree of anæmia. That some cases are due chiefly to external bleedings, which account for all the characteristic symptoms and post-mortem appearances. That the treatment should be based on etiological considerations.—STOCKMAN.

Napoleon's Favorite Prescriptions.—The following are given by Charles B. Williams as prescriptions frequently used by Napoleon I.:

(1) ℞. Pulv. ipecac..... gr. xxx.
Pulv. scillæ,
Pulv. ammoniæ.....ää gr. xl.
Div. in pil. No. xxxiv.
S.—Two pills night and morning.

The above was used for difficulty of breathing, bronchitis, etc.

(2) ℞. Liq. ammoniæ fortioris..... ♏ x.
Syrupi erysemi..... ℥ jss.
Infusionis tiliæ florum..... ..... ʒ ijss.
S.—To be taken at one dose.

This was used for immediate relief of hoarseness.

The syrup of erysemum and the infusion of linden flowers would be difficult to obtain at the present day, and these may be replaced as in the following:

℞. Liq. ammoniæ fortioris..... ... ♏ x.
Syrup acaciæ..... ʒ jss.
Aq. aurantii flor..... ℥ ijss.
S.—To be taken at a dose.

—*Medical and Surgical Reporter.*

Fever in Nephritis.—Fever may occur in the course of Bright's disease under three conditions: 1, At the onset of acute nephritis as a result of the infection or intoxication causing the disease, or of the inflammatory or degenerative lesions in the kidneys themselves; 2, in the course of acute or chronic Bright's disease as a result of various complications; and, 3, in uræmia. The fever associated with uræmia may be sudden and pronounced, and associated with coma, delirium, or convulsions—eclamptic fever; or it may be more general, more lasting, less marked, and associated with typhoidal symptoms—slow uræmic fever.—STENGEL.

In Urine.—There are at least seven toxic substances in the normal urine. These are: 1, A diuretic substance (urea); 2, a narcotic poison; 3, a sialogogue; 4, a temperature-reducing substance; 5 and 6, convulsants (one, doubtless, potassium); and 7, a poison which causes contraction of the pupil.—BOUCHARD.

Guaiacol.—1. Guaiacol is an efficient local sedative, as shown by its analgesic power when employed in painful affections. 2. It is more potent when administered hypodermically than when it is applied to the skin surface. 3. It has not, in practically afebrile conditions, produced any noticeable lowering of temperature or other unpleasant effects in my experience. 4. When employed in febrile affections, it may cause objectionable effects, such as rigors, followed by high temperature. 5. Guaiacol seems to be powerless to control inflammatory processes, particularly when acute in character.—ANDERS.

Predisposition of Persons to Consumption.—Many people think that consumption is inherited, but the closest investigation has shown that it is not inherited, and that only the susceptibility or liability to the disease is inherited. Thus the children of a tubercular family do not necessarily inherit the disease itself, but they inherit the constitution, which, when exposed to the germ, furnishes a soil which propagates the disease with great rapidity, and one after the other succumbs.

Cough.—The obstinate cough due to a dilated heart, or one affected at the orifices with organic changes, is very frequent and should be constantly kept in mind

Not seldom, when I have not known what else to do, I have freely stimulated a somewhat weak cardiac action and thus stopped a bad cough in a few days.—ROBINSON.

Taches Bleuatres.—Revilliod believes the spots to be due to the excrement of the pediculus, which he states is an insect of very cleanly habits, and that during the night he leaves his usual seat at the root of the hair and deposits his fæces in the adjacent parts of the body! Bowditch is inclined to believe that Moursou's original statement of the relation between the pediculus and the taches bleuâtres is undoubtedly correct.

Typhoid Fever.—The author concludes that, 1, the antiseptic treatment is the rational one; 2, guaiacol is a safe remedy and prevents the toxin-poisoning of the later stages; 3, it will lower the temperature when applied externally; 4, the typhoid patients do better by keeping the bowels acting up to a certain point, rather than checking them, and will derive comfort and benefit from daily douching of the large intestine with warm or cold water.—HULL.

Acute Intestinal Invagination.—1. Operation should be resorted to as early as possible after non-operative methods have been thoroughly tried without success. 2. After a laparotomy disinvagination is of value when it can be accomplished without any great difficulty. If the intestinal wall is suspicious looking at the point of invagination, the peritoneal cavity should be walled off with iodoform gauze, or the particular portion of the intestine should be drawn outside of the abdominal wall. 3. When disinvagination is impossible the resection of the invagination is the least dangerous procedure. 4. The resection of the entire invagination should be performed when the invaginating sheath is so markedly altered that there is danger of perforation. 5. The formation of an anus præternaturalis or an entero-anastomosis have usually no place in these cases; only in the presence of collapse is the formation of an artificial anus permissible.—RUDYGIER.

Chronic Intestinal Invagination.—In chronic invagination internal medication and non-operative methods must be employed, but should be abandoned after a week's trial. Disinvagination is of little avail, although four successful cases have been reported—one at nine months, two at six months, and one at ten weeks. Resection of the invagination is here also the operative method of choice. Entero-anastomosis should only be undertaken in the presence of adhesions. An artificial anus should not be thought of in the treatment of chronic invagination.—RUDYGIER.

Tuberculin.—Three instances are cited in which Koch's tuberculin was used in tubercular affections which were not pulmonary—tubercular cystitis and tubercular hip-joint diseases (two cases). From the improvement which has been noted in these cases we may conclude that there is ample justification for its use in the positive, although sometimes necessarily more or less transitory, immunizing influence.—DENISON.

Schleich's Method of Local Anæsthesia.—Dr. Theophilus Parvin, at the last meeting of the County Medical Society, read a paper on "Schleich's Method of Local Anæsthesia" by subcutaneous and parenchymatous injections of weak cocaine-morphine solutions, and demonstrated the effect in his own person, by allowing an incision of an inch in length to be made in his forearm and to be stitched up, under its influence, in the presence of the society. He declared it to be an absolutely painless procedure and predicted great future usefulness for this method in surgery, and that at least fifty per cent. of the operations now done under general anæsthetics will ultimately be done by this method, which he declared suitable even for major operations.—*Boston Medical and Surgical Journal.*

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending December 21, 1895.

	Cases.	Deaths.
Tuberculosis	99	112
Typhoid fever	33	13
Scarlet fever	91	6
Cerebro-spinal meningitis	0	2
Measles	234	22
Diphtheria	248	37
Small-pox	1	0

Naso-pharyngeal Catarrh and One of Its Causes.—Post-nasal catarrh is so frequent in this country that when European authors speak of American catarrh they mean this affection. Dr. W. Freudenthal, of New York, in a paper read in the section on Laryngology and Otology at the forty-sixth annual meeting of the American Medical Association (Some Points Regarding the Etiology and Treatment of Post-nasal Catarrh, with Remarks on Hygiene of the Respiratory Organs.—*The Journal of the American Medical Association*, November 9, 1895) shows that the causes of the catarrh—as it is generally called—depend on conditions which heretofore have not received the attention they deserve. The naso-pharynx has the function of impregnating the inspired air with humidity, and the importance of this moistening process has been demonstrated by Aschenbrandt's experiments. Dr. Freudenthal repeated these experiments with Aschenbrandt's apparatus, not only in healthy, but also in pathological cases. He found that in cases in which the nose had been galvano-cauterized, in which the patient had been suffering from hay-fever, or those in which there were adenoid vegetations, there was a diminution of moisture for the inhaled air. In the latter cases the air became normally moistened again when passing through the naso-pharynx after the lymphoid tissue had been removed. Of the several conditions which prevent the retro-pharynx from performing its function, there is one which is most important, namely: the faulty manner in which our houses are heated in winter. The atmosphere of a room in winter should be kept moderately humid, it should contain between 50° and 60° F. relative humidity; the lowest point should never go below 40° F. Dr. Freudenthal tested many New York houses during the last two winters, and never found a relative humidity of even 50° F.; when the outside temperature was about 30° F. he never saw even 40° F. The highest point reached was 30° F.; but 25°, 20°, even 18° F. relative humidity, was nothing unusual when the weather was very cold. Even in one of our best-arranged hospitals the relative humidity seldom reached 40° F. It is impossible to say how very detrimental this state of things is. The mucous membranes of the air-passages require a certain humidity of the air in order to keep up their functions. If this humidity is wanting they will in time themselves become dry, even in summer. It would appear to be of much more importance to suspend on the wall of our room a hygrometer than a thermometer, and to regulate the humidity of the atmosphere of our houses in winter by some means or another.

The Signs of Death.—The following are the signs on which a medical man should rely as furnishing the best evidence of the reality of death, prior to the commencement of putrefactive changes, namely: the absence of circulation and respiration; the gradual cooling of the body, the extremities cooling first and the trunk last; gradual supervention of rigor mortis; the production of post-mortem stains or ecchymoses.

In 1848 Bouchut found that in all cases of apparent death, although the contractions of the heart were reduced in force and frequency, by auscultation, he was able to detect the pulsations of the heart, and so distinguish apparent from real death. The careful use of the stethoscope by a medical man will enable him to distinguish a living from a dead body. Certain forms of rigidity that may occur during life may be mistaken for rigor mortis. Rigidity during life may occur from tetanus, apoplexy, catalepsy, syncope, asphyxia, and hysterical spasm; but the three striking differences from cadaveric rigidity are presented as follows: 1, The warmth of the body is preserved; 2, the whole of the body becomes equally rigid at the same moment, due to the occurrence of a general muscular spasm (with rigor mortis the rigidity usually commences in the muscles of the neck and lower jaw, and then gradually affects the other parts of the body); 3, if a joint be forcibly bent, such as the arm at the elbow, the limb will, if in a state of spasm from disease, return to its original position when the force is removed, whereas if it be in a state of rigor mortis it will not return.—*British Medical Journal.*

In Honor of Stephen Girard.—A tablet "in commemoration of the courage and humanity displayed by Stephen Girard during the epidemic of yellow fever prevailing in Philadelphia in the year 1793" was unveiled in Girard College in Philadelphia a few days ago. The incident discloses a phase of character in the philanthropist not generally understood. During the fever epidemic he abandoned his business and his luxurious home, and assumed the superintendency of a yellow-fever hospital. He took up the work others recoiled from, hired nurses, brought order out of chaos, and did the work because it was his duty.

Abuse of Medical Charity in Brighton.—The people of Brighton are being attacked regarding the abuse of medical charities there. Brighton is one of the richest towns in England, yet the statistics show that out of the 150,000 of its inhabitants 38,113 patients were last year admitted to the various hospitals and dispensaries.

An Antiseptic Dressing.—During the recent war the Japanese army surgeons made use of a dressing consisting of the ash of rice-straw. After the wound was cleansed this ash was freely applied, and over it sublimate gauze or linen was placed and retained by a bandage. The antiseptic properties of the ash are attributed largely to the presence of potassium carbonate. The ash is also a good dehydrater, and tends to dry the wound.

Antiseptic Ointments.—Professor Breslau has recently published a paper in which he gives the results of a long series of experiments, very carefully conducted, into the relative efficiency of antiseptic ointments. He tried menstrua, oil, vaseline, fat, lanoline, anhydrous lanoline, and cold cream. He came to the conclusion that, of all these, carbolized lanoline and carbolized cold cream were much the best. As antiseptic agents, he tried corrosive sublimate, resorcin, silver nitrate, boric acid and salicylic acid, and noted the same fact, *i.e.*, that all of them were more efficient with lanoline or cold cream as a menstruum than in any other way. The professor also tested many of the ointments used in practice, such as ungt. zinci, ungt. hyd., and unguentum hydrargyri ammoniati, and found the mercurial preparations alone effectual.—*Medical Press*

The Royal College of Physicians and the Ladies.—Many physicians of England recently presented a petition to the Royal College of Physicians, praying that women be admitted to the licentiateship, and the discussion on the request was the occasion for a number of ungallant remarks from some of the fellows. Dr. Charles West moved that the petition be denied, and said that the motives which influenced women in wish ing to enter the medical profession appeared to him to be quite unworthy. Up to one hundred and fifty years ago, midwifery had been entirely in the hands of women, but they had done absolutely nothing to advance its practice, and it had been left to a man—Ambroise Paré—to introduce turning, while the invention of the forceps had been due also to a man—Chamberlen. In America women had practised medicine for fifty years, but he was not aware that they had made any contribution to our knowledge, and in the subject of children, which was supposed to be one for the study of which they were particularly adapted, he had failed to find any contribution to practical medicine made by a woman. Dr. Douglas Powell said that there was nothing in the practice of medicine that men could not do as well as, or better than, women. The profession was overstocked already, and to dilute it or further overstock it with women would only tend to cheapen and degrade it. The College was looked upon as a referee in questions of public health and many social questions, and he thought it would be a very grave thing for them to decide that it was advisable that women should enter the medical profession; the question had never been debated in a medical body possessed of such authority as the College. The duties of a woman lay in the household, and in bearing, rearing, and educating children. Sir James Russell Reynolds said that women were physically, mentally, and morally unfitted for the practice of medicine. Sir Richard Quain said that it seemed to him that men were becoming effeminate, and women masculine, and we do not wonder that he thought so when looking around on the old women who were opposing the petition and trying to stem the tide. The petition was rejected by a vote of 59 to 50. A similar petition was rejected eighteen years ago, by 68 votes to 18. The next time it will undoubtedly be granted.

A Handsome Legacy.—Sir Henry Thompson has recently received by legacy, from a relative and patient, property to the value of $500,000. It is not often that similar windfalls, or anything approaching them, accrue to medical men, who as a rule are more accustomed to abuse than gratitude, and when they do occur they are generally, as happened in the present instance, contested by some disappointed relative. Sir Henry was, however, successful in his contest to sustain the will, and has now come into possession of the property.

Congenital Syphilis.—The Paris correspondent of the *Medical Press* reports a clinical lecture on this affection, delivered in a hospital for syphilis in that city. The lecturer, whose name the correspondent does not give, said that the manifestations of congenital syphilis have for fundamental characters: 1, The infection is not the result of penetration through the lymphatic system; 2, there are no primary sores; 3, it affects the whole organism, externally and internally.

The influence of the father on the syphilis of the child has been notably exaggerated, but it is nevertheless certain.

The influence of the mother on the syphilis of the infant is absolutely certain, independently of all paternal disease. According to Kassowitz, a diseased mother could infect her children for ten years. But Barensprung affirms that tertiary syphilis of the mother has no influence on the fœtus, while Diday pretends that the offspring is not guaranteed by the absence of secondary or tertiary symptoms of the mother. When both parents are syphilitic, infection of the fœtus is regarded as certain by the majority of authors. The cutaneous manifestations of infantile syphilis consist in lesions of the skin, the mucous membrane, and the viscera. The eruptions on the skin are varied.

Pemphigus.—One of the first and most characteristic of the phenomena of syphilis in the infant. Its seat is generally the palm of the hands and the soles of the feet. The gravity of the pemphigus is consider-

able, it takes long to get well, and frequently the child succumbs from cachexia.

Roseola.—Found on the abdomen, the chest, and the inside of the limbs; the spots, at first bright red, assume a salmon color and do not disappear by pressure.

Mucous Patches.—Found around the natural orifices, these lesions produce fissures and vegetations when the treatment is neglected.

Vesicles-Pustules.—Resembling impetigo both in appearance and in situation. They are met with on the face, around the nose, eyelids, forehead; these vesicles secrete a purulent liquid from an ulcerated base.

Coryza.—One of the most frequent lesions of congenital syphilis. At first a kind of cold in the head, hindering the respiration and suction, subsequently a serous discharge is perceived, obliging the infant to breathe by the mouth on account of the congested mucous membrane of the narines.

The visceral lesions have been described by many writers. The organs usually attacked are the lungs, the liver, and the testicle. The two former are filled with nodes producing subacute inflammation, while the latter is attacked by chronic inflammation, marked by peri-tubular and peri-vascular sclerosis; the organ is of stony hardness and hypertrophied; later atrophy sets in, leaving but a trace of the gland.

The osseous lesions affect principally the cranium, and more especially the parietal bones, where tuberosities are formed, giving a singular aspect to the head.

The treatment of infantile syphilis is simple enough. It suffices to rub in daily a small quantity (about the size of a nut) of mercurial ointment on the abdomen, the calves of the legs, and the chest. If cutaneous syphilides exist, a bath of corrosive sublimate is ordered, and for the mucous patches, calomel ointment.

Alcoholism and Longevity.—When we look abroad over the world and take a bird's-eye view of the evil effects of intemperance in its various aspects, its production of disease and death, the destruction of happiness and home, pauperism and crimes innumerable, with general demoralization, we are astonished that any thinking man, much less a physician, should come to the conclusion that drinking men and drunkards enjoy greater longevity than total abstainers.—DR. T. B. GREELEY in *Medical Progress.*

Princess and Physician.—There is in Vienna at present an Armenian princess named Beglarion, only twenty-six years old, who is a doctor of medicine. Her father is wealthy, and to be able better to practise the science she has acquired in Tiflis, Switzerland, and Salzburg, she is going to build a hospital on his estate—small to begin with, but with hopes of making it a big concern in time. In Vienna she has been received with open arms by the circle which is still in excitement after the attack by Professor Albrecht upon woman's right to study, and she will deliver a lecture on the question of woman's rights in Armenia. When a little girl she was often present when the peasant women on her father's estate brought their sick children to her mother, asking her to advise and help. She often said to herself, "If mother had learned what the doctor knows, she could help them instead of sending them home crying." Then on a box someone gave her was the picture of a wounded soldier, whose grateful eyes rested on the nurse bandaging his wound. This picture moved the child's fancy to such a degree, that she promised herself solemnly over and over again that she would be a nurse when she grew up, and she hoped a war would break out about that time. It was not difficult to obtain permission to attend the girls' grammar school at Tiflis, and afterward her mother rewarded her for studying hard by going to Berne with her.

When Mlle. Beglarion returned home from Berne for her holidays in 1892, as a young medical student, the Russian doctors allowed her to work in the cholera hospitals, where she did excellent service with a number of other women doctors, who have been praised by the Russian Home Department. When she came home with her doctor's diploma in her pocket, the sick from far and near flocked to her father's house to consult her. On Sundays, she always had some seventy patients, and thirty on week days. Three months ago, she went to Salzburg to act as assistant in Madame Rosa Kerschbaumer's eye hospital.

Decrease of Leprosy in Norway.—Leprosy is, to all appearance, very much on the decrease in Norway. There were about 3,000 lepers in that country in 1856; in the latter end of 1892 there were only 900 cases. Dr. Kaurin's statistics recently published on this question, show that a strict segregation of lepers is important for the eradication of the disease.

Necessity of Frequent Visits.—The Supreme Court of California (Todd *vs.* Myers, 40 Cal., 355), in an action brought by a physician for professional services—the defence being that the visits were too frequent and not necessary—rules that "The defendant having admitted the employment of the plaintiff as a physician to treat his wife and children, the plaintiff was the proper judge of the necessity of frequent visits, and, in the absence of proof to the contrary, the Court will presume that all the professional visits made were deemed necessary and were properly made. It would be a dangerous doctrine for the sick to require a physician to be able to prove the necessity of each visit before he can recover for his services. This is necessarily a matter of judgment, and one concerning which no one save the attending physician can decide. It depends not only upon the condition of the patient, but in some degree upon the course of treatment adopted."

First Aid in Accidents by Electricity.—The following hints may prove useful in giving first aid to a person injured by an electrical current: 1. The current should be shut off at once if the means are at hand, and the person called upon understands how to do it. 2. If this cannot be done, be careful not to touch the injured person's body with the hand. If no india-rubber gloves are at hand, the body should be dragged away from the wires by the coat tails, or the coat should be taken off and folded (a dry cloth may be used for the purpose), when the injured person may be grasped through it and dragged away. 3. When it is not possible to remove the injured person from the wires, raise that part of the body that is in contact with the earth or the wire from it, using the covered hand. This will break the current, and it will generally be possible then to get the body away. 4. If this cannot be done, take a dry cloth and place it between the body and the ground, and then disentangle the body from the wires. 5. If the body is freed from the wires, remove all the clothing from the neck and treat the injured person as one drowned. Open the mouth and grasp the tongue, which should be covered with a cloth; then pull the tongue forward and gradually allow it to fall back; this movement should be repeated sixteen times a minute. Take care that the root of the tongue is thoroughly moved. 6. The bystanders should not be allowed to give the injured person spirits or wine.—*Medical Press.*

Widespread Tuberculosis in the Animal Kingdom.—Professor Delépine, writing on this subject, has shown that—taking very large numbers as the basis of his estimate—at least sixteen per cent. of cattle are afflicted with this disease; and that, whereas in some districts it may be comparatively rare, there are parts in which a non-tuberculous cow is the exception. Pigs also are affected in the same manner, although not to the same extent, about one in every thirty-six being attacked by the disease. Cats and dogs are also subject to tuber-

culosis, and it is to be feared, from their exceeding friendliness, may be a source of danger to children with whom they play. Although the form of tuberculosis with which poultry are affected differs in some particulars from that of man, it is a very common disease, and commits great ravages in poultry-yards. But any animal which conforms with man's habit of dwelling under artificial shelter, is apt to contract tuberculosis; and so it is that whether they be monkeys, camels, giraffes, antelopes, llamas, lions, tigers, foxes, tapirs, zebras, etc., they all, according to Professor Delêpine, are liable to tuberculosis when they are kept in menageries.—*The Hospital.*

Negro Suicides are Rare.—A remarkable characteristic of the colored population of the city is the fact that the proportion of them who commit suicide, who solicit alms or free lodging, and who are arrested, is much smaller than among any other class of people. A colored suicide is a rarity, and, while the officials of the Coroners' office admit that there are some, they cannot remember when they had the last case of the kind. There are on an average about one hundred and twenty-five cases of suicide reported to the coroner annually, and of these less than five would be colored. Deputy Coroner Dugan, who has been in the office for many years, can remember but a few cases of colored suicides. The natural lightheartedness and sunny temperament of the colored people may be given as their great safeguard against suicide. Reverses and disappointments, which in a more sensitive class of people would result in despondency and eventual self-destruction, are laughed aside by the negro, who habitually looks on the bright side of life, and manages to get enjoyment out of whatever comes his way. While the mere fact of being out of work does not affect the colored people enough to drive them to suicide, the evidence of their natural industry cannot be better illustrated than by making note of the small proportion of them who ask alms or seek lodgings in the city station-houses. A colored tramp is more of a novelty than a colored suicide. They are nearly always willing to work at anything that turns up, and all are, as a rule, self-sustaining.—*Philadelphia Record.*

A Cry for a Clean Sweep.—Is it not time that we had a radical reformation of the Department of Charities and Correction—head, root, and branch? Will the Mayor, instead of yielding to the importunities of social and political friends, listen to the facts presented by men who have served for years in the city hospitals, and who know upon whom the responsibility rests for the condition of these institutions, and to those who have been interested in practical charity in the city, and who have come in contact with the mismanagement of this department? You cannot hope, Mr. Mayor, to have any reform in this department, even when you have appointed a third commissioner. A clean sweep must be made, and should be made, in order to give the medical profession the proper representation. The "reorganization," so far, appears merely as an attempt of the one man who has been the head and front of the mismanagement of the hospitals under the old *régime*, to make a semblance of reform. In order to do this he can now point to his record—the dismissal of a hundred doctors or so. But, while the doctors have been dismissed, the old "heelers," incompetent superintendents, and other worthless employees of the department still fatten at the public crib. No one except the medical men who have had occasion to come in contact with the Commissioners of Charities and Correction, can appreciate the treatment that has been accorded the members of the past medical boards by these persons. Whenever a reform was suggested, the report has been pigeonholed; and the men who have urged it have been told, in anything but a Chesterfieldian vein, that if they did not like the way things were managed in the department, they had better resign; that there were a dozen ready to fill the vacancy; and as their friends had been satisfied, the Commissioners would like the opportunity of satisfying someone else's friends. It is time that medical men were allowed the privilege of living up to the rules of the department they serve. At present an adverse report is still simply pigeonholed; and if an attempt is made to prove the facts, the man or men who take that step are disciplined and dismissed. The cry that went up from the Commissioners, whenever they were approached with these statements of imperfect management, has been that they have "done no wrong." But they must have known that their appointees were incompetent. "Reform in the medical boards" in this way is absurd because it tries to begin at the wrong end. The reform should have begun at the head of the administrative force, and should have been made to extend down to the meanest employee who goes to make up the ring that has so far controlled this department. If the Mayor is really in earnest in carrying out reform, he should sweep this department quite clean, and give us a set of Commissioners, none of whom is bound by the methods of the old régime or by the ties of promises made to political leaders. Give us two more men of the same stamp as Commissioner Faure, and let one of them be a medical man, and not a politician, medical or otherwise, and then we may at last see the hospitals run pro bono publico, instead of for the good and advantage of those who are in supreme control. The medical profession as a body should insist upon this; it could easily control sufficient influence to compel a clean sweep in the Charity Board, and a remodelling of the plan of reorganization on a plane of just apportionment. The protests of the County Societies should be followed by public protests from medical men, as well as by protests from their friends and patients, against unjust discrimination, unequal representation, and mismanagement in the executive offices.—*American Medico-Surgical Bulletin.* (Alas! all appeals have been useless and the cry has not been heeded.—ED.)

Comparative Vitality of the Sexes.—It is the common impression that men are not only less subject to illness, but are longer lived, than women. The life tables of insurances companies, however, show that the term of life of women is slightly longer than that of men. The difference in the mortality-rates during the first few years of life is striking. During the first year, the mortality among males is decidedly greater than among females. Although more boys are born than girls, the proportions are reduced to almost even terms at the end of the first year by the excessive male mortality. Even during the first four years the mortality among males exceeds that among females, notwithstanding the fact that there are practically no distinctions made in the management of the two sexes. Both are subject to the same conditions, are dressed virtually the same, and receive the same food. At about five years the comparative death-rate among girls begins to increase. This has been attributed to the fact that boys of this age are more in the open air. The mortality in both sexes diminishes from this time until the twelfth year, when it attains its lowest point. It then steadily rises, being larger in each successive year. Between the twelfth and sixteenth years the death-rate among girls increases more rapidly than among boys; but after the sixteenth year, for several years, the rate of increase is more rapid on the male side. The explanations that have been offered for these peculiarities are not wholly satisfactory; but one fact is clear, that during early years females possess a greater tenacity of life than do males.—*Maryland Medical Journal.*

The Action of Vaccinia Serum.—Hlava and Houl have been investigating the immunizing and curative properties of vaccinia serum, with a view to substituting its subcutaneous injection for inoculation with ani-

mal lymph, which has the disadvantages of uncertainty in action, rapid loss of protective power, and occasional serious complications (*Wiener klinische Rundschau*, October 6 and 13, 1895). They employed three different methods of preparing the serum from calves: (A) The animals were inoculated with vaccinia; in four days the resulting pustules were pricked and the lymph collected; subsequently a second and third injection of stronger lymph were made, without causing any pustulation or rise of temperature; the serum was collected about a fortnight after the last injection. (B) Inoculation as in A; no lymph collected; first reinoculation caused a rise of temperature, second none; serum collected fifteen days after the latter. (C) Serum, plasma, and blood—the latter two mixed with two per cent. sodium citrate—taken from the calf four days after inoculation. Experiments were made with all these upon calves, and then, no ill effects having been observed, upon children. The serum was injected, and at the same time or subsequently the children were inoculated with vaccinia. Serum B was found too weak to produce much effect, though the vaccine vesicles were not so well developed as if it had not been used; 3 to 10 c.c. of serum A prevented the development of vaccine vesicles in 6 children out of 13 on whom it was tried; the injection of serum C to the extent of 0.6 to 1.0 c.c. per kilo of body weight entirely prevented the action of vaccine lymph inoculated four days later. (The experiments with blood and plasma are not yet published.) Experiments have not yet been tried in variola; if they succeed, Hlava and Houl claim to have prepared a serum which will replace inoculation with vaccine lymph. It is immaterial whether the serum contains an antitoxin or the "vaccinia germ;" if the latter is the case, the method approaches that of vaccination with an impoverished pure cultivation.—*British Medical Journal.*

The Differential Diagnosis of Inflammatory and Non-inflammatory Effusions.—M. Rivalta, of Rome, has employed a simple test on which he places great reliance, in determining whether an exudate is of inflammatory or non-inflammatory origin. With this object, he removes, with an ordinary hypodermic syringe, some of the suspected fluid. Two hundred grammes of distilled water is poured into a large glass, to the latter two drops of anhydrous acetic acid is added, and a drop of the fluid to be examined is dropped into the mixture. It can be noted, in case the fluid is of inflammatory origin, that the suspected drop in descending to the bottom of the glass, assumes a white-bluish coloration and a spiral form like the smoke from a cigar. This phenomenon may be repeated each time a drop of the suspected fluid is introduced into the glass. If a little more acetic acid be added to the glass the precipitate formed at once disappears, thus permitting the conclusion that the precipitate was not mucine, insomuch as the latter is insoluble in an excess of acetic acid. M. Rivalta concluded that the substance present in the inflammatory exudate is a nucleo-albumin produced from the protoplasm of the leucocytes and pus-corpuscles. The foregoing method of examination, when applied to transudates of non-inflammatory origin, constantly yields negative results.—*Semaine Médicale*, May 15, 1895.

Broadbent on Diagnosis.—In his recent address upon Medicine before the British Medical Association, Sir William Broadbent, in discussing the important subject of diagnosis, made use of the following words: The basis of therapeutics is diagnosis, the grasp of the actual condition underlying the symptoms or phenomena, and the greater our command of powerful remedies, and the more precise our knowledge of their effects and of the mode in which these effects are produced, the more important does accuracy in diagnosis become. A diagnosis, to be real, implies not only the recognition of the disease which may be present and an accurate appreciation of the morbid changes which have taken place in various organs, it embraces a knowledge of the nature and intensity of the pathological processes which have been and are in operation, and of the causes that set them going, and also of the results to which they tend. A further element, moreover, enters into the consideration: an estimate, by the aspect of the patient, by the pulse and temperature, and by other subjective and objective indications, of the impression made on the system, and of the resistance which it is capable of to the lethal tendencies of the disease. Year by year we see improvement in this respect; not only that hospital physicians and teachers endeavor to carry diagnosis to a greater pitch of accuracy and a higher point of refinement than ever before, but that the entire body of medical men are trained, by improved education and systematic clinical teaching, to appreciate and to practise careful diagnosis in their daily work. Diagnosis, we may say, has reached an extraordinary degree of advancement. There are, no doubt, still new fields to conquer, but in the recognition of diseases, local and general, there is not much which concerns the human race which remains to be done. The same degree of knowledge, however, does not extend to morbid processes. Our comprehension of the significance and essential character of inflammation is by no means complete and satisfactory. The part which fever plays and the place which it holds among the phenomena of disease is far from being fully understood. It cannot have been intended by nature for the destruction of the subject, and we can see distinctly that in some cases it forms a part of the defensive operations; possibly, indeed, its general tendency is defensive, by promoting the production of phygocytes, or possibly a certain elevation of temperature may be fatal to maleficent organisms which have taken possession of the blood or tissues. We are not certain, indeed, whether the heat-producing oxidation in the structures receives its stimulus from, or takes place at the bidding of, the nervous centres; or, on the other hand, is due to the enfeeblement of the restraint which they normally exercise over it; or whether it defies control by the thermotaxic nervous centres.

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TO TREAT A COUGH.

By Edwin Geer, M.D., Physician-in-Charge City Hospital Dispensary, also Physician-in-Chief Out-door Department, Maryland Maternity Hospital, Baltimore, Md.

Unfortunately it has not been demonstrated that we have anything like a specific for the more severe diseases of the chest, as phthisis or pneumonia. There are some good reasons for believing, however, that we may be soon as successful in treating these diseases as we are now successful with diphtheria under its new treatment.

The knowledge of the cause of phthisis enables us to detect that disease in its very earliest stages; while the physical signs of pneumonia are sufficiently distinct to tell us of its presence. With two such formidable diseases to treat, the question of controlling the cough may be an altogether minor one, at least for a time. But we have to remember that for every one of these cases we have a score or more of the lighter affections of the chest. We may have superior ability in directing a case of phthisis, yet we signally fail in the eyes of the laity if we cannot speedily master a hacking cough.

The object of this brief paper is not to try and teach my colleagues how to treat a cough, but simply to state how I do it, and to call their attention to those lighter affections of the throat and chest, the principal symptom of which is an annoying cough, for which alone we are often consulted. The patient may fear an approaching pneumonia or be anxious because of a bad family history, or the cough may cause loss of sleep and detention from business. What shall we do for these coughs? It has been my custom for some time to treat each of the following conditions after this general plan: If constipation be present, which is generally the case, I administer small doses of calomel and soda which opens the bowels freely, and if they do not I follow with a saline purgative, then I give the following prescription:

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The above tablet contains 4¼ gr. antikamnia and ¼ gr. sulph codeine and is given for the following reasons: The antikamnia has a marked influence over any febrile action; restores natural activity to the skin, and effectually controls any nervous element which may be in the case. The action of the codeine is equally beneficial, and, in some respects, enforces the action of its associate. The physiological action of codeine is known to be peculiar in that it does not arrest secretion in the respiratory or intestinal tract; while it has marked power to control inflammation and irritation. It is not to be compared to morphine which increases the dryness of the throat, thus often aggravating the condition, while its constipating effect is specially undesirable.

Irritable cough. The patient complains that he has a constant tickling in the larynx, which makes an equally constant desire to cough. Nothing else appears to be the matter, and if this cough were only removed, our patient would be satisfied. He also complains that the more he coughs, so much the more irresistible does it become.

Hacking cough. This occurs both in children and adults and appears to be due to an irritated condition of the mucous membrane of the upper air passages. The desire to cough is not so strong as in the above; neither is the cough itself so severe. Besides ordering the above tablets in these irritable and hacking coughs, I usually direct the patient to use a demulcent drink of flaxseed tea, flavored with a little lemon juice. This drink is especially agreeable to children and is certainly an aid in controlling this annoying difficulty.

Harassing irritative cough. This is one of the most stubborn coughs to relieve. The patient complains only of a harsh, hard, dry cough, which begins the moment he lies down to rest and continues through the greater part of the night. During the day there is but little trouble, and his hopes are raised, only to find them all disappear when he again seeks rest. In these cases the above tablets are given more frequently; while slight counter-irritation over the upper chest, perhaps a hot foot-bath before retiring, and some hot drink may be added.

Winter cough. Then again, we have the chronic cough of winter which comes with persistent regularity with the beginning of each cold season. This is especially the case with elderly people who often have a chronic bronchitis. Here again, we have the two drugs indicated, as mentioned above.

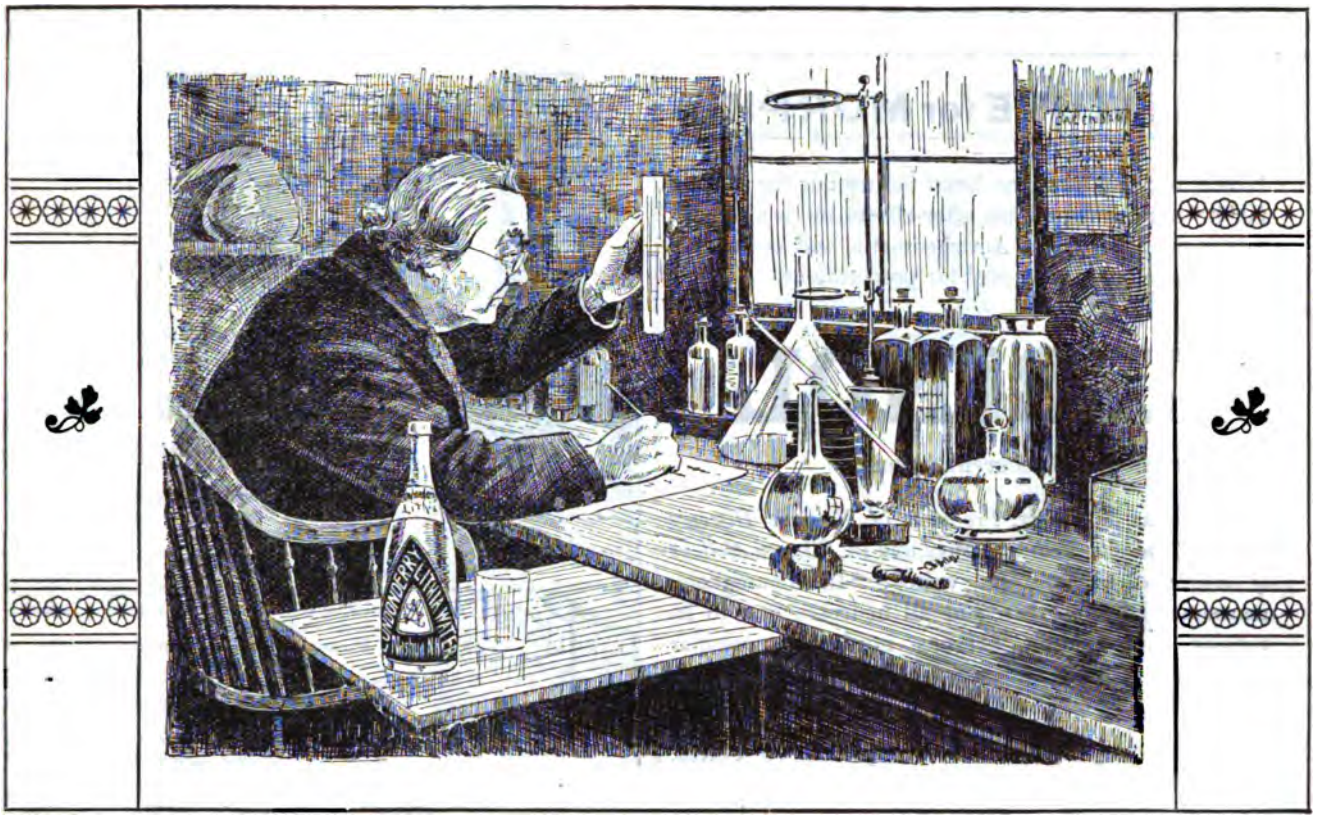
Nervous cough. This is a cough which does not appear to have any physical cause whatever. It is aggravated by those conditions which irritate or excite the nervous system, as well as by those which weaken or debilitate it. The above tablets will control this irritability at once.

Excessive coughing. In cases of bronchitis or phthisis, the cough is often far in excess of an amount sufficient to free the lungs from mucus. The object here should be to reduce the force and frequency of the cough to only the necessary amount. This is easily accomplished with the above tablets, without causing any disturbance of the digestive organs.

Acute coughs. Lastly, we have the acute coughs, more or less severe, which accompany the acute inflammations of the upper air passages as in acute colds. In these cases we almost invariably find an increase in the pulse, elevation of temperature, dry skin, and a dry throat. The antikamnia has a marked influence over these conditions, insuring their prompt relief; while the codeine effectually controls the inflammation and irritation, exerting an action of its own and enforcing the action of its associate. I might also mention the cough which accompanies measles. This is brought under prompt control by the tablets, while the antikamnia exerts a marked influence for good over the disease itself.

In thus briefly describing the treatment of a cough, we are fully aware we are usually treating a symptom. But experience has demonstrated that in a great majority of these cases when remedies are administered which show their effect by controlling the cough, they remove the other difficulties as well. In conclusion, I wish to say that whenever we desire to control a cough without affecting the normal functions of the respiratory and digestive tract, I have found, in both dispensary and private practice, nothing better than the combination above referred to.

New York Medical Journal, Dec. 7, 1895.



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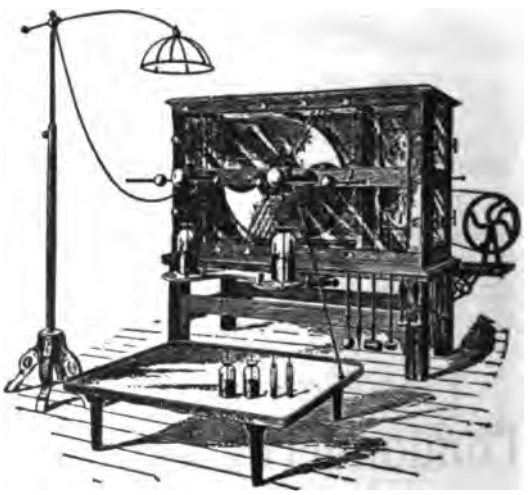

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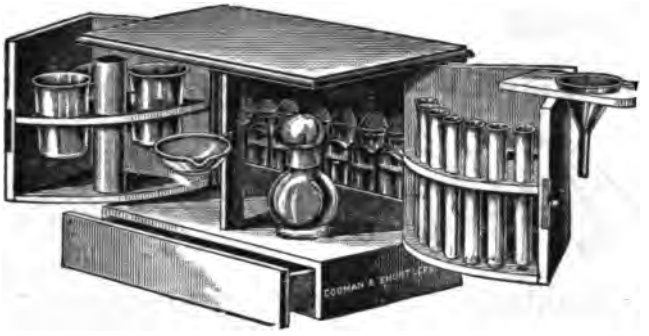

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JAMES REID JORDAN, M.D., Sec., Montgomery, Ala.
WILLIAM H. JOHNSTON, M.D., Prest., Birmingham, Ala.

THE ARKANSAS MEDICAL SOCIETY.

Annual Meeting at Fort Smith, April 29, 1896.

F. VINSONHALER, M.D., Sec., Little Rock, Ark.
L. P. GIBSON, M.D., Prest., Little Rock, Ark.

CONNECTICUT MEDICAL SOCIETY.

Annual Meeting at New Haven, May 27 and 28, 1896.

N. E. WORDIN, M.D., Sec., 174 Fairfield Ave., Bridgeport, Conn.
SETH HILL, M.D., Prest., Stepney, Conn.

THE MEDICAL SOCIETY OF THE STATE OF CALIFORNIA.

Annual Meeting at Los Angeles, April 21, 1896.

WM. WATT KERR, M.D., Sec., 528 Sutter St., San Francisco, Cal.
W. LE MOYNE WILLS, M.D., Prest., Los Angeles, Cal.

COLORADO STATE MEDICAL SOCIETY.

Annual Meeting at Denver, June 16, 17 and 18, 1896.

E. R. AETELL, M.D., Sec., Denver, Col.
I. B. PERKINS, M.D., Prest., Denver, Col.

MEDICAL ASSOCIATION, DISTRICT OF COLUMBIA.

Semi-Annual Meeting at Washington, April 7, 1896.

J. R. WELLINGTON, M.D., Sec., 1335 N St., N. W., Washington, D.C.
C. H. A. KLEINSCHMIDT, M.D., Prest., 3107 N St., N. W., Washington, D.C.

MEDICAL SOCIETY OF DELAWARE.

Annual Meeting at Newark, Del., June 23, 1896.

WM. C. PIERCE, M.D., Sec., 827 Washington St., Wilmington, Del.
JAMES T. MASSEY, M.D., Prest., Canterbury, Del.

FLORIDA MEDICAL ASSOCIATION.

Annual Meeting at Sanford, April 7, 1896.

J. D. FERNANDIZ, M.D., Sec., Jacksonville, Fla.
C. B. SWEETING, M.D., Prest., Key West, Fla.

THE MEDICAL ASSOCIATION OF GEORGIA.

Annual Meeting at Augusta, April 15, 1896.

R. H. TAYLOR, M.D., Sec., Griffin, Ga.
F. M. RIDLEY, M.D., Prest., La Grange, Ga.

ILLINOIS STATE MEDICAL SOCIETY.

Annual Meeting at Ottawa, Ill., May 19, 20 and 21, 1896.

JOHN B. HAMILTON, M.D., Sec., Room 20 P. O. Building, Chicago, Ill.
DAVID W. GRAHAM, M.D., Prest., Chicago, Ill.

NATIONAL AND STATE MEDICAL SOCIETIES OF AMERICA.

STATE—CONTINUED.

INDIANA STATE MEDICAL SOCIETY.

Annual Meeting at Fort Wayne, June 6 and 7, 1896.

FREDERICK C. WOODBURN, M.D., Sec., Indianapolis, Ind.
MILES F. PORTER, M.D., Prest., Fort Wayne, Ind.

IOWA STATE MEDICAL SOCIETY.

Annual Meeting at Des Moines, April 15, 1896.

J. W. COCKINGOWER, M.D., Sec., Des Moines, Ia.
D. S. FAIRCHILD, M.D., Prest., Clinton, Ia.

INDIAN TERRITORY MEDICAL ASSOCIATION.

Semi-annual Meeting at Eufaula, December 3 and 4, 1895.

J. G. RUCKER, M.D., Sec., Claremore, Ind. Ter.
J. S. FULTON, M.D., Prest., Atoka, Ind. Ter.

IDAHO STATE MEDICAL SOCIETY.

Annual Meeting at Boise City, Sept., 1896.

W. D. SPRINGER, M.D., Sec. and Treas., Boise, Idaho.
C. L. SWEET, M.D., Prest., Boise, Idaho.

KANSAS MEDICAL SOCIETY.

Annual Meeting at Topeka, May, 1896.

G. A. WALL, M.D., Sec., Topeka, Kan.
R. S. BLACK, M.D., Prest., Ottawa, Kan.

KENTUCKY STATE MEDICAL SOCIETY.

Annual Meeting at Lebanon, June, 1896.

STEELE BAILEY, M.D., Sec., Stanford, Ky.
JOHN A. LEWIS, M.D., Prest., Georgetown, Ky.

THE LOUISIANA STATE MEDICAL SOCIETY.

Annual Meeting at New Orleans, May 5, 1896.

P. B. MCCUTCHON, M.D., Sec., 4025 Prytania St., New Orleans, La.
R. M. LETTELL, M.D., Prest., Opelousas, La.

MAINE MEDICAL ASSOCIATION.

Annual Meeting at Portland, June 8, 1896.

CHAS. D. SMITH, M.D., Sec., 128 Free St., Portland, Me.
LEWIS W. PENDLETON, M.D., Prest., Portland, Me.

MEDICAL AND CHIRURGICAL FACULTY OF MARYLAND.

Annual Meeting at Baltimore, April 28, 1896.

JAS. M. CRAIGHILL, M.D., Sec., 1730 N. Charles St., Baltimore, Md.
J. EDWIN MICHAEL, M.D., Prest., 201 W. Franklin St., Baltimore, Md.

MASSACHUSETTS MEDICAL SOCIETY.

Annual Meeting at Boston, June 9 and 10, 1896.

F. W. GOSS, M.D., Sec., Roxbury, Mass.
F. K. PADDOCK, M.D., Prest., Pittsfield, Mass.

MICHIGAN STATE MEDICAL SOCIETY.

Annual Meeting at Mt. Clemens, June 4 and 5, 1896.

C. H. JOHNSTON, M.D., Sec., Grand Rapids, Mich.
V. C. VAUGHAN, M.D., Prest., Ann Arbor, Mich.

MINNESOTA STATE MEDICAL SOCIETY.

Annual Meeting at Minneapolis, June 17, 1896.

L. DONNELLY, M.D., Sec., St. Paul, Minn.
FRANK ALLPORT, M.D., Prest., Minneapolis, Minn.

MISSISSIPPI STATE MEDICAL ASSOCIATION.

Annual Meeting at

H. H. HARALSON, M.D., Sec., Forest, Miss.
P. W. ROWLAND, M.D., Prest., Coffeeville, Miss.

MISSOURI STATE MEDICAL ASSOCIATION.

Annual Meeting at Sedalia, May 19, 20 and 21, 1896.

FRANK R. FRY, M.D., Sec., 3133 Pine St., St. Louis, Mo.
C. LESTER HALL, M.D., Prest., Kansas City, Mo.

MEDICAL ASSOCIATION OF MONTANA.

Annual Meeting at Bozeman, April 21, 1896.

WM. C. RIDDELL, M.D., Sec., Helena, Mont.
J. F. SPELMAN, M.D., Prest., Anaconda, Mont.

NEW HAMPSHIRE MEDICAL SOCIETY.

Annual Meeting at Concord, June 1 and 2, 1896.

G. P. CONN, M.D., Sec., Concord, N. H.
E. F. MCQUESTEN, M.D., Prest., Nashua, N. H.

NEW YORK STATE MEDICAL ASSOCIATION.

Annual Meeting at New York, October 15, 16 and 17, 1895.

E. D. FERGUSON, M.D., Sec., Troy, N. Y.
THOMAS D. STRONG, M.D., Prest., Westfield, Chautauqua Co., N. Y.

THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.

Annual Meeting at Albany, Jan. 28, 1896.

F. C. CURTIS, M.D., Sec., 17 Washington Ave., Albany, N.Y.
ROSWELL PARK, M.D., Prest., 510 Delaware Ave., Buffalo, N. Y.

MEDICAL SOCIETY OF NEW JERSEY.

Annual Meeting at Asbury Park, June 23, 1896.

WILLIAM PIERSON, M.D., Sec., Orange, N. J.
WILLIAM ELMER, M.D., Prest., Trenton, N. J.

NEBRASKA STATE MEDICAL SOCIETY.

Annual Meeting at Fremont, June, 1896.

GEO. WILKINSON, M.D., Sec., Omaha, Neb.
J. E. SUMMERS, Jr., M.D., Prest., Omaha, Neb.

MEDICAL SOCIETY OF THE STATE OF NORTH CAROLINA.

Annual Meeting at Winston, May 12, 1896.

ROBERT D. JEWETT, M.D., Sec., Wilmington, N. C.
R. L. PAYNE, M.D., Prest., Lexington, N. C.

NEW MEXICO MEDICAL SOCIETY.

Annual Meeting at Socorro, August 12, 1896.

H. M. SMITH, M.D., Sec., East Las Vegas, New Mex.
F. MARRON Y. ALONSO, M.D., Prest., Las Vegas, New Mex.

THE OHIO STATE MEDICAL SOCIETY.

Annual Meeting at Columbus, May 27, 28 and 29, 1896.

THOS. HUBBARD, M.D., Sec., Toledo, Ohio.
DAN. MILLIKIN, M.D., Prest., 2d and Ludlow Sts., Hamilton, Ohio.

OREGON STATE MEDICAL SOCIETY.

Annual Meeting at Portland, June, 1896.

E. F. TUCKER, M.D., Sec., Portland, Ore.
O. D. DOANE, M.D., Prest., The Dalles, Ore.

ONTARIO MEDICAL ASSOCIATION.

Annual Meeting at Windsor, June 4 and 5, 1896.

J. N. E. BROWN, M.D., Sec., 186 King Street, Toronto, Canada.
F. LE M. GRASETT, M.D., Prest., Toronto, Canada.

THE STATE MEDICAL SOCIETY OF PENNSYLVANIA.

Annual Meeting at Harrisburg, May 20, 1896

WM. B. ATKINSON, M.D., Sec., 1400 Pine St., Philadelphia, Pa.
WM. S. FOSTER, M.D., Prest., Pittsburg, Pa.

RHODE ISLAND MEDICAL SOCIETY.

Annual Meeting at Providence, June 4, 1896.

FRANK L. DAY, M.D., Sec., Providence, R. I.
ELISHA P. CLARK, M.D., Prest., Hope Valley, R. I.

SOUTH DAKOTA STATE MEDICAL SOCIETY.

Annual Meeting at

W. J. MAYTUM, M.D., Sec. and Treas., Alexandria, So. Dak.
G. E. MARTIN, M.D., Prest., Carthage, So. Dak.

SOUTH CAROLINA MEDICAL ASSOCIATION.

Annual Meeting at Spartanburgh, April 22, 1896.

EDWARD F. PARKER, M.D., Sec., Charleston, S. C.
JAMES L. NAPIER, M.D., Prest., Bienheim, S. C.

TENNESSEE STATE MEDICAL SOCIETY.

Annual Meeting at Chattanooga, April 14, 1896.

C. R. ATCHISON, M.D., Sec., Nashville, Tenn.
G. C. SAVAGE, M.D., Prest., Nashville, Tenn.

THE TEXAS STATE MEDICAL ASSOCIATION.

Annual Meeting at Fort Worth, April 28, 1896.

H. A. WEST, M.D., Sec., Galveston, Texas.
P. C. COLEMAN, M.D., Prest., Colorado, Texas.

UTAH STATE MEDICAL SOCIETY.

Annual Meeting at Salt Lake City, October 1 and 2, 1896.

J. N. HARRISON, M.D., Sec., Salt Lake City, Utah.
WALTER R. PIKE, M.D., Prest., Provo City, Utah.

VERMONT STATE MEDICAL SOCIETY.

Annual Meeting at St. Johnsbury, October 15 and 16, 1896.

D. C. HAWLEY, M.D., Sec., Burlington, Vt.
C. F. BRANCH, M.D., Prest., Newport, Vt.

MEDICAL SOCIETY OF VIRGINIA.

Annual Meeting at Danville, Va., September, 1896.

J. F. WINN, M.D., Corresponding Sec., Richmond, Va.
WILLIAM L. ROBINSON, M.D., Prest., Danville, Va.

THE WASHINGTON STATE MEDICAL SOCIETY.

Annual Meeting at Tacoma, May, 1896.

R. L. THOMSON, M.D., Sec., Spokane, Wash.
G. S. ARMSTRONG, M.D., Prest., Olympia, Wash.

THE WISCONSIN STATE MEDICAL SOCIETY.

Annual Meeting at Superior, June, 1896.

CHARLES S. SHELDON, M.D., Sec., Madison, Wis.
F. W. EPLEY, M.D., Prest., New Richmond, Wis.

THE MEDICAL SOCIETY OF WEST VIRGINIA.

Annual Meeting at Wheeling, July, 1896.

G. A. ASCHMAN, M.D., Sec., Wheeling, W. Va.
J. A. CAMPBELL, M.D., Prest., Wheeling, W. Va.

Societies not found in this list have not responded to our request for information.

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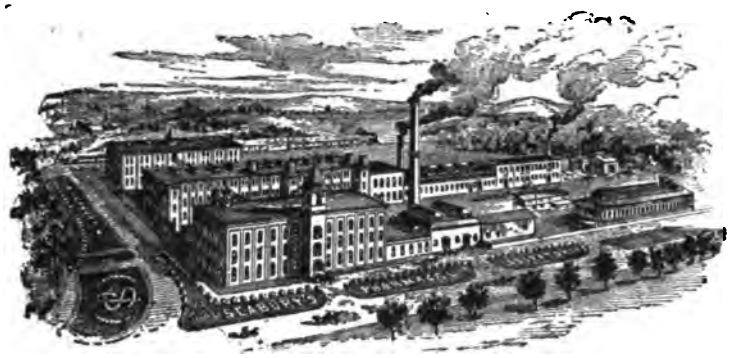

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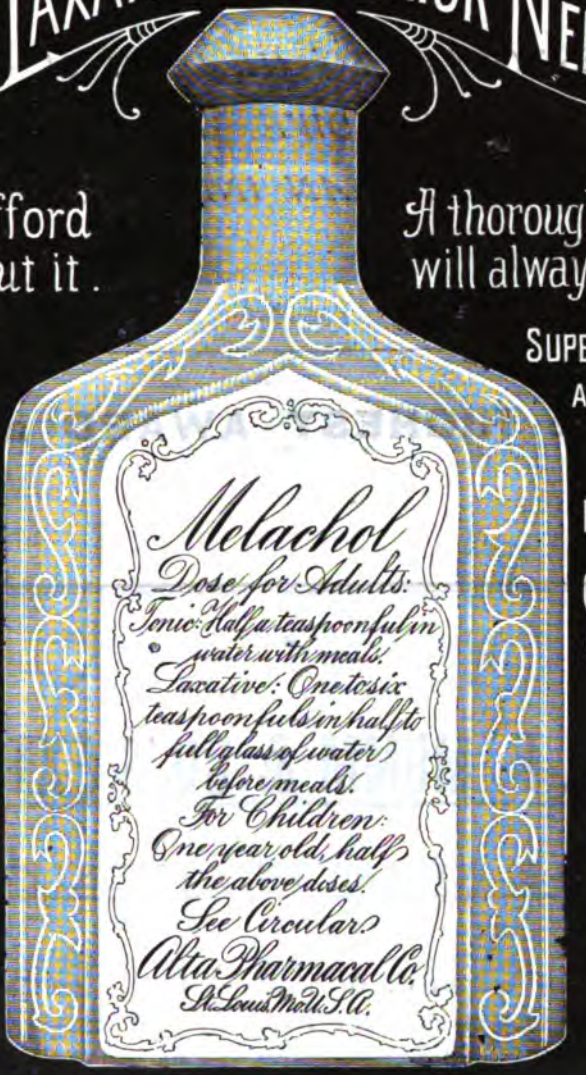
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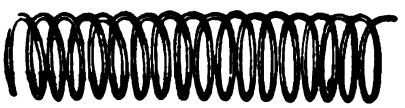

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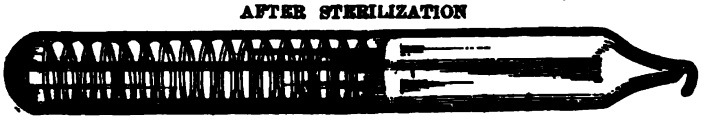

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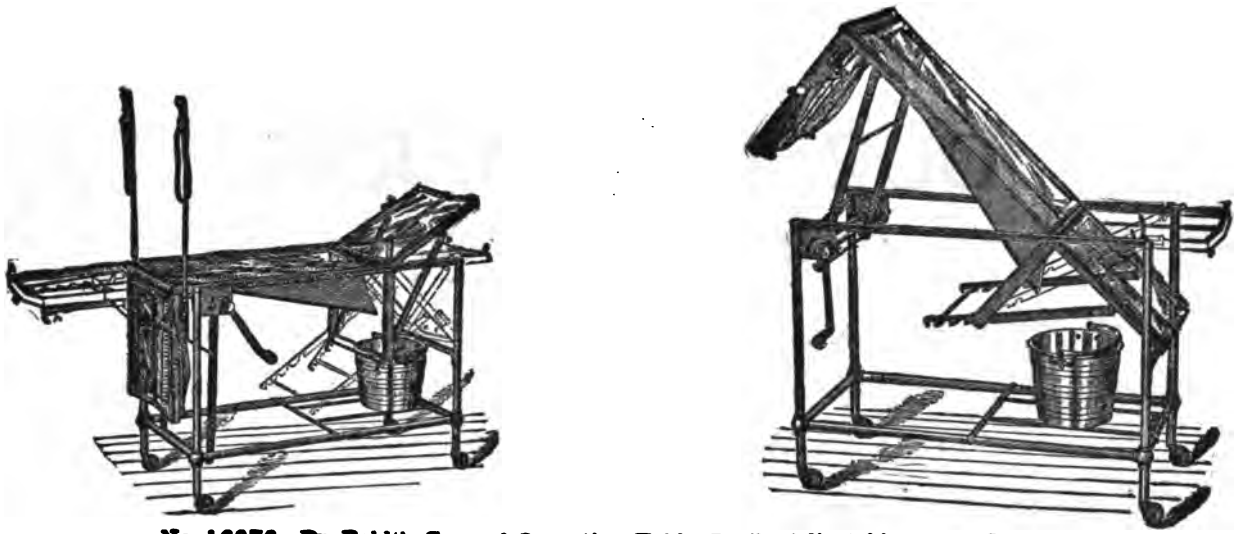

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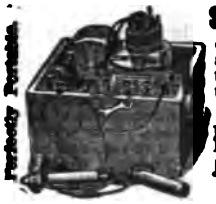

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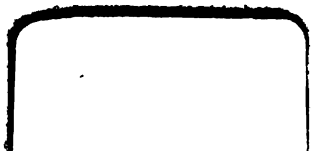
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